DLHS -2

Uttaranchal

Reproductive and Child Health

District Level Household Survey
2002-04

International Institute for Population Sciences (Deemed University) Mumbai – 400 088

Ministry of Health & Family Welfare, Government of India New Delhi – 110 011

Population Research Centre Institute of Economic Growth University Enclave, Delhi – 110 007

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PREFACE AND ACKNOWLEDGEMENT

Government of India had launched the Reproductive and Child Health (RCH) program to ensure that couples have access to adequate information and services for reproductive health care. As a first step, family planning target has been withdrawn and an effort is being made to provide a package of reproductive services at different levels of health care centres.

Monitoring of the services is also being improved. New indicators are being added to assess quality of services and provision of an integrated reproductive health care service. The District Level Household Survey (DLHS) was initiated by Government of India and financed by the World Bank covering all the districts in the country. For the second time, district level estimates will be available for most of the critical reproductive health indicators. These important initiatives are certainly quite satisfying for all those who are concerned with taking ICPD reproductive health agenda ahead. The project is being coordinated by International Institute for Population Sciences, Mumbai and implemented by a number of consulting agencies.

For the purpose of data collection, uniform questionnaires, sampling design and field procedures were used throughout the country. The survey thus provided comparable data for all the districts in the state. The present report provides salient findings of Uttaranchal and covers all the districts. The findings of selected indicators of reproductive and child health services from the state of Uttaranchal are presented in the report.

It is believed that the data generated through the survey will meet the requirements of the Programme Administrators and Policy Makers for making effective interventions for providing quality services and achieving multiple objectives.

The DLHS-RCH could not have been successfully completed without cooperation and support from innumerable sources at various stages of the project. Although, it is not possible to acknowledge everyone involve in the survey, several organizations and individuals deserve special mention.

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KEY INDICATORS, Uttaranchal

DISTRICT LEVEL HOUSEHOLD SURVEY- REPRODUCTIVE AND CHILD HEALTH, (DLHS-RCH), UTTARANCHAL 2002-04

Sample size	
Households surveyed	12,885
Currently married women age 15-44	9,641
Husbands of eligible women	5,417
Characteristics of households	
Percent rural	72.5
Percent Hindu	85.5
Percent Muslim	12.0
Percent other religion	2.4
Percent scheduled caste	14.3
Percent scheduled tribe	3.1
Percent with electricity	67.1
Percent with flush toilet	35.0
Percent with no toilet facility	49.2
Percent living in *Kachcha* houses	13.4
Percent living in *Pucca* houses	44.6
Percent with low standard of living	37.5
Percent with high standard of living	31.8
Percent with iodized salt (15+ppm)	8.6
Characteristics of currently married women age 15-44 years	
Percent below age 30	48.4
Percent with age at first cohabitation below age 18.	36.8
Percent illiterate	43.9
Percent having 10 or more years of schooling	25.4
Percent with illiterate husband	16.5
Percent with husband 10+ years of schooling	49.2
Marriage	
Mean age at marriage for boys	24.6
Mean age marriage for girls	20.5
Percent of boys married below age 21	13.4
Percent of girls married below age 18	9.8
Fertility	
Mean children ever born women age 40-44 years	4.3
Percent of births of order 3 and above[1]	46.0
Current use of family planning method	
Any method	48.7
Any modern method	44.2
Pill	4.1
IUD	1.9
Condom	11.1
Female sterilization	25.1
Male sterilization	1.7
Any traditional method	4.3
Rhythm/safe period	3.0
Withdrawal	0.8
Unmet need for family planning	
Percent with unmet need for spacing	9.8
Percent with unmet need for limiting	17.1
Percent with total unmet need	26.9
Maternal care[2]	
Percent of women received antenatal check-ups	62.6
Antenatal check-up at home	7.5
Antenatal check-up in first trimester	25.9
Three or more visit for ANC	28.0
Two or more tetanus toxoid injections	64.4
Adequate Iron folic acid tablets/syrup[3]	20.0
Full antenatal check-up[4]	10.5
Delivery characteristics[2]	
Delivery at home	76.2
Delivery at government health institutions	10.7
Delivery at private health institutions	13.0
Delivery attendant by skilled persons[5]	32.5
Child health	
Percent of children whose mother squeezed out milk from her breast[6]	69.9
Percent of children[7] with diarrhoea[8] who received ORS	21.4
Percent of children[7] with pneumonia[8] who were taken to a health facility or provider	78.8
Percent of children who received vaccinations[9]	
BCG	72.7
DPT (3 injections)	55.8
Polio (3 drops)	55.5
Measles	54.4
All vaccinations[10]	44.3
No vaccination at all.	23.4
Percentage of women who had	
Pregnancy complication[2]	24.0
Delivery complication[2]	20.1
Post delivery complication[2]	26.9
Symptoms of RTI/STI	45.2
Problems of vaginal discharge	30.6
Menstruation related problem	14.2
Awareness of RTI/STI and HIV/AIDS	
Percent of women who have heard of RTI/STI	28.9
Percent of women who have heard of HIV/AIDS	48.0
Utilization of government health services	
Antenatal care	38.6
Treatment for pregnancy complication	37.4
Treatment for post-delivery complication	29.5
Treatment for vaginal discharge	31.1
Treatment for children with diarrhoea	20.0
Treatment for children with pneumonia	16.2
Quality of family planning services	
Percent non-users ever advised to adopt the family planning method	4.5
Percent users told about side effects of method	26.9
Percent users who received follow-up services	13.7
Characteristics of husband of eligible women	
Percent of husband knowing NSV	52.4
Percent of men who have heard of RTI/STI	39.9
Percent of men who have heard of HIV/AIDS	77.4
Percentage who had any symptoms of RTI/STI	8.2
Sought treatment for RTI/STI	40.2

[1] For births in past three years, [2] For live/still births during three years preceding the survey, [3] 100 or more IFA tablets/Syrup, [4] A minimum of three visits for ANC, at least one TT injections and 100 or more IFA tablets/syrup, [5] Either institutional delivery or home delivery assisted by Doctor/ANM/nurse, [6] Children age below 3 years, [7] Last but one living children below age 3 years, [8] Last two weeks preceding the survey, [9] Last but one living children (age 12-23 months) born during three years preceding the survey. [10] BCG, three injections of DPT, three drops of polio and measles.

SALIENT FINDINGS

For the assessment of district level Reproductive and Child Health indicators, Government of India proposed to undertake district level household surveys through non-governmental agencies on an annual basis. The District Level Household Survey (DLHS) was the result of government's initiative. In Uttaranchal, PRC, Delhi was entrusted the work of carrying out of the survey. The survey for Phase-I of the DLHS covering 7 districts of the state was conducted during March 2002 to July 2002. The survey for Phase-II covering the remaining 6 districts of the state was carried out during April 2004 to June 2004. The focus of the survey was on: i) Coverage on ante natal care (ANC) and immunization services, ii) Extent of safe deliveries, iii) Contraceptive prevalence rate and unmet need for family planning, iv) Awareness about RTI/STI and HIV/AIDS and v) Utilization of government health services and users' satisfaction. The salient findings of the survey are presented here.

For both the phases together, the data was collected from 12,885 households in Uttaranchal. From these households, 9,641 eligible women (usual resident or visitors who stayed in the sample household the night before the interview, currently married aged 15-44 years whose marriage was consummated) and 5,417 husbands of eligible women were interviewed.

Of the total households interviewed in Uttaranchal, nearly 27.5 percent were from urban areas. There were 85.5 percent Hindu households, 12 percent Muslim and 1.9 percent came under other category in the sample. About 17.4 percent of the households belonged to either scheduled castes or scheduled tribes. Only 13.4 percent of the households lived in *Kachcha* and about 42.1 percent are in Semi-*pacca* and 44.6 percent are in *pucca* houses. More than one-third of the households belonged to low economic status (37.5 percent in low SLI).

About 72 percent of population aged seven and above are literate. Percent literate among females is 60.3 where as it is 83.3 percent for males. Proportion of non-literate is much higher among the older cohort compared to the younger ones. Nearly 44 percent of eligible women in the state are non-literate, and 25.4 percent have completed 10 or more years of schooling. In Uttaranchal the level of literacy among the eligible women is low. As regards distribution of non-literate women, lesser proportion of young women below age 30 are illiterate compared to older women age 30 and above, but in case of husbands illiteracy is more or less uniform across age, though it is marginally more for husbands above 45 years.

The reporting of the marriages during three yeas prior to the survey gives the mean age at marriage among the boys and girls in the state as 24.6 and 20.5 years respectively. About 13.4 percent of boys and 9.8 percent of girls in the state got married before attaining the minimum legal age at marriage of 21 and 18 years respectively. In all the districts, except Hardwar and Udham Singh Nagar less than one-fifth of boys got married below the legal minimum age at marriage. In all the districts nearly 2.5 to 19.3 percent of the girls got married below the legal minimum age at marriage.

Only 8.6 percent of the households use cooking salt that is iodized at the recommended level of 15 parts per million or higher level of iodine content whereas 29.5 percent of households used salts that are not iodized at all. Lowest proportion of households (11.1 percent) in Almora is

using non-iodized salt whereas in Chamoli the highest proportion of households (43.7 percent) used non-iodized salt. In all the districts except Champawat and Udham Singh Nagar, less than one-fifth of the households consume adequately iodized salt.

On an average, women on the verge of completion of reproductive period have given birth to 4.3 children. The completed fertility in the districts varies from the lowest of 3.5 children ever born per women in Chamoli to the highest of 4.9 children ever born per women in Nainital.

The share of births of order 3 and above in the total births that occurred three years prior to survey is 46 percent. In most of the districts, proportion of higher order births is quite high, ranging from the lowest of around 29.5 percent in Pauri Garhwal, to the highest of about 59.9 percent in Hardwar.

The data collected on the utilization of ANC services for the women who had their last live/ still birth during three years prior to survey shows that the ANC coverage in the state is good as 62.6 percent of the women received at least one ante-natal care during pregnancy. About 7.5 percent of the women were visited by health workers at their residence for providing ANC during their pregnancy. More than 13 percent of the women visited private health facilities and 38.6 percent received ANC from government health facilities. The percent of women who got some kind of ANC during pregnancy range between 45.5 percent in Hardwar to 81.7 percent in Bageshwar. In 7 districts out of 13, 70 percent or more women got some antenatal care.

Though 62.6 percent of the women in Uttaranchal received ANC, only 22, 23.3 and 65.3 percent women had check-up of weight, blood pressure and abdomen respectively. Fifty four percent women received Iron and Folic Acid (IFA) tablets and 71 percent got at least one TT injection. A full package of ANC including minimum three ANC visits, at least one TT injection and 100 or more IFA tablets/Syrup was received by 10.5 percent of women.

Minimum three ANC and timing of first check up is crucial for maternal and child care. In Uttaranchal nearly 26 percent of women got ANC in the first trimester and 28 percent had minimum three antenatal check-ups. An extent of ANC in first trimester varies from a minimum of 11.2 percent in Uttarkashi to a maximum of 35.7 percent in Nainital. In Rudraprayag, only 16.3 percent of women had minimum three ANC whereas in Nainital almost 38 percent women had got minimum three ANC.

Nearly 24 percent of the total deliveries in Uttaranchal were conducted in health institutions; 7 percentage points up from RCH Round I. The majority of the institutional deliveries were conducted in private institutions (13 percent of total deliveries) as against in government institutions (10.7 percent of total deliveries). Nearly 12 percent of the total deliveries, that took place at home, were assisted by midwifery trained persons i.e. doctor/ nurse and ANM. So in all, 32.5 percent of the deliveries, an improvement from RCH Round I (20.8 percent), in the state were assisted by skilled personnel. The extent of institutional deliveries varies from the highest of 33.2 percent in Pauri Garhwal to the lowest of 8.2 percent in Uttarkashi. In all the districts, comparatively lower proportion of the deliveries took place in government health institutions. Safe deliveries were on a similar pattern in all the districts. The

percent of the institutional deliveries increases substantially with increase in women's education and economic status.

In Uttaranchal, 24, 20.1 and 26.9 percent of the women experienced pregnancy, delivery and post delivery complications respectively. About 35.7 percent of the women sought treatment for the pregnancy complications and 43.9 percent for the post-delivery complications. The pregnancy complication varies from the lowest of 15.2 percent in Pauri Garhwal to the highest of 36.4 percent in Dehradun. The incidence of all the three types of complications seems to be linked with each other. In the districts where the incidence of pregnancy complications is high, the incidence of delivery and post-delivery complications is also high.

In most of the districts and the state as a whole, the practice of breast-feeding is almost universal. However, the practice of initiation of breastfeeding within two hours of birth of the child is not common. In Uttaranchal, only 27.2 percent women started breastfeeding the child within two hours of birth and 54.3 percent started after one day of birth. There is a great deal of variation in the pattern of breastfeeding across the districts. In Udham Singh Nagar district only 9.7 percent of the women breastfed the child within two hours of birth. In Dehradun and Rudraprayag districts, the percentage is highest (47.6 and 50 percent respectively).

In Uttaranchal 72.7, 55.8, 55.5 and 54.4 percent of the children received the BCG vaccine, three doses of DPT, Polio and measles vaccine respectively. There is a 18 percentage points drop from BCG to measles. It means that large number of children that have contact with services providers are missed out of subsequent services. The complete schedule of immunization including BCG, three doses of DPT and Polio each and measles was received by 44.3 percent of the children, whereas 23.4 percent of the children did not receive a single vaccination under routine programme. About 19.2 percent of the children received supplementation of at least one dose of vitamin A and only 4.8 percent children received IFA tablets/liquid for iron supplementation.

The extent of complete immunization consisting of BCG, three injections of DPT, three doses of Polio and measles is the lowest in Hardwar (15.1 percent) and highest in Pauri Garhwal (71.7 percent). In 6 districts (Pauri Garhwal, Bageshwar, Nainital, Champawat, Chamoli and Pithoragarh) more than 60 percent of the children received complete immunization.

In Uttaranchal, 66.2 percent of the women were aware of diarrhoea management and 19.1 percent were aware of Oral Rehydration Salt (ORS). During the two-week period prior to survey, children of 16.4 percent of the women suffered from diarrhoea. And 21.4 percent women treated diarrhoea among children by giving ORS. The awareness about danger signs of pneumonia is almost the same as awareness about diarrhoea management. About 60.4 percent of the women reported awareness about danger sings of pneumonia. Thirteen percent of the women reported that their children suffered from cough, cold and difficulty in breathing in the two-week period prior to the survey and 78.8 percent sought treatment.

The knowledge of family planning methods is almost universal in all districts of Uttaranchal except Dehradun and Hardwar, with over 99 percent women reporting knowledge of one method or the other. However, the knowledge of any spacing method is marginally lower,

but the proportion *per se* is quite high (89.2 percent). The knowledge of any modern methods is also universal in all the districts except Dehradun and Hardwar, though the knowledge of all modern methods is only 56.3 percent. The proportion knowing all modern methods (males and females' sterilization, IUD, oral pills and condom) varies from about 28 percent in Dehradun to 83.5 percent in Udham Singh Nagar.

In DLHS, knowledge about No-scalpel vasectomy has been asked to husbands of eligible women. A majority of the husbands were aware of no-scalpel vasectomy in the state. The proportion of husbands knowing No-scalpel vasectomy varies from about 40.4 percent in Hardwar to 65.8 percent in Bageshwar.

The contraceptive prevalence rate (any method) in the state is 48.7 percent, comprising of prevalence of about 44.2 percent of modern methods and 4.3 percent of traditional methods. Twenty seven percent of the couples adopted sterilization. The percent user of the two male methods of sterilization and condom is only 13 percent. There has been positive association between contraceptive use and female education, economic development and availability of health facility. The highest contraceptive prevalence is in Chamoli (57 percent) followed by Pithoragarh (56.1 percent) and the lowest is in Hardwar (39.9 percent).

In Uttaranchal, a total of 26.9 percent of women are found to have unmet need for family planning, with 17.1 percent for limiting and 9.8 percent for spacing. There are no significant inter-district differences in the pattern of unmet need. The total unmet need varies from 18 percent in Chamoli to 35.5 percent in Hardwar followed by Dehradun (34.8 percent).

Only 11 percent of the women in the state reported that either ANM/LHV or health worker visited them at their residence at least once in the past three months. About 79.1 percent of the women who were visited by ANM felt that ANM had given them sufficient time to discuss health-related matters.

In more than 50 percent of the districts, less than 10 percent of the women reported the visit of ANM/LHV to their residence. In 2 districts (Pauri Garhwal and Chamoli), 10-15 percent of the women reported visits of ANM/LHV and in the remaining 4 districts (Champawat, Udham Singh Nagar, Tehri Garhwal and Bageshwar), more than 15 percent of the women reported visit of ANM/LHV.

It has been observed that in the three months period prior to the survey, 38.8 percent of the eligible women who needed to visit health facility visited the government health facilities. Very small proportion of the women who visited the health facility rated facility as excellent. On the other hand, nearly 25 percent of the women who did not visit the government health facility reported "doctors/health workers do not examine properly" as the main reason.

The district level variation in the utilization of the government health facilities ranges from 21.9 percent in Udham Singh Nagar to 69.7 percent in Rudraprayag. Majority of the women visited private health facilities (59 percent), ranging from 21.2 percent in Rudraprayag, 73 percent in Hardwar to 78.1 percent in Udham Singh Nagar.

In Uttaranchal, 28.9 and 48 percent of women are aware of RTI/STI and HIV/AIDS respectively. The corresponding level of awareness among husbands of eligible women is 39.9 and 77.4 percent. The percent of women who are aware of RTI/STI and HIV/AIDS is lowest in Uttarkashi – 9.9 and 24.9 percent respectively and is highest in Almora and Pauri Garhwal with 51.6 and 66.3 percent respectively. Similarly, the awareness level of husbands of eligible women of RTI/STI and HIV/AIDS is lowest in Uttarkashi (15 percent) and Uttarkashi/Hardwar (68.5 percent) respectively and is highest in Champawat (65.4 percent) and Pauri Garhwal (87.1 percent) respectively. Out of 13, in 7 districts the awareness of HIV/AIDS is below the state figure for women and in 4 districts for husbands of eligible women.

About 45.2 percent of women and 8.2 percent of husbands of eligible women in the state reported having at least one symptoms of RTI/STI. In most of the districts the reported prevalence of RTI/STI among husbands was low. The prevalence of RTI/STI is lowest in Hardwar (37.6 percent) for women and in Champawat (3.1 percent) for husbands and is highest in Bageshwar (54.5 percent) for women and in Hardwar (13.2 percent) for husbands. About 33.2 percent of women reported vaginal discharge with the lowest in Dehradun (10.4 percent) and the highest in Champawat (44.7 percent). About 25.4 percent of women sought treatment for vaginal discharge problem and 40.3 percent of husbands sought treatment with at least one symptoms of RTI/STI. It may be noted that only in 2 out of 13 districts, a higher proportion of women compared to husbands sought treatment for their reproductive health problems.

CHAPTER I

INTRODUCTION

1.1 Background and Objectives of the Survey

The Reproductive and Child Health (RCH) programme that has been launched by Government of India (GoI) in 1996-97 is expected to provide quality services and achieve multiple objectives. It ushered a positive paradigm shift from method-oriented, target-based activity to providing client-centred, demand-driven quality services. Also, efforts are being made to reorient provider's attitude at grassroots level and to strengthen the services at outreach levels.

The new approach requires decentralization of planning, monitoring and evaluation of the services. The district being the basic nucleus of planning and implementation of the RCH programme, Government of India has been interested in generating district level data on utilization of the services provided by government health facilities, other then that based on service statistics. It is also of interest to assess people's perceptions on quality of services. Therefore, it was decided to undertake District Level Household Survey (DLHS) under the RCH programme in the country.

The Round I of RCH survey was conducted during the year 1998–99 in two phases (each phase covered half of the districts from all states/union territories) in 504 districts for which International Institute for Population Sciences (IIPS), Mumbai was designated as the nodal agency.

In Round II, survey was completed during 2002-04 in 593 districts as per the 2001 Census. In DLHS-RCH, information about RCH has been collected using a slightly modified questionnaire. In Round II, some new dimensions, such as test of cooking salt to assess the consumption of salt fortified with iodine, collection of blood of children, adolescents and pregnant women to assess the level of anaemia, and measurement of weight of children to assess the nutritional status, were incorporated.

The main focus of the DLHS-RCH has been on the following aspects:

- Coverage of ANC & immunization services
- Proportion of safe deliveries
- Contraceptive prevalence rates
- Unmet need for family planning
- Awareness about RTI/ STI and HIV/AIDS
- Utilization of government health services and users' satisfaction.

For the purpose of conducting DLHS-RCH, all the states and the union territories were grouped into 16 regions. A total of twelve research organizations including Population Research Centres (PRCs) were involved in conducting the survey in 16 regions with IIPS as the nodal agency.

1.2 Survey Design

In Round II, a systematic, multi-stage stratified sampling design was adopted. In each district, 40 Primary Sampling Units (PSUs – Villages/Urban Frame Size) were selected with probability proportional to size (PPS) using the 1991 Census data. All the villages were stratified according to population size, and female literacy was used for implicit arrangement within each strata. The number of PSUs in rural and urban areas was decided on the basis of percent of urban population in the district. However, a minimum of 12 urban PSUs were selected in each district in case the percent urban was low. The target sample size in each district was set at 1,000 complete residential households from 40 selected PSUs. In the second stage, within each PSU, 28 residential households were selected with Circular Systematic Random Sampling (CSRS) procedure after house listing. In order to take care of non-response due to various reasons, sample was inflated by 10 percent (i.e. 1,100 households).

For selecting the urban sample, the National Sample Survey Organization (NSSO) provided the list of selected urban frame size (UFS) blocks in the district. The UFS blocks were made available separately for each district for urban areas. The maps of selected blocks were obtained from the NSSO field office located in each state/union-territory.

But in each state, in two districts, the PSUs that were surveyed in Round I of DLHS-RCH (also known as RHS-RCH) were also selected for survey in Round II. This was done in order to measure the changes more accurately. Two districts, one with the highest proportion of safe delivery and another with the lowest proportion of safe delivery among those surveyed during Round I of the survey were selected for this purpose. In all other districts, fresh sample of PSUs were selected.

1.3 House Listing and Sample Selection

The household listing operation was carried out in each of the selected PSU segment prior to the data collection that provided the necessary frame for selecting the households. The household listing operation also involved preparation of location map and layout sketch map of the structures and recording the details of the households in these structures in each selected PSU. This exercise was carried out by independent teams each comprising one lister, one mapper and one supervisor under the overall guidance and monitoring of the survey coordinator of households of the selected regional agencies.

A complete listing of households was carried out in villages with households up to 300. In case of villages with more than 300 households but less than or equal to 600 households, two segments of more or less same size were formed and one segment was selected at random and household listing was carried out. In case of villages with more than 600 households, segments each of about 150 households were formed and two segments were selected for listing using the systematic random sampling method.

Small villages with less than 50 households were linked with a nearest village. After combining it with the nearest village, the same sampling procedure was adopted as mentioned above.

For the urban PSUs, the selected UFS blocks needed no segmentation as they were of almost equal size and contained less than 300 households.

No replacement was made if selected household was absent during data collection. However, if a PSU was inaccessible, a replacement PSU with similar characteristics was selected by the IIPS and provided to the regional agency for survey.

1.4 Questionnaire

DLHS-RCH collected information on a various indicators pertaining to RCH that would assist policymakers and programme managers to formulate and implement the goals set for RCH programmes. The International Institute for Population Sciences (IIPS), Mumbai, the Nodal Agency for DLHS–RCH project has made necessary modifications in the two Questionnaires: Households Questionnaire and Women's Questionnaire and added three more Questionnaires i.e., Husband's Questionnaire, Village Questionnaire and Health Questionnaire, in consultation with MoHFW and World Bank. These Questionnaires were discussed and finalized in training cum workshop organized at IIPS during the first week of November 2001.

These modified questionnaires had been canvassed of round II of the DLHS–RCH survey, taking into consideration the views of all the regional agencies involved. The house–listing teams and the interviewers and the supervisors for the main survey were given rigorous training based on the manuals developed for the purpose by the Nodal Agency.

All the questionnaires were bilingual, with questions in both regional and English language.

The Details of questionnaires are as follows:

Household Questionnaire: The household questionnaire lists all usual residents in each sample household including visitors who stayed in the household the night before the interview. For each listed household member, the survey collected basic information on age, sex, and marital status, relationship to the head of the household, education and the prevalence /incidence of tuberculosis, blindness and malaria. Information was also collected on the main source of drinking water, type of toilet facility, source of lighting, type of cooking fuel, religion and caste of household head and ownership of other durable goods in the household. In addition, a test was conducted to assess whether the household used cooking salt that has been fortified with iodine. Besides, details of marriages and deaths which happen to usual residents within reference period were collected. Efforts were also made to get information about maternal deaths.

Women Questionnaire: Women questionnaire is designed to collect information from currently married women age 15 – 44 years who are usual residents of the sample household or visitors who stayed in the sample household the night before the interview. The women questionnaire covered the following sections:

Section I: Background Characteristics: In this section the information collected on age, educational status and birth and death history of biological children including still birth, induced and spontaneous abortions.

Section II: Antenatal, Natal and Post natal Care: In this section the questionnaire collect information only from the women who had live birth, still birth, spontaneous or induced abortion during last three years preceding the survey date. The information on whether women received antenatal and postpartum care, who attended the delivery and the nature of complications during pregnancy for recent births were also collected.

Section III: Immunization and childcare: This section gives information about feeding practices, the length of breastfeeding, immunization coverage and recent occurrence of diarrhoea, and pneumonia for young children (below age 3 years).

Section IV: Contraception: This section provides information on knowledge and use of specific family planning methods. Questions were included about reasons for non-use, intentions about future use, desire for additional child, sex preference for next child etc.

Section V: Assessment of quality of Government health services and client satisfaction. In this section the questions are targeted to assess the quality of family planning and health services provided by Government health facilities. The information were also collected about the rating of Government health facilities and staffs and reasons for not visiting to government health facilities by eligible woman.

Section VI: Awareness about RTI/STI and HIV/AIDS: In this section the information were collected about women's knowledge of RTI/STI about awareness, Source of knowledge, aware of mode of transmission, curability, symptoms and treatment seeking behaviour. About HIV/AIDS; Awareness, Source of knowledge, aware of mode of transmission and prevention etc were canvassed.

Husband Questionnaire: In DLHS-RCH, round II, husband questionnaire was used to collect information from eligible women's husbands about age, educational status, knowledge and source of knowledge of RTI/STI and HIV/AIDS reported symptoms of RTI/STI and male participation. Apart from these information desires for children, reasons for not using F.P. methods, future intention to use F.P. methods and knowledge about no scalpel vasectomy (NSV) has also been collected.

Health Questionnaire: In DLHS-RCH, round II, a health questionnaire is included. The information collected were on weight of children age 0–71 months old and the blood sample to assess the haemoglobin levels of children age 0–71 months old, adolescents 10–19 years old and pregnant eligible women. This information is useful for assessing the levels of nutrition prevailing in the population and prevalence of anaemia among women, adolescent girls and children.

Village Questionnaire: A village questionnaire is also added in this round of DLHS. The information collected on the availability and accessibility of various facilities in the village especially on accessibility of educational and health facilities.

1.5 Fieldwork and Sample Coverage

The fieldwork for RCH Round II was done in two phases. During Phase I, 7 districts were covered from March 2002 to July 2002 and remaining 6 districts were covered during Phase II from April 2004 to June 2004.

During Round II, a total of 12,885 thousand households were covered. From these surveyed households, 9,641 currently married women (aged 15-44 years) and 5,417 husbands of eligible women were interviewed.

1.6 Data processing

All the five types of completed questionnaires were brought to the headquarters of the regional agencies and data were processed using microcomputers. The process consisted of office editing of questionnaires, data entry, data cleaning and tabulation. Data cleaning included validation, range and consistency checks. For both data entry and tabulation of the data, IIPS developed the software package. The district and state level reports were prepared by regional agency whereas national report is prepared by the nodal agency.

1.7 Sample Weights

In generating district level demographic indicator sample weight for household, women and husband, weight have been used and these for a particular district are based on three selection probabilities f_1^i, f_2^i and f_3^i pertaining to i^{th} PSU of the district. These probabilities are defined as

f_1^i = Probability of selection of i^{th} PSU in a district

$$= \frac{(n_r * H_i)}{H}$$

Where, n_r is the number of rural PSU to be selected in a district, H_i refers to the number of household in the i^{th} PSU and $H = \sum Hi$, total number of household in a district.

f_2^i = Probability of selecting segment (s) from segmented PSU
(in case the i^{th} selected PSU is segmented)

= (Number of segments selected after segmentation of PSU) / (number of segment created a PSU)

The value of f_2 is to be equal to one for un-segmented PSU.

f_3^i = Probability of selecting a household from the total listed households of a PSU or in segment(s) of a PSU

$$= \frac{28*HR_i}{HL_i}$$

Where HR_i is the household response rate of the i^{th} sampled PSU and HL_i is the number of households listed in i^{th} PSU in a district.

For urban PSU, f_1^i is computed either as the ratio of number of urban PSUs to be included from the district to the total number of UFS blocks of the district or as the ratio of urban population of the selected PSU to the total urban population of the district.

The probability of selecting a household from the district works out as;

$$f^i = \left(f_1^i * f_2^i * f_3^i\right)$$

The non-normalized household weight for the i^{th} PSU of the district is, $w^i = \frac{1}{f^i}$, while the normalized weight used in the generation of district indicators as

$$n_i^d = \frac{\sum_i n_i}{\sum_i n_i * w^i} * w^i, \text{ i= 1,2,3……40.}$$

Where n_i is the number of households interviewed in the i^{th} PSU. The weight for women and husband are computed in the similar manner after multiplication of expression for f^i by the corresponding response rate. State weights for households, women and husbands are further derived from the district weights n_i^d for the i^{th} psu in d^{th} district using external control so that for sample results do not deviate from the corresponding information about the population.

Let, $n_s = \sum_i n_i^d$ and $N_I = \sum_i N_i^d$, denote the number of households in the sample and census of a particular state, then state level households weights are work out as;

$n_i^s = n_i^d * \frac{\left(n_i^d / n_s\right)}{\left(N_i^d / N_{sc}\right)}$, where n_i^d household sample in i^{th} district, n_s is the total sample in the state, N_i^d is the census population in the i^{th} district and N_{sc} is the census population in the state.

These households' weights are controlled for rural-urban separately.

Considering sample and census currently married women in 15-44 years and married males above 15 years for specified state by districts and rural-urban residence, state level women and husbands' weights are obtained for estimation of state level indicators.

1.8 Sample Implementation

Table 1.1 shows the period of fieldwork, number of households interviewed and household's response rates. A total of 12,885 households are interviewed, about three-fourths were rural. The overall household response rate – the number of households interviewed per 100 occupied households – was 97 percent. The household response rate was more than 92 percent in every district.

Table 1.1 NUMBER OF HOUSEHOLDS INTERVIEWED

Month and year of fieldwork and number of households interviewed by district, Uttaranchal, 2002-04

State/District	Month and year of field work		Number of households interviewed			Response rate
	From	To	Total	Rural	Urban	
State	-	-	12,885	9,344	3,541	97.2
State-phase I	03/2002	07/2002	-	-	-	-
State-phase II	04/2004	06/2004	-	-	-	-
Almora	06/2002	07/2002	984	706	278	97.6
Dehradun	03/2002	03/2002	907	444	463	93.6
Hardwar	03/2002	06/2002	934	678	256	92.3
Nainital	06/2002	06/2002	992	647	345	96.6
Pithoragarh	06/2002	07/2002	1,026	724	302	97.6
Rudraprayag	06/2002	07/2002	1,044	968	76	98.3
Uttarkashi	06/2002	06/2002	939	888	51	98.4
Bageshwar	04/2004	05/2004	1,025	734	291	98.7
Chamoli	05/2004	05/2004	989	713	276	97.1
Champawat	04/2004	04/2004	1,014	720	294	98.4
Pauri Garhwal	05/2004	05/2004	1,008	715	293	98.1
Tehri Garhwal	05/2004	06/2004	998	711	287	99.1
Udham Singh Nagar	04/2004	04/2004	1,025	696	329	97.7

Note: Table based on unweighted cases.

In the interviewed households, interviews were completed with 9,641 currently married women who are the usual member of the household or stayed night before the household interview and 5,417 husbands of eligible women were also interviewed (Table 1.2). The number of completed interviews per 100 identified eligible women and husbands in the households with completed interviews were 88 and 51.6 percent respectively. The variation in the women's response rate by district was highest in Pauri Garhwal (91.9 percent) and lowest in Dehradun (81.8 percent), similarly husband's response rate was found to be highest in Uttarkashi (61.2 percent) and lowest in Chamoli (45.1 percent).

Table 1.2 NUMBER OF WOMEN AND HUSBANDS INTERVIEWED

Number of women and husbands interviewed by district, Uttaranchal, 2002-04

State/District	Number of women interviewed			Response rate	Number of husbands interviewed			Response rate
	Total	Rural	Urban		Total	Rural	Urban	
State	9,641	7,002	2,639	88.0	5,417	3,928	1,489	51.6
Almora	730	525	205	86.5	401	280	121	50.6
Dehradun	709	344	365	81.8	413	212	201	48.6
Hardwar	751	556	195	85.9	412	309	103	49.3
Nainital	801	532	269	85.9	526	353	173	60.2
Pithoragarh	763	529	234	89.6	481	343	138	57.5
Rudraprayag	763	699	64	86.4	425	375	50	50.5
Uttarkashi	713	681	32	84.3	500	476	24	61.2
Bageshwar	716	518	198	89.5	352	252	100	45.2
Chamoli	724	525	199	91.5	349	255	94	45.1
Champawat	763	548	215	90.9	408	280	128	50.7
Pauri Garhwal	679	476	203	91.9	316	215	101	45.2
Tehri Garhwal	738	525	213	90.3	356	250	106	46.8
Udham Singh Nagar	791	544	247	90.6	478	328	150	56.7

Note: Table based on unweighted cases.

1.9 Basic Demographic Profile of the State

Before presenting the survey result, the basic demographic features of Uttaranchal and its districts (as per census, 2001) are presented here.

Formed on November 9, 2000, Uttaranchal is India's 27th and one of the most recently formed states. It was carved out of the hilly region of the largest and most populous state in India namely, Uttar Pradesh. Located on the foothills of the Himalayas it shares borders with China and Nepal and is a neighbour to the states of Himachal Pradesh, Uttar Pradesh, Punjab and Haryana. It is sprawled over 53.5 thousand sq. kms. and had a population of more than 8 million people in 2001. The state consists of 13 districts, 46 tehsils, 95 development blocks and 16,826 villages. The urban areas of the state comprise 73 towns during 2001.The capital of the state is Dehradun.

According to the 2001 census, the population of Uttaranchal is 8.5 million out of which 4.3 million are males and 4.2 million are females. The rural and urban breakup of the population shows that 74.3 percent of the population was enumerated in rural areas and 25.7 percent in urban areas. Keeping pace with the national average, Uttaranchal has recorded a sharp decline in the decadal growth rate from 23.1 per cent in 1981-91 to 20.4 percent during 1991-2001. Among the districts, Udham Singh Nagar with 33.6 percent has the highest decadal growth rate whereas Almora with 3.7 percent has the lowest decadal growth rate of total population during 1991-2001.

Percentage of both Scheduled Caste and Schedule Tribe population have experienced a marginal increase during 1991-2001 and the proportion of schedule caste and scheduled tribe population in total population of 2001 are 17.9 percent and 3 percent respectively. While the highest proportion of Schedule Caste population has been recorded in Bageshwar district (25.9

per cent) and that of Schedule Tribe in Udham Singh Nagar (8.9 per cent), the lowest proportion of Schedule Caste population has been recorded in Udham Singh Nagar district (13.2 per cent) and that of Schedule Tribe in Rudraprayag, Tehri Garhwal and Almora (0.1 per cent each). With a population density of 159 persons per sq. km. as per the 2001 Census, Uttaranchal has less than half the population density than that of India, which is 324 persons per square km. Among the districts, Hardwar has the highest density (613 persons/sq. km.) and Uttarkashi has the lowest (37 persons/sq. km).

The sex ratio of the total population in the state as per the 2001 Census is 962 females per 1000 males. Almora has recorded the highest sex ratio (1146) and surprisingly Hardwar has the lowest (865) within the state.

The literacy rate in the state has improved from 57.8 percent in 1991 to 71.6 percent in 2001 and it is even higher than the national average of 64.8 percent. The literacy rate in urban areas (81.4 percent) is considerably higher than that in the rural areas of the state (68.1 percent). Among the districts, Dehradun has the highest literacy rate of 79 percent and Hardwar has the lowest literacy rate of 63.7 percent. The male literacy for the state is 83.3 percent and the female literacy rate is 59.6 percent. Both the rates have increased from 1991 census to 2001 census.

Table 1.3 BASIC DEMOGRAPHIC INDICATOR

Basic demographic indicators of India, Uttaranchal state and its districts, Census 2001

India/state/district	Population (in thousand)	Percentage urban	Percentage decadal growth rate[1]	Sex ratio[2]	Percentage literate 7+		
					Male	Female	Persons
India	1,028,737	28.0	21.5	933	75.3	53.7	64.8
State	8,489	25.7	20.4	962	83.3	59.6	71.6
Almora	631	8.6	3.7	1146	89.2	60.6	73.6
Dehradun	1,282	52.9	25.0	887	85.9	71.2	79.0
Hardwar	1,447	30.8	28.7	865	73.8	52.1	63.7
Nainital	763	35.3	32.7	906	86.3	69.6	78.4
Pithoragarh	462	12.9	11.0	1031	90.1	62.6	75.9
Rudraprayag	227	1.2	13.4	1115	89.8	59.6	73.6
Uttarkashi	295	7.8	23.1	941	83.6	46.7	65.7
Bageshwar	249	3.1	9.2	1105	87.7	57.0	71.3
Chamoli	370	13.7	13.9	1016	89.7	61.6	75.4
Champawat	225	15.0	17.6	1021	87.3	54.2	70.4
Pauri Garhwal	697	12.9	3.9	1106	90.9	65.7	77.5
Tehri Garhwal	605	9.9	16.2	1049	85.3	49.4	66.7
Udham Singh Nagar	1,236	32.6	33.6	902	75.2	53.4	64.9

Note: Source: Primary Census Abstract, Series 6, Census of India, 2001. [1] 1991-2001, [2] Females per 1,000 males.

CHAPTER II

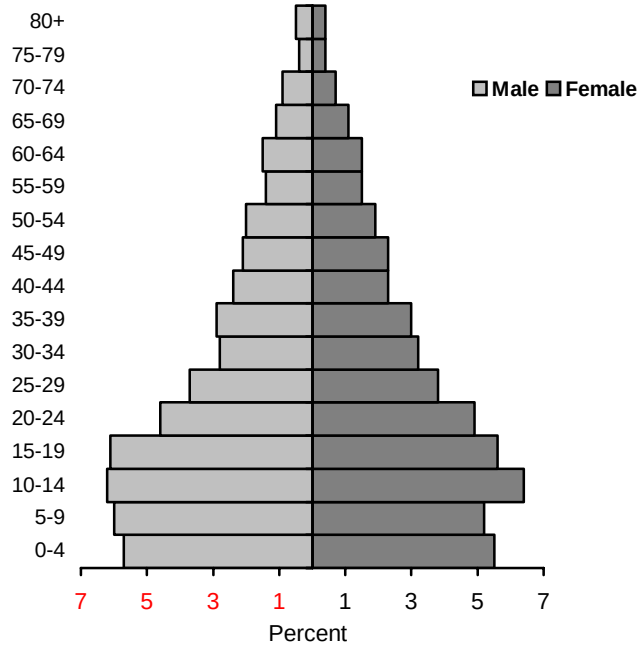
BACKGROUND CHARACTERISTICS OF HOUSEHOLD

This chapter provides a socio-economic and demographic profile of households interviewed in the District Level Household Survey-Reproductive and Child Health. Facilities and services such as Health, Education and Communication available in the representative sampled villages are also presented here. The *de facto* producer of enumeration is adopted in order to include every individual staying in the sampled Primary Sampling Units (PSU), either a village or an urban area, the night before the survey. The objective of adopting the *de facto* method is to avoid duplication of persons who are in transit.

2.1 Age –Sex Structure

The age-sex distribution of sampled household population classified by residence is presented in Table 2.1. The percent distribution is based on sampled *de facto* population of 69,382 persons of whom 72.8 percent lived in the rural areas of Uttaranchal. The state of Uttaranchal depicts a young and growing population with 35 percent below the age of 15 years (Figure 2.1). There are more children below 15 years recorded in rural areas (36.4 percent) compared to those in urban areas (31.3 percent).

Figure 2.1
Age-sex pyramid



Uttaranchal, DLHS-RCH, 2002-04

The overall sex ratio of 101 males per 100 females is recorded for the *de facto* population. The sex ratio is 108 in favour of males in urban areas compared to 99 in favour of females in rural areas.

Table 2.1 HOUSEHOLD POPULATION BY AGE AND SEX

Percent distribution of the household population by age and by residence and sex, Uttaranchal, 2002-04

	Total			Rural			Urban		
Age	Total	Male	Female	Total	Male	Female	Total	Male	Female
< 1	2.4	2.5	2.3	2.5	2.5	2.4	2.2	2.3	2.0
1-4	8.8	8.9	8.7	9.3	9.5	9.0	7.6	7.5	7.9
5-9	11.2	12.0	10.4	11.8	12.6	10.9	9.6	10.3	8.8
10-14	12.6	12.3	12.8	12.8	12.7	12.9	11.9	11.4	12.5
15-19	11.7	12.1	11.3	11.5	11.9	11.1	12.2	12.5	11.8
20-24	9.5	9.2	9.9	9.2	8.9	9.6	10.4	9.9	10.9
25-29	7.5	7.3	7.7	7.1	6.9	7.3	8.6	8.5	8.7
30-34	6.0	5.5	6.5	5.8	5.3	6.4	6.5	6.2	6.7
35-39	5.9	5.9	6.0	5.8	5.8	5.7	6.2	5.9	6.7
40-44	4.7	4.8	4.7	4.3	4.4	4.2	6.0	5.9	6.1
45-49	4.4	4.1	4.7	4.1	3.8	4.5	5.1	4.9	5.4
50-54	3.9	3.9	3.9	3.7	3.6	3.9	4.4	4.8	3.8
55-59	2.9	2.8	3.0	3.0	2.7	3.2	2.7	3.1	2.4
60-64	2.9	2.9	3.0	3.1	3.1	3.2	2.5	2.4	2.5
65-69	2.2	2.1	2.2	2.3	2.1	2.5	1.7	2.1	1.3
70-74	1.6	1.8	1.5	1.8	2.0	1.6	1.2	1.2	1.1
75-79	0.8	0.8	0.8	0.9	0.9	0.9	0.5	0.5	0.5
80+	1.0	1.1	0.9	1.1	1.3	0.9	0.8	0.7	0.9
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of persons	69,382	34,870	34,512	50,504	25,078	25,426	18,878	9,792	9,086
Sex ratio[1]	101	NA	NA	99	NA	NA	108	NA	NA

Note: Table is based on the *de facto* population, i.e. persons who stayed in the household the night before the interview (including both usual resident and visitors). NA: Not applicable. [1] Male per 100 females

2.2 Household Characteristics

The percent distribution of 12,885 households surveyed in the state of Uttaranchal by selected characteristics of the household head and the number of usual household members are shown in Table 2.2. This is based on *de jure*, the usual resident population. More than 90 percent of household heads are male irrespective of place of residence while only 8.6 percent are female-headed households. About 67.4 percent of household heads are in the 30-59 years age group. The median age of household heads is 46.8 years for the state as a whole, while it is 46.9 years in rural areas and 46.5 years in urban areas. About 9.2 percent of household heads are younger than 30 years and 23.5 percent are at least 60 years old. Most of the household heads are Hindu (85.5 percent), 12 percent are Muslim, and 1.9 percent are Sikh. Hindus constitute a higher proportion of population in rural areas (87.4 percent) than in urban areas (80.4 percent). Only 10.6 percent of the rural households are Muslim, compared to 15.7 percent of urban households.

Table 2.2 HOUSEHOLD CHARACTERISTICS

Percent distribution of the household head by selected characteristics of the household head and household size, according to residence, Uttaranchal, 2002-04

Characteristic	Total	Residence	
		Rural	Urban
Sex of the household head			
Male	91.4	91.4	91.4
Female	8.6	8.6	8.6
Age of the household head			
< 30	9.2	9.6	8.0
30-44	36.0	35.7	36.7
45-59	31.4	29.7	35.8
60+	23.5	25.0	19.4
Median age of the household head	46.8	46.9	46.5
Religion of the household head			
Hindu	85.5	87.4	80.4
Muslim	12.0	10.6	15.7
Christian	0.4	0.3	0.6
Sikh	1.9	1.6	2.8
Buddhist	0.0	0.0	0.0
Jain	0.1	0.0	0.4
Zoroastrian	0.0	0.0	0.0
Caste/tribe of the household head			
Scheduled caste	14.3	15.2	11.7
Scheduled tribe	3.1	3.5	2.0
Other backward class	21.7	20.3	25.5
Other #	57.4	58.0	55.9
Don't know	3.6	3.1	4.9
Number of usual members			
1	3.2	3.4	2.7
2	6.2	6.4	5.8
3	8.3	7.7	9.9
4	15.8	14.1	20.3
5	20.8	20.1	22.5
6	17.0	17.7	15.1
7	11.5	12.0	10.4
8	6.8	7.6	4.8
9+	10.3	11.0	8.5
Mean household size	5.4	5.5	5.2
Total percent	100.0	100.0	100.0
Number of households	12,885	9,344	3,541

Note: Table is based on the *de jure* population. # Higher caste (Not belonging to a scheduled caste, a scheduled tribe and an other backward class)

About 14.3 percent of the households in Uttaranchal belong to scheduled castes, 3.1 percent to scheduled tribes and 21.7 percent to other backward classes while the remaining 57.4 percent of the households are headed by other castes not under scheduled castes, scheduled tribes and other backward classes. About 18.7 percent of the household heads belong to scheduled

castes or tribes in rural areas whereas they constitute 13.7 percent in urban areas. The overall state average household size is 5.4 persons. The rural-urban differential in average household size is 5.5 in rural areas and 5.2 in urban areas.

2.3 Educational Level

The educational background of Uttaranchal presented in this section is based on *de facto* household population. Level of literacy and years of schooling, according to age, sex and residence are shown in Table 2.3.

Table 2.3 EDUCATIONAL LEVEL OF THE HOUSEHOLD POPULATION

Percent distribution of household population age 7 and above by literacy level and years of schooling, according to age, residence and sex, Uttaranchal, 2002-04

Age	Non-literate	Literate but no schooling	Years of schooling: 1-5	6-8	9-10	11 or more	Missing	Total Percent	Number of persons
					Total				
					Male				
7-9	17.2	6.2	75.4	1.1	0.0	0.0	0.0	100.0	2,481
10-14	6.4	0.3	51.3	36.7	5.1	0.0	0.3	100.0	4,303
15-19	7.3	0.1	10.5	28.8	38.3	15.0	0.0	100.0	4,208
20-29	11.7	0.4	7.8	15.9	26.9	37.3	0.0	100.0	5,755
30-39	16.7	0.3	10.9	17.0	21.8	33.2	0.0	100.0	3,974
40-49	22.8	0.4	13.9	16.0	18.6	28.2	0.0	100.0	3,097
50+	38.5	0.5	19.1	13.4	13.0	15.5	0.0	100.0	5,382
Total	17.6	0.9	23.5	19.3	18.9	19.9	0.0	100.0	29,201
					Female				
7-9	17.7	5.4	75.3	1.3	0.0	0.0	0.2	100.0	2,211
10-14	10.8	0.3	48.5	33.3	7.0	0.0	0.2	100.0	4,411
15-19	16.4	0.0	12.2	24.8	29.1	17.4	0.1	100.0	3,893
20-29	28.8	0.2	11.7	14.7	13.3	31.3	0.0	100.0	6,061
30-39	51.1	0.2	14.3	11.6	8.3	14.5	0.0	100.0	4,288
40-49	60.0	0.4	13.4	9.1	6.0	11.1	0.0	100.0	3,244
50+	79.7	0.5	9.5	4.0	2.5	3.7	0.0	100.0	5,231
Total	39.4	0.7	22.3	14.9	10.0	12.8	0.1	100.0	29,339
					Total				
7-9	17.4	5.9	75.4	1.2	0.0	0.0	0.1	100.0	4,692
10-14	8.6	0.3	49.9	34.9	6.1	0.0	0.2	100.0	8,715
15-19	11.7	0.1	11.3	26.9	33.9	16.2	0.0	100.0	8,102
20-29	20.4	0.3	9.8	15.3	19.9	34.2	0.0	100.0	11,816
30-39	34.6	0.3	12.7	14.2	14.8	23.5	0.0	100.0	8,262
40-49	41.8	0.4	13.7	12.5	12.2	19.5	0.0	100.0	6,341
50+	58.8	0.5	14.4	8.8	7.8	9.7	0.0	100.0	10,613
Total	28.5	0.8	22.9	17.1	14.4	16.3	0.0	100.0	58,540

Note: The Table is based on *de facto* population.

Contd.

Table 2.3 indicates that 28.5 percent of the population aged seven and above are non-literate. The proportion of non-literates is 39.4 percent for females compared to 17.6 percent for males. The proportion of non-literate is much higher among the older cohorts compared to the younger ones. For both males and females, going by the expected trend, the level of literacy is higher in the younger population than in the older age groups (Figure 2.2).

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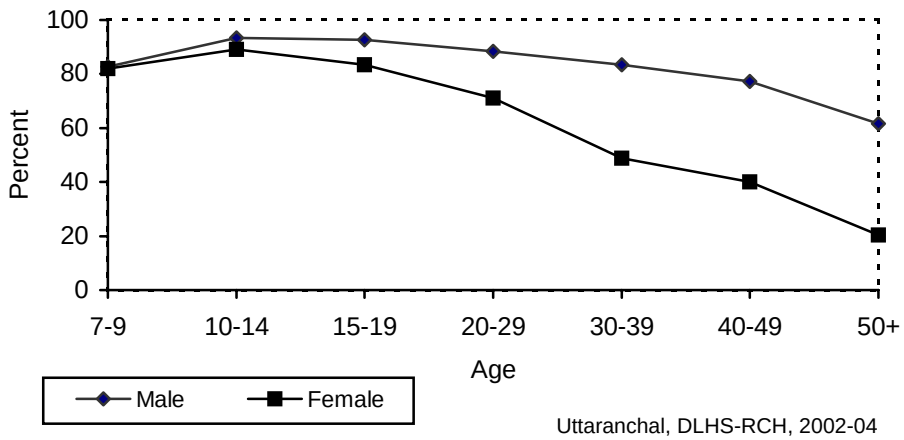
Figure 2.2
Percentage Literate by Age and Sex



Uttaranchal, DLHS-RCH, 2002-04

Table 2.3 EDUCATIONAL LEVEL OF THE HOUSEHOLD POPULATION

Percent distribution of household population age 7 and above by literacy level and years of schooling, according to age, residence and sex, Uttaranchal, 2002-04

Age	Non-literate	Literate but no schooling	Years of schooling: 1-5	6-8	9-10	11 or more	Missing	Total Percent	Number of persons
				RURAL					
				Male					
7-9	18.4	6.7	73.7	1.1	0.0	0.0	0.0	100.0	1,870
10-14	6.6	0.5	55.3	33.4	4.0	0.0	0.2	100.0	3,188
15-19	6.9	0.1	10.8	30.7	38.7	12.8	0.0	100.0	2,983
20-29	11.8	0.4	7.5	17.1	29.3	33.9	0.0	100.0	3,955
30-39	19.1	0.4	12.0	17.8	23.6	27.0	0.0	100.0	2,794
40-49	27.4	0.4	14.4	18.7	19.5	19.6	0.0	100.0	2,040
50+	43.4	0.5	20.8	14.0	11.5	9.8	0.0	100.0	3,931
Total	19.4	0.9	25.1	19.8	19.0	15.7	0.0	100.0	20,762
				Female					
7-9	18.0	5.8	75.0	1.1	0.0	0.0	0.1	100.0	1,682
10-14	12.1	0.2	51.9	30.9	4.8	0.0	0.1	100.0	3,276
15-19	17.8	0.1	13.3	28.6	27.4	12.7	0.1	100.0	2,820
20-29	33.4	0.2	13.1	16.2	14.1	23.0	0.0	100.0	4,281
30-39	58.8	0.2	15.8	11.4	6.4	7.3	0.0	100.0	3,070
40-49	70.2	0.4	14.8	7.4	2.5	4.7	0.0	100.0	2,202
50+	86.7	0.5	7.9	2.6	0.8	1.4	0.0	100.0	4,094
Total	44.5	0.7	23.5	14.7	8.5	8.1	0.0	100.0	21,425
				Total					
7-9	18.2	6.3	74.3	1.1	0.0	0.0	0.1	100.0	3,551
10-14	9.4	0.3	53.6	32.1	4.4	0.0	0.2	100.0	6,465
15-19	12.2	0.1	12.1	29.7	33.2	12.7	0.0	100.0	5,803
20-29	23.0	0.3	10.4	16.6	21.4	28.3	0.0	100.0	8,236
30-39	39.9	0.3	14.0	14.5	14.6	16.7	0.0	100.0	5,865
40-49	49.6	0.4	14.6	12.8	10.6	11.9	0.0	100.0	4,242
50+	65.5	0.5	14.2	8.2	6.1	5.6	0.0	100.0	8,025
Total	32.1	0.8	24.3	17.2	13.7	11.8	0.0	100.0	42,187

Contd.

Around 75.4 percent of males and 75.3 percent of females in the age group of 7-9 years had 1-5 years of schooling. Nearly 23.5 percent of males have had education for 1-5 years. Females are almost the same compared to their male counterparts in this category with a corresponding share of 22.3 percent. Lesser proportion of females are found in higher education of 9-10 years (10 percent) and 11 or more years (12.8 percent) compared to the males having corresponding figures of 18.9 percent and 19.9 percent respectively. Just about 0.8 percent of the total population, 0.9 percent of males and 0.7 percent of females are found to be literate without any formal schooling.

Table 2.3 EDUCATIONAL LEVEL OF THE HOUSEHOLD POPULATION

Percent distribution of household population age 7 and above by literacy level and years of schooling, according to age , residence and sex, Uttaranchal, 2002-04

Age	Non-literate	Literate but no schooling	Years of schooling				Missing	Total Percent	Number of persons
			1-5	6-8	9-10	11 or more			
					URBAN				
					Male				
7-9	13.6	4.6	80.6	1.1	0.0	0.0	0.1	100.0	611
10-14	5.7	0.0	40.0	45.9	8.1	0.0	0.3	100.0	1,115
15-19	8.4	0.3	9.8	24.0	37.2	20.5	0.0	100.0	1,226
20-29	11.4	0.3	8.5	13.4	21.6	44.8	0.0	100.0	1,800
30-39	11.3	0.2	8.1	15.1	17.4	47.9	0.0	100.0	1,180
40-49	13.8	0.3	13.0	11.0	17.0	44.9	0.0	100.0	1,057
50+	25.3	0.7	14.5	11.5	17.2	30.9	0.0	100.0	1,451
Total	13.0	0.6	19.6	17.9	18.6	30.1	0.0	100.0	8,439
					Female				
7-9	16.7	4.4	76.4	2.0	0.0	0.0	0.6	100.0	529
10-14	6.9	0.4	38.6	40.2	13.5	0.0	0.4	100.0	1,135
15-19	12.9	0.0	9.0	14.9	33.5	29.8	0.0	100.0	1,073
20-29	17.7	0.2	8.6	11.1	11.4	51.0	0.0	100.0	1,780
30-39	31.6	0.2	10.7	12.2	12.8	32.5	0.0	100.0	1,218
40-49	38.6	0.2	10.5	12.7	13.4	24.7	0.0	100.0	1,042
50+	54.7	0.3	15.5	9.2	8.4	11.9	0.0	100.0	1,137
Total	25.6	0.5	19.0	15.3	14.0	25.5	0.1	100.0	7,914
					Total				
7-9	15.0	4.5	78.7	1.5	0.0	0.0	0.3	100.0	1,141
10-14	6.3	0.2	39.3	43.0	10.8	0.0	0.4	100.0	2,250
15-19	10.5	0.2	9.4	19.7	35.4	24.8	0.0	100.0	2,299
20-29	14.5	0.3	8.6	12.3	16.5	47.9	0.0	100.0	3,580
30-39	21.6	0.2	9.4	13.6	15.1	40.1	0.0	100.0	2,397
40-49	26.1	0.3	11.7	11.8	15.2	34.8	0.0	100.0	2,099
50+	38.2	0.5	14.9	10.5	13.3	22.6	0.0	100.0	2,587
Total	19.1	0.6	19.3	16.7	16.4	27.9	0.1	100.0	16,353

An examination of the educational attainment by place of residence revealed that the urban-rural differential was quite pronounced. In urban areas, only 19.1 percent of the total population is non-literate in comparison to 32.1 percent of the rural population. The number of non-literate females living in rural areas of Uttaranchal accrue a share as high as 44.5 percent, while non-literate rural males are only 19.4 percent. Prevalence of illiteracy is much less in urban areas with figures of 25.6 percent and 13 percent for non-literate females and males respectively. A contrasting feature of the rural-urban educational levels is that in rural areas 24.3 percent people had 1-5 years of schooling compared to 19.3 percent in urban areas, whereas those who had 11 or more years of schooling was just 11.8 percent in rural areas compared to 27.9 percent in urban areas.

2.4 Marital Status of the Household Population

The DLHS collected information on the marital status of all household members aged 10 years and above. Table 2.4 shows the percent distribution of household population by marital status distribution of *de facto* household population by age and sex. About 63.1 percent of females in the age group 20-24 years, followed by 91.6 percent in the age group 25-29 years, and 93.2 percent in the age group 30-44 years, are currently married. The proportion of never married for both males and female is 39.9 percent in the state, and it is higher for males (45.6 percent) than for females (34.3 percent). The proportion of never married among males declines with increasing age and reaches the lowest by the time they are in the age group 60+ years. A similar pattern has been observed in the case of females, with the lowest never married proportion for the age group 60+ years. The proportions of divorced, separated or widowed are very small and limited to the older ages. About 57.6 percent of women aged 60 years or above are widowed /divorced /separated. Among the *de facto* population aged 10 years and above, 50.5 percent of males and 55.1 percent of females are currently married.

Table 2.4 MARITAL STATUS OF THE HOUSEHOLD POPULATION

Percent distribution of the household population aged 10 years and above by marital status, according to age and sex , Uttaranchal, 2002-04

Age	Marital status				Total Percent	Number of persons
	Never married	Currently married	Married, g*auna* not performed	Widowed/ divorced/ Separated		
			Male			
10-14	99.3	0.5	0.0	0.1	100.0	4,303
15-19	99.0	0.9	0.0	0.1	100.0	4,208
20-24	79.3	19.9	0.1	0.6	100.0	3,201
25-29	35.8	63.0	0.0	1.2	100.0	2,553
30-44	3.8	93.9	0.1	2.1	100.0	5,644
45-59	1.3	93.5	0.0	5.2	100.0	3,781
60+	0.9	77.8	0.3	20.9	100.0	3,028
Total	45.6	50.5	0.1	3.8	100.0	26,720
			Female			
10-14	99.0	0.5	0.3	0.1	100.0	4,411
15-19	89.4	10.0	0.3	0.2	100.0	3,893
20-24	35.8	63.1	0.2	0.9	100.0	3,415
25-29	6.5	91.6	0.2	1.7	100.0	2,646
30-44	0.7	93.2	0.1	6.1	100.0	5,907
45-59	0.5	81.2	0.2	18.1	100.0	3,989
60+	0.4	41.9	0.1	57.6	100.0	2,867
Total	34.3	55.1	0.2	10.4	100.0	27,129
			Total			
10-14	99.2	0.5	0.1	0.1	100.0	8,715
15-19	94.4	5.3	0.1	0.1	100.0	8,102
20-24	56.9	42.2	0.2	0.8	100.0	6,617
25-29	20.9	77.6	0.1	1.5	100.0	5,199
30-44	2.2	93.5	0.1	4.1	100.0	11,551
45-59	0.9	87.2	0.1	11.8	100.0	7,770
60+	0.7	60.4	0.2	38.8	100.0	5,895
Total	39.9	52.8	0.1	7.1	100.0	53,848

Note: Table is based on *de facto* population

2.5 Marriage

Marriage in the household is an important event that reflects the socio-cultural practices of the communities surveyed in DLHS. This section outlines the marriage ceremonies during the three years period prior to the survey. Mean age at marriage by sex and percentage of total marriages which are below legal age at marriage, 21 years for boys and 18 years for girls by resident at the state and at district levels are shown in Table 2.5.

Table 2.5 MARRIAGE

Mean age at marriage and percentage of marriages below legal at marriage by sex and by districts, Uttaranchal, 2002-04

Place of residence/ District	Mean age at marriage		Percentage of marriage below legal age at marriage	
	Boy	Girl	Boy (<21)	Girl (<18)
State – Total	24.6	20.5	13.4	9.8
State – Rural	24.3	20.1	15.0	11.0
State – Urban	25.5	21.8	8.7	6.4
District				
Almora	25.0	21.0	16.8	8.8
Bageshwar	25.5	20.9	4.9	8.9
Chamoli	25.2	21.3	5.8	5.0
Champawat	24.2	19.4	12.7	10.5
Dehradun	25.7	21.9	7.1	4.5
Pauri Garhwal	26.0	21.5	1.9	2.5
Hardwar	23.0	19.6	26.6	19.3
Nainital	25.7	21.2	7.7	7.7
Pithoragarh	25.2	19.9	5.3	15.2
Rudraprayag	24.8	20.4	6.4	3.7
Tehri Garhwal	24.4	20.5	11.2	5.0
Udham Singh Nagar	23.8	20.0	20.6	12.4
Uttarkashi	23.9	20.5	16.9	4.6

Note: Table based on *de jure* population. Reference period: - January 1st, 1999 to survey date for phase-1, and January 1st, 2001 to survey date for phase-2.

Mean age at marriage for boys and girls in urban areas of Uttaranchal are 25.5 years and 21.8 years respectively. The corresponding figures in rural areas are 24.3 years and 20.1 years. On the whole, as far as Uttaranchal is concerned, both boys and girls seem to oblige the legal age marriage, the average age at marriage being 24.6 years for boys and 20.5 years for girls. However, 13.4 percent of boys and 9.8 percent of girls got married below the corresponding specified legal age marriage. The proportion is higher in the rural areas compared to the urban areas of the state.

When it comes to district level variation in mean age at marriage, it is highest in Pauri Garhwal for boys (26 years) and in Dehradun for girls (21.9 years). The lowest mean age at marriage for boys is 23 years recorded for the district of Hardwar, and for girls, the lowest is 19.4 years in Champawat.

It is also found that, the percentage of girls who were married below the legal age at marriage was the highest in Hardwar (19.3 percent) and the lowest in Pauri Garhwal (2.5 percent). In 9 out of 13 districts, less than 10 percent girls were marrying below the legal age at marriage (see Map-1). In the case of boys, marriages below the legal age at marriage are the highest in Hardwar district (26.6 percent) and lowest in Pauri Garhwal (1.9 percent).

2.6 Morbidity Rates

The DLHS-RCH has collected information on the morbidity status relating to blindness, tuberculosis and malaria of the *de jure* members of the household. Table 2.6 provides prevalence rates.

Table 2.6 MORBIDITY RATES

Prevalence of blindness, tuberculosis, and malaria, according to place of residence, Uttaranchal, 2002-04.

Morbidity	Total	Residence	
		Rural	Urban
Prevalence rate of blindness			
Male			
Partial	8,728	8,516	9,311
Complete	203	233	121
Night blindness	106	132	35
Female			
Partial	11,242	11,302	11,068
Complete	258	269	225
Night blindness	115	127	81
Persons			
Partial	9,945	9,873	10,149
Complete	230	251	170
Night blindness	111	130	57
Prevalence rate of tuberculosis			
Male	606	489	927
Female	455	366	710
Person	533	429	823
Prevalence rate of malaria[1]			
Male	1,009	1,044	915
Female	1,184	1,255	980
Person	1,097	1,152	947

Note: All the rates refer to *de jure* population. Prevalence rate per 100, 000 population
Reference period: - January 1st, 1999 to survey date for phase-1, and January 1st, 2001 to survey date for phase-2. [1] Last two weeks prior to the survey

Partial, Complete and Night Blindness

The overall prevalence of partial blindness is 9,945 per 100,000 population in the state and is lower in rural areas (9,873 per 100,000) than in urban areas (10,149 per 100,000). It is more among females. The prevalence of complete blindness is 230 per 100,000 population with a rural-urban differential of 251 against 170 per 100,000. Sex differential in complete blindness is not significant. The prevalence of night blindness due to vitamin A deficiency is 111 per 100,000 population, and is much higher in rural areas (130) than in urban areas (57).

Tuberculosis

The prevalence of tuberculosis is 533 per 100,000 populations, with urban areas having a higher prevalence of 823 compared to 429 per 100,000 in rural areas. The prevalence of TB is higher among males (606 per 100,000) than among females (455 per 100,000).

Malaria

In the DLHS-RCH, household respondents were asked to state whether any member of their household suffered from malaria (characterized by recurrent fever with shivering) any time during the two weeks prior the survey. In the state of Uttaranchal, 1,097 persons per 100,000 population were reported to have suffered from malaria. Rural residents are more likely to suffer from malaria (1,152 per 100,000) than urban residents (947 per 100,000). The reported prevalence of malaria is higher for females than for males.

2.7 Morbidity Rates by Districts

Table 2.7 shows the prevalence of blindness, tuberculosis and malaria in the districts of Uttaranchal. The prevalence of partial blindness varies considerably among the districts, the lowest being 5,796 per 100,000 in Udham Singh Nagar and the highest being 15,130 per 100,000 in Pithoragarh. There are 7 districts with a prevalence rate below 10,000 per 100,000 population.

Table 2.7 MORBIDITY RATES BY DISTRICTS

Prevalence of blindness, tuberculosis, and malaria, by district, Uttaranchal, 2002-04

District	Prevalence[1] of morbidity			
	Partial blindness	Complete blindness	Tuberculosis	Malaria[2]
Almora	14,969	103	96	2,152
Bageshwar	6,485	73	143	234
Chamoli	7,916	163	76	152
Champawat	7,962	178	304	740
Dehradun	8,866	234	1,186	1,550
Garhwal	9,250	351	159	381
Hardwar	8,258	280	767	1,544
Nainital	15,058	243	450	1,432
Pithoragarh	15,130	48	405	371
Rudraprayag	12,376	818	426	821
Tehri Garhwal	10,622	258	219	355
Udham Singh Nagar	5,796	126	498	687
Uttarkashi	11,467	281	391	857
Uttaranchal	9,945	230	533	1,097

Note: All the rates refer to *de jure* population. [1] Prevalence rate per 100, 000 population
Reference period: - January 1st, 1999 to survey date for phase-1, and January 1st, 2001 to survey date for phase-2. [2] Last two weeks prior to the survey

The prevalence rate of complete blindness ranges from 48 per 100,000 in Pithoragarh to 818 per 100,000 in Rudraprayag. Inter-district variations are substantial for tuberculosis and malaria. The prevalence rate of tuberculosis is the highest in Dehradun district (1,186 per 100,000 population) and lowest in Chamoli (76 per 100,000). In the case of malaria, the prevalence rate is highest in Almora (2,152 per 100,000) and lowest in Chamoli (152 per 100,000).

2.8 Housing Characteristics

This section describes the availability of basic amenities in the state. Table 2.8 presents the percent distribution of households by selected housing characteristics. About 67.1 percent of the households in Uttaranchal have an electricity connection and it is much more in urban areas (93.5 percent) than in rural areas (57.1 percent).

As regards household source of drinking water, about 59.5 percent of the households get drinking water through taps, while 17.5 percent drink water from hand pumps/ bore-wells, and 0.7 percent drink water from wells. About 84 percent of households in urban areas get piped water for drinking, whereas in rural areas 50.2 percent of the households have such a provision.

When it comes to sanitation facilities, about 35 percent of the households have flush toilets, while 14.2 percent have pit-based toilets or latrines, 1.2 percent depend on shared toilets and nearly 49.2 percent of the households have no toilet facility at all. There is a large rural-urban difference; 64.2 percent of rural households have no toilet facility, compared to just 9.8 percent of urban households.

DLHS-RCH has also collected data on type of fuel used in the households for cooking. About 34.1 percent of the households used liquid petroleum gas or electricity for cooking in Uttaranchal. About 61.2 percent of households rely on firewoods, 2.7 percent on kerosene, and only 2 percent of households use other types of fuel for cooking. The use of liquid petroleum gas/electricity for cooking is reported more in urban areas (73.8 percent), whereas firewood and other types of fuel used for cooking are reported more in rural areas.

There is considerable variation in the quality of housing. On the basis of building material, type of floor, walls and roof, households are categorised into *kachcha*, semi-*pucca* and *pucca*. Almost half of the households (44.6 percent) are living in *pucca* houses, 42.1 percent in semi-*pucca* houses and 13.4 percent in *kachcha* houses. About 77.7 percent of urban households live in *pucca* houses compared to 32 percent of rural households.

The possession of consumer durable goods is an indication of a household's socio-economic status. Table 2.8 shows that a substantial number of households in the state own a television (52.7 percent), an electric fan (48.4 percent), a radio/transistor (46.4 percent) and a bicycle (37.1 percent).

Table 2.8 HOUSING CHARACTERISTICS

Percent distribution of the household by housing characteristics and percentage of households owing selected durable goods, according to residence, Uttaranchal , 2002-04

Housing characteristic	Total	Residence	
		Rural	Urban
Electricity			
Yes	67.1	57.1	93.5
No	32.9	42.9	6.5
Source of drinking water			
Tap inside	35.3	24.0	65.0
Tap shared public	24.2	26.2	19.0
Hand pump/ bore well	17.5	19.4	12.8
Well covered	0.3	0.3	0.1
Well uncovered	0.4	0.4	0.2
River	0.4	0.6	0.0
Pond	0.1	0.2	0.0
Spring	18.7	25.1	1.8
Other	3.1	3.8	1.1
Sanitation facility			
Own flush toilet	35.0	20.3	73.6
Own pit toilet / latrine	14.2	14.6	13.0
Shared toilet of any type	1.2	0.6	2.5
Public / community toilet	0.4	0.2	1.1
No toilet facility	49.2	64.2	9.8
Main type of fuel used for cooking			
Liquid petroleum gas/ electricity	34.1	19.1	73.8
Kerosene	2.7	1.8	5.1
Wood	61.2	76.8	20.1
Other	2.0	2.3	0.9
Type of house			
Kachcha	13.4	15.9	6.5
Semi - *pucca*	42.1	52.0	15.8
Pucca	44.6	32.0	77.7
Household assets			
Fan	48.4	34.7	84.5
Radio/transistor	46.4	43.7	53.3
Sewing machine	43.0	34.6	65.0
Television	52.7	41.4	82.7
Telephone	16.4	9.6	34.6
Bicycle	37.1	30.9	53.4
Motor cycle/ scooter	15.1	8.0	33.8
Car / Jeep	2.6	1.5	5.6
Tractor	2.6	3.4	0.5
Standard of living index			
Low	37.5	49.2	6.5
Medium	30.8	33.2	24.3
High	31.8	17.6	69.2
Number of households	12,885	9,344	3,541

Other durable goods found in the surveyed households are sewing machine (43 percent), telephone (16.4 percent), and motorcycle or scooter (15.1 percent). Car/jeep and tractor each are owned by 2.6 percent of households in Uttaranchal. Ownership of most of the consumer durable items is more among the urban households than among the rural households.

Considering household amenities, such as, source of drinking water, type of house, source of lighting, fuel for cooking, toilet facility and ownership of durable goods a composite measure, standard of living index (SLI) is made for classification of households. The standard of living index is calculated by adding the following scores:

Source of drinking water: 3 for Tap (own), 2 for Tap (shared), 1 for hand pump and well, and 0 for other;
Type of house: 4 for *pucca*, 2 for semi-*pucca*, and 0 for *kachcha*;
Source of lighting: 2 for electricity, 1 for kerosene, and 0 for other;
Fuel for cooking: 2 for LPG gas/electricity, 1 for kerosene and 0 for other;
Toilet facility: 4 for own flush toilet, 2 for own pit toilet, 2 for shared toilet and 0 for no toilet;
Ownership for items: 4 each for car and tractor, 3 each for television, telephone and motorcycle/scooter, and 2 each for fan, radio/transistor, sewing machine and bicycle.
The total of the scores may vary from the lowest of 0 to a maximum of 40. On the basis of the total score, households are divided into three categories as follows:

a) Low – if total score is less than or equal to 9,
b) Medium – if total score is greater than 9 but less than or equal to 19 and
c) High – if total score is greater than 19.

As per the standard of living index, about 37.5 percent of the households come under the low standard of living category, 30.8 percent of households under the medium standard of living category and 31.8 percent of the households under the high standard of living category.

The proportion of sample households with medium and low standard of living is comparatively higher in rural areas than in urban areas, and the proportion of households with a high standard of living is much higher in urban households (69.2 percent) than in rural households (17.6 percent) in the state of Uttaranchal.

2.9 Housing Characteristics by Districts

The 13 districts in Uttaranchal are not uniform in terms of basic amenities and possession of consumer durables. Table 2.9 presents an inter-district comparison of housing characteristics. The percentage of households with electricity is less than 60 percent in the districts of Uttarkashi (52.1 percent), Champawat (52.5 percent), Almora (53.5 percent) and Rudraprayag (55.7 percent). The percentage of households with electricity is highest in Dehradun (87.2 percent). More than 60 percent of households used piped water or water from a hand pump for drinking in most districts except for Chamoli (49.4 percent), Pauri Garhwal (50.2 percent) and Tehri Garhwal (54.6 percent).

Largely the districts in Uttaranchal have inadequate toilet facilities, in 10 of the 13 districts, less than 50 percent of the households have toilet facilities and it is the least in Uttarkashi district (24.4 percent).

In Dehradun district, the percentage of households using liquid petroleum gas/electricity for cooking is 60.7 percent and in the rest of the districts, it is relatively low ranging between 18.6 to 47.6 percent. The percentage of households living in *pucca* houses is quite low in most of the districts of Uttaranchal. In 10 of the13 districts, less than half of the households live in *pucca* houses. Dehradun (64.5 percent), Nainital (56.2 percent) and Hardwar (50.8 percent) are the only districts where more than half of the households live in *pucca* houses.

Table 2.9 HOUSING CHARACTERISTICS BY DISTRICT

Selected housing characteristics by district, Uttaranchal, 2002-04

Districts	Percentage of households: With electricity	With drinking water[1]	With toilet facility	Using Liquid petroleum gas/ electricity	Living in *pucca* house
Almora	53.5	74.2	45.7	37.7	47.4
Bageshwar	61.8	65.1	48.7	32.8	47.3
Chamoli	68.3	49.4	45.3	31.0	32.3
Champawat	52.5	65.4	32.9	24.1	31.9
Dehradun	87.2	94.0	79.6	60.7	64.5
Garhwal	62.6	50.2	42.4	35.8	39.6
Hardwar	73.4	98.4	47.7	28.3	50.8
Nainital	78.0	79.9	74.6	46.2	56.2
Pithoragarh	67.2	69.3	47.5	47.6	46.2
Rudraprayag	55.7	62.1	40.0	32.9	41.9
Tehri Garhwal	60.7	54.6	48.9	33.5	43.4
Udham Singh Nagar	73.2	97.6	56.5	33.7	37.9
Uttarkashi	52.1	62.9	24.4	18.6	43.7
Uttaranchal	67.1	77.3	50.8	34.1	44.6

Note: [1] That is piped or from a hand pump/bore well/well covered

2.10 Iodization of Salt

Consumption of salt fortified with iodine is recommended to avoid miscarriages, brain disorders, cretinism and retarded psychomotor development. As per the Prevention of Food Adulteration Act, 1988, the minimum iodine content of edible salt is 30 parts per million (PPM) at the manufacturing level.

In the DLHS-RCH survey, each interviewer was provided with a test kit to measure the level of iodine content of salt consumed by the surveyed households. The test results (Table 2.10) are classified by degree of ionization of salt and categorised by background characteristics. It is observed that only 8.6 percent of households used salt that contained a minimum recommended 15 ppm or higher level of iodine content whereas 29.5 percent of households used salt that is not iodized at all and the majority of the households (51.9 percent) used salt which was inadequately iodized.

In rural areas, 33.8 percent of households against 18.2 percent in urban areas used non-iodized salts. Percentage of households using inadequately iodized salt in rural areas is lower compared to that in urban areas. Number of households using non-iodized or inadequately iodized salt is closely associated with the educational level of the household head. The consumption of adequately iodised salt in households increases and that of non-iodised salt decreases as the level of education of the household head increases. Consumption of adequately iodised salt among households of scheduled tribes is 12 percent, followed by 9.9 percent in other caste households, 7.6 percent in other backward class households and 5.9 percent in scheduled caste households.

Table 2.10 IODIZATION OF SALT

Percent distribution of households by degree of iodization of salt, according to selected background characteristics, Uttaranchal, 2002-04

Background characteristic	Not Iodised	7ppm	15+ppm	Other[1]	Total percent	Number of households
Place of Residence						
Rural	33.8	47.7	8.3	10.1	100.0	9,344
Urban	18.2	63.1	9.4	9.3	100.0	3,541
Education of the household heads						
Non-literate	37.5	45.3	7.0	10.2	100.0	4,029
0-9@ years	31.9	49.6	8.3	10.2	100.0	4,509
10 and above	19.7	60.5	10.4	9.4	100.0	4,345
Religion of household head						
Hindu	28.1	53.4	8.9	9.6	100.0	11,015
Muslim	43.8	39.4	4.6	12.3	100.0	1,547
Christian	7.5	71.2	13.7	7.7	100.0	54
Sikh	12.9	60.2	19.3	7.6	100.0	250
Caste/tribe of the household head#						
Scheduled caste	36.8	49.1	5.9	8.2	100.0	1,840
Scheduled tribe	26.2	56.0	12.0	5.8	100.0	394
Other backward class	36.5	45.0	7.6	10.8	100.0	2,797
Other	25.6	54.2	9.9	10.2	100.0	7,396
Standard of living index						
Low	37.1	44.1	8.7	10.1	100.0	4,826
Medium	33.9	47.8	8.2	10.1	100.0	3,965
High	16.5	65.1	9.0	9.5	100.0	4,094
Total	29.5	51.9	8.6	9.9	100.0	12,885

Note: ppm: Parts per million

@ Literate persons with no years of schooling are also included. # Total number of cases may not add up to N due to do not know and missing cases. [1] Includes salt not at home, salt not tested, refused and missing cases. Total includes 19 cases with other religion were not shown separately.

Differential in the consumption of properly iodized salt is more pronounced when analysed by religion of the household head and standard of living index. Percentage of households using adequately iodized salt is only 4.6 percent among Muslims households, whereas the corresponding figures for Hindu and Sikh religion households are 8.9 percent and 19.3 percent respectively. Again, households with low standard of living are more likely to use non-iodized or inadequately iodized salt compared to households with medium or high standard of living index. While 37.1 percent of households with low standard of living used non-iodized salt, only 16.5 percent households with a high standard of living fall in this category.

2.11 Iodization of Salt by Districts

Table 2.11 shows district level variation in the percent distribution of households by level of iodization of salt used in the households. Almora has the lowest proportion of households (11.1 percent) using non-iodized salt, whereas Chamoli has the highest proportion of households (43.7 percent) using non-iodized salt. Percentage of households using inadequately iodized salt is the highest (76.9 percent) in Dehradun and the lowest in Chamoli (37.7 percent). Only 8.6 percent of the households in the state used adequately iodized salt, the highest being in the district of Udham Singh Nagar (20.8 percent) followed by Champawat (20.6 percent). In all the remaining districts, less than 20 percent of the households were using adequately iodized salt (see Map-2).

Table 2.11 IODIZATION OF SALT BY DISTRICT

Percent distribution of households by degree of iodization of salt by district, Uttaranchal, 2002-04

District	Not iodized	7ppm	15+ppm	Other[1]
Almora	11.1	71.7	5.6	11.6
Bageshwar	29.1	43.2	18.7	9.0
Chamoli	43.7	37.7	9.4	9.2
Champawat	30.0	39.8	20.6	9.6
Dehradun	13.1	76.9	1.7	8.3
Garhwal	32.2	40.4	15.4	12.0
Hardwar	40.7	47.3	4.1	8.0
Nainital	32.0	51.9	2.8	13.3
Pithoragarh	12.5	70.4	4.0	13.0
Rudraprayag	30.5	48.8	7.6	13.1
Tehri Garhwal	37.0	40.9	14.0	8.1
Udham Singh Nagar	31.9	38.1	20.8	9.2
Uttarkashi	22.0	60.6	6.1	11.3
Uttaranchal	29.5	51.9	8.6	9.9

Note: ppm: Parts per million. [1] Includes salt not at home, salt not tested, refused and missing cases

2.12 Availability of Facility and Services to the Rural Population

The DLHS-RCH collected information about surveyed village from knowledgeable persons such as, the '*Sarpanch*' or '*Pradhan*', (village head) or other village officials or other persons including 'teacher' in the villages on health and educational facilities and other services available in the village. One important aspect was on the distance of the village, if not available within the village, from various types of education facilities, including primary school, middle school, secondary school, higher secondary school, college, *Gurujee* scheme and '*Madarsa*'. Further information on the distance of the village, if not available within the village, from various types of health facility, including sub-centres, primary health centres (PHCs), community health centres/ Rural Hospitals (CHCs/RHs), Government dispensary, hospital, private clinic or hospitals and health facilities of Indian system of Medicine (ISM).

Table 2.12 gives the distance of surveyed villages from an education facility. The unit of analysis is usual residents of rural population. Most of the rural residents (93.8 percent) (the *de jure* rural population) in the state live in villages that have a primary school, 44.6 percent live in villages with middle school and 19 percent of the rural population live in villages with secondary schools. Higher secondary schools are available to 12.9 percent of the rural population in their villages. About 15.6 percent of the rural population live in villages, which have *Madarassas*. Only 1.8 percent of the surveyed villages have a college. As regards the distribution of educational institutions within 5 kilometres distance from the village, it can be seen that 46.9 percent of the villages have middle school, 49.5 percent have secondary school, 43.6 percent have higher secondary school, 19.1 percent have a college and 15.2 percent have a *'Madarassa'* within this distance. For 62.9 percent of the villages, the college is more than 10 kilometres away and a *madarassa* is available at this distance to 12.9 percent of the villages.

Table 2.12 DISTANCE FROM THE NEAREST EDUCATION FACILITY

Percent distribution of rural household population by distance from the nearest education facility, Uttaranchal, 2002-04

Education facility	Within village	Distance from the village: < 5 km	5-9 km	10+ km	Don't know/ missing	Total percent
Primary School	93.8	6.0	0.1	0.1	0.0	100.0
Middle School	44.6	46.9	8.3	0.2	0.0	100.0
Secondary School	19.0	49.5	22.8	8.1	0.6	100.0
Higher Secondary School	12.9	43.6	30.2	12.7	0.6	100.0
College	1.8	19.1	13.2	62.9	2.9	100.0
Gurujee Scheme	2.3	10.8	2.2	18.8	65.9	100.0
Madarsa	15.6	15.2	5.0	12.9	51.3	100.0

Note: Table based on rural *de jure* population

Table 2.13 DISTANCE FROM THE NEAREST HEALTH FACILITY

Percent distribution of rural household population by distance from the nearest health facility, Uttaranchal, 2002-04

Health facility	Within village	Distance from the village: < 5 km	5-9 km	10+ km	Don't know/ missing	Total percent
		Rural household population				
Sub-centre	25.4	42.1	14.6	11.2	6.6	100.0
Primary health centre	13.1	38.6	21.9	25.7	0.8	100.0
Either sub-centre or PHC	28.0	43.5	17.8	10.2	0.5	100.0
Community health centre/ Referral hospital	5.1	25.2	17.1	47.5	5.1	100.0
Government dispensary	4.8	26.8	18.3	45.8	4.3	100.0
Government hospital	3.0	18.4	17.1	57.6	3.9	100.0
Private clinic	35.7	24.7	17.5	20.7	1.3	100.0
Private hospital	8.7	17.9	19.8	48.4	5.2	100.0
ISM health facility	4.2	13.2	5.0	22.8	54.7	100.0

Note: Table based on rural de *jure* population

Table 2.13 summarises the availability of health facilities within the surveyed villages and provides information on the distance between the villages and the nearest health facility. About 25.4 percent of the rural population live in villages with Sub-centres. Only 13.1 percent of the rural household population live in a village with a primary health centre, though the proportion of villages having facilities of either Sub-centre or primary health centre is 28

percent. The proportion of rural population with other health facilities are 5.1 percent for CHCs/RHs, 4.8 percent for Government dispensary, 3 percent for Government hospitals, 35.7 percent for private clinics, 8.7 percent for private hospitals and 4.2 percent for Indian System of Medicine (ISM) health facilities.

Table 2.14 AVAILABILITY OF SERVICES

Percentage of rural residents living in villages that have selected services, Uttaranchal, 2002-04

Services	Percentage of rural residents
Anganwadi centre	59.9
Anganwadi worker	58.7
Private doctor	46.1
Visiting doctor	18.4
Homeopathic doctor	4.0
Village health guide	24.6
Trained birth attendant	30.9
Traditional healer	12.2
Dai	72.9

Note: Table based on rural *de jure* population

The proportion of rural population located within a distance of 5 kilometres from health facilities is 42.1 percent for sub-centres, 38.6 percent for primary health centres, 25.2 percent for CHCs/RHs, 26.8 percent for a Government dispensary, 18.4 percent for Government hospitals, 24.7 percent for private clinic, 17.9 percent for private hospitals and 13.2 percent for ISM health facilities. Distance of particular health facilities is beyond 10 kilometres from surveyed villages in the case of Government hospitals (57.6 percent) and for private hospitals (48.4 percent).

Table 2.14 shows the proportion of rural residents in the state that live in the villages with various health services. Almost 60 percent of rural residents live in villages that have an *anganwadi*, (a nursery school for children age 3-6 years) and at the same time 58.7 percent of rural households live in villages where *anganwadi* workers (*Anganwadi* workers provide integrated child development services) are available.

About 46.1 percent of the rural residents live in villages that have a private doctor, 18.4 percent live in villages with a visiting doctor, 4 percent with a homeopathy doctor, 24.6 percent with a village health guide, 30.9 percent with a trained birth attendant and 12.2 percent with a traditional healer. A little less than three-fourths of the rural residents live in villages that have a *Dai* (*Dai* provides the services for the delivery).

2.13 Availability of Education Facility and Health Services by Districts

Table 2.15 shows the availability of education and health facilities for the rural population within the surveyed villages by districts in Uttaranchal. In the district of Udham Singh Nagar, all the rural population have access to primary schools. In the state of Uttaranchal, 93.8 percent of the rural population live in villages having primary schools. Around 25.4 percent of the rural

population in the state have sub-centres within the village, with the highest coverage of 36.2 percent in Udham Singh Nagar and the lowest of 5 percent of the population in Rudraprayag.

There are some districts with no PHCs within the villages. These districts include Bageshwar, Champawat and Tehri Garhwal. Highest availability of PHCs within the village is found in Dehradun (36 percent). In Nainital, 40.4 percent of all the households in the rural area have access to at least one government health facility including sub-centre, primary health centre, community health centre or referral hospital, government hospital and government dispensary within the village.

Table 2.15 AVAILABILITY OF FACILITY AND SERVICES BY DISTRICT

Selected facility and services of rural household population within village by district, Uttaranchal, 2002-04

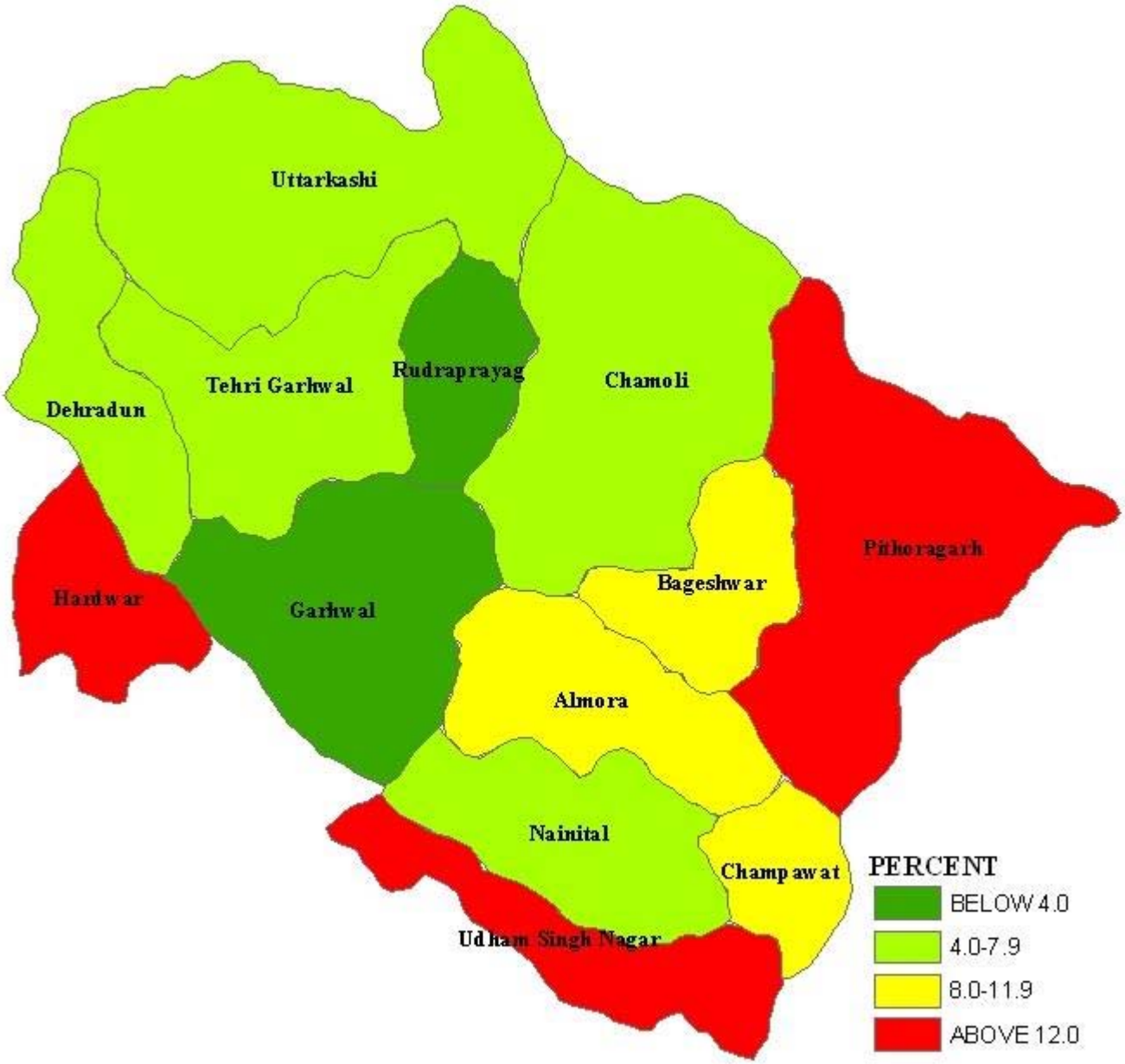
Districts	Percentage of rural household population with: Primary or middle school	Sub-centre	PHCs	Any govern-ment health facility[1]	Doctor[2]	TBA[3]	*Angan-wadi* worker
Almora	97.5	32.6	28.2	34.5	29.2	25.5	48.0
Bageshwar	85.5	9.0	0.0	9.0	7.1	18.9	71.7
Chamoli	96.8	18.8	7.0	18.8	21.0	23.1	64.2
Champawat	76.1	19.1	0.0	19.1	29.3	40.9	47.1
Dehradun	87.0	29.1	36.0	39.3	72.1	45.6	40.1
Garhwal	88.3	18.7	5.5	18.7	24.8	24.8	61.5
Hardwar	97.0	29.7	13.6	31.1	96.5	30.7	58.2
Nainital	96.5	32.2	20.3	40.4	43.7	49.4	22.7
Pithoragarh	89.4	14.5	6.9	14.5	29.2	34.2	68.9
Rudraprayag	82.9	5.0	13.9	23.6	41.4	26.7	31.8
Tehri Garhwal	97.5	19.1	0.0	19.1	18.8	5.7	59.7
Udham Singh Nagar	100.0	36.2	7.8	39.9	85.1	37.0	91.6
Uttarkashi	95.4	15.9	7.2	18.5	29.8	30.4	72.1
Uttaranchal	93.8	25.4	13.1	28.5	52.9	30.9	58.7

Note: [1] Includes sub-centre, primary health centre, community health centre or referral hospital, government hospital, and government dispensary within the village [2] Either private or visiting doctor [3]Trained birth attendant

Around 96.5 percent of the rural population are visited either by private or by visiting doctors in the surveyed villages of Hardwar district, whereas only 7.1 percent households can be classified in this category in Bageshwar district. Highest number of rural population (49.4 percent) are attended by trained birth assistants in Nainital, while only 5.7 percent of the rural population availed themselves of such a provision in Tehri Garhwal. A visit by *anganwadi* workers to rural households is highest (91.6 percent) in Udham Singh Nagar and the lowest in Nainital (22.7 percent).

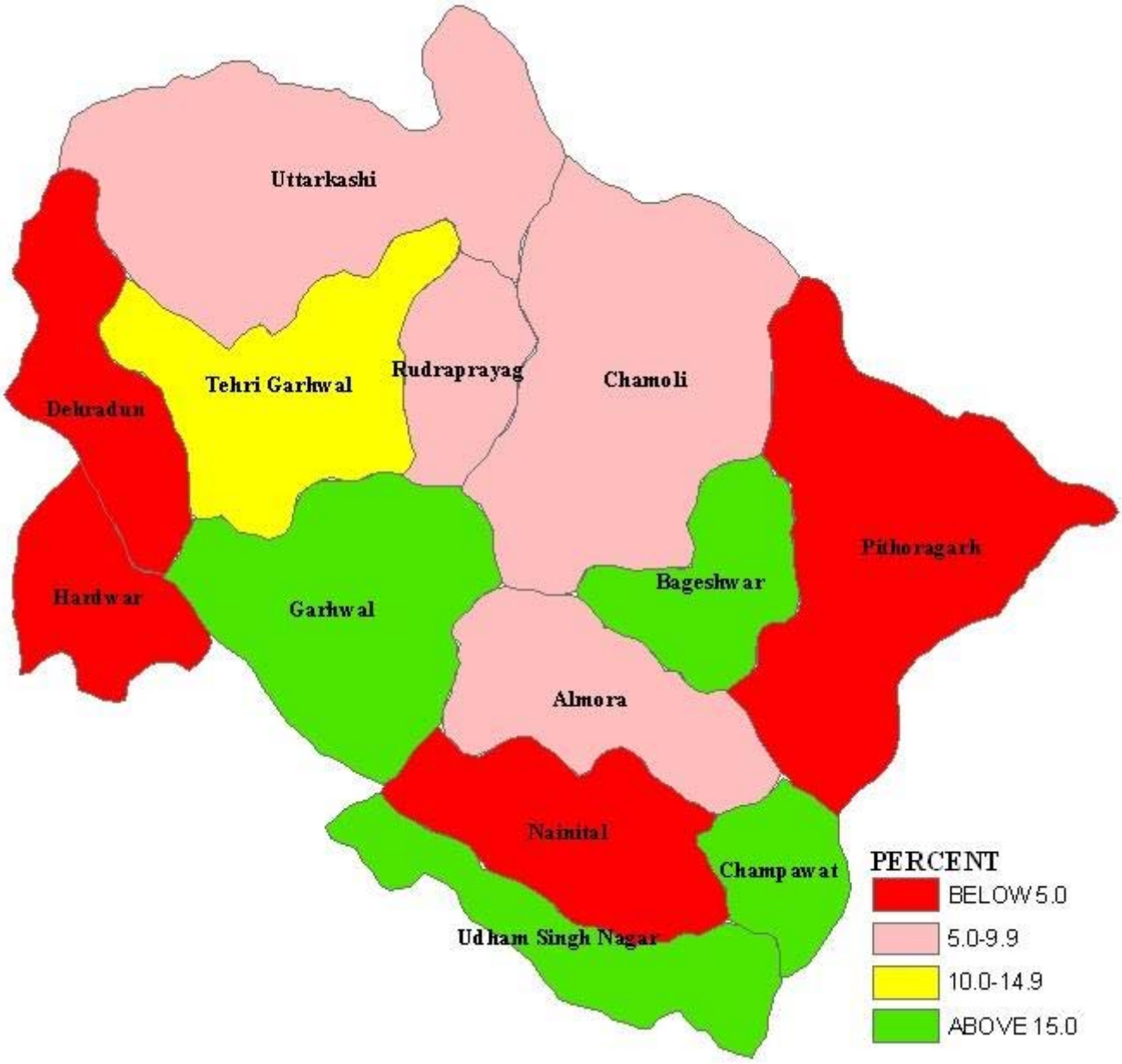
Map – 1

Percent Girls Marrying Below Legal Age at Marriage (18 years), Uttaranchal



Map-2

Percentage of Households Using Salt that Contains 15ppm Level of Iodine, Uttaranchal



CHAPTER III

CHARACTERISTICS OF WOMEN, HUSBANDS AND FERTILITY

The Reproductive and Child Health (RCH) programme is targeted towards the underprivileged section of the population, particularly, women and children. The utilization of RCH services provided across the country depends to a large extent on the characteristics of women, their husbands and episodes of pregnancies, miscarriages, abortions, number of children born to them and survival status of children. Age of women, marital duration, educational attainment, social background and living standard are important factors, which influence reproductive and child health. With this in view, the DLHS-RCH data were collected on demographic characteristics, such as current age, age at consummation of marriage and number of pregnancies, live births and surviving children from eligible women respondents of selected representative households. Information regarding household background characteristics was collected using a separate household questionnaire that covered religion and caste of head of household, type of house, source of drinking water and possession of consumer durables. Fertility preference of women in terms of timing and desire for additional children in comparison to the number of living children provides information on the need for reproductive and child health services.

This chapter provides a comprehensive outline of distribution of currently married women by present age, age at consummation of marriage, duration of marriage, complete years of schooling, pregnancy episodes, children ever born and children surviving, along with social and economic characteristics of households the women represent.

3.1 Background Characteristics of Women

The percent distribution of currently married women in the reproductive age group 15-44 years by residence, religion and caste of head of household, economic standard of household and other demographic characteristics are shown in Table 3.1. A sample of 9,641 eligible women represents the state of Uttaranchal in DLHS-RCH and nearly three-fourth of these women are drawn from rural areas. About 64.7 percent of the currently married women are in the age range of 20-34 years and a similar age distribution is observed both for urban and rural areas. Age at consummation of marriage is below 18 years for 36.8 percent women in the state with the figure being 39.4 percent in rural areas while it is 30 percent in urban areas. Looking at the distribution of marital duration it is noted that about 37.6 percent of the women across the state are married for more than 15 years.

Among the sample of 9,641 representative women in Uttaranchal, Hindus and Muslims constitute 86.8 percent and 11.1 percent respectively. More Hindu women are found in rural areas (90.1 percent) than in urban areas (78 percent). The presence of women belonging to other religious groups is insignificant in proportional and absolute terms. About 13.1 percent of the women belong to scheduled castes, 3.1 percent to scheduled tribes and 21.8 percent to other backward classes. Majority of the sample women (59.3 percent) belong to a general caste other than scheduled caste/tribe and other backward class. In rural areas, there are more women belonging to scheduled castes, scheduled tribes and other castes than in urban areas, while more women from other backward classes are found in urban areas. There is a clear rural-urban

differential in the educational attainment of women. For the state of Uttaranchal, 43.9 percent of women are non-literate and women of this literacy category constitute 48.8 percent in rural areas, while it is 30.7 percent in urban areas.

Table 3.1 BACKGROUND CHARACTERISTICS OF ELIGIBLE WOMEN

Percent distribution of currently married women aged 15-44 by selected background characteristics, according to residence, Uttaranchal, 2002-04

Background characteristic	Total	Residence	
		Rural	Urban
Age Group			
15-19	4.0	4.5	2.6
20-24	21.2	22.6	17.5
25-29	23.2	22.9	23.9
30-34	20.3	20.4	20.1
35-39	17.5	17.2	18.4
40-44	13.9	12.5	17.5
Age at consummation of marriage			
Below 18 years	36.8	39.4	30.0
18 years & above	63.2	60.6	70.0
Marital Duration			
0-4	21.7	22.0	20.7
5-9	20.7	20.5	21.1
10-14	20.0	20.1	19.7
15+	37.6	37.3	38.5
Religion			
Hindu	86.8	90.1	78.0
Muslim	11.1	8.0	19.3
Christian	0.3	0.3	0.4
Sikh	1.7	1.5	2.0
Jain	0.1	0.0	0.3
Caste/tribe			
Scheduled caste	13.1	14.4	9.9
Scheduled tribe	3.1	3.8	1.2
Other backward class	21.8	17.8	32.3
Other #	59.3	61.8	52.7
Don't know	2.7	2.2	3.8
Education (Years of schooling)			
Non-literate	43.9	48.8	30.7
0-9@ years	30.7	32.6	25.6
10 years & above	25.4	18.6	43.7
Husband's education (Years of schooling)			
Non-literate	16.5	17.6	13.8
0-9@ years	34.2	36.5	28.0
10 years & above	49.0	45.6	58.0
Don't know	0.3	0.4	0.3
Standard of living index			
Low	36.1	47.9	4.9
Medium	32.7	35.6	25.2
High	31.1	16.5	69.9
Number of women	9,641	7,003	2,638

Note: # Higher caste (Not belonging to a scheduled caste, scheduled tribe and an other backward class)
@ Literate persons with no year of schooling are included.

More than 30 percent of women across the state have completed 0-9 years of schooling. Only a handful, 18.6 percent of rural women have completed 10 or more years of schooling compared to 43.7 percent of urban women. More men are literate than their spouses. In Uttaranchal, 16.5 percent of the husbands of eligible women are non-literate and the corresponding figures are 17.6 percent in rural areas and 13.8 percent in urban areas. The DLHS-

RCH includes data on materials used for floor, walls and roofs of the housing structure along with status of possession of a list of durables and these are utilized to construct a composite index of household standard of living. Households are further classified as those with low, medium and high standard of living. About 36.1 percent of women in the state live in low standard of living households and this is 47.9 percent in rural areas and 4.9 percent in urban areas. Almost one-third of the women across the state live in households categorised as medium standard of living. In urban areas, 69.9 percent of women belong to high standard of living households and the corresponding figure is just 16.5 percent in rural areas.

3.2 Educational Level of Women

Table 3.2 provides details of educational level of eligible women in terms of classification by years of schooling, and selected background characteristics, such as, place of residence, religion, and caste and husbands' education. As regards distribution of non-literate women, it is observed that a lesser proportion of younger women below 30 years of age are non-literate compared to older women above 30 years. This phenomenon is reversed among literate women. A distinct pattern of educational attainment of women is that a similar number of them attended schooling either for 1-5 years or 6-8 years and not as many had 9-10 years of schooling. For the women in the age group 15-19 years, 23.8 percent and 21 percent of them had 1-5 years and 6-8 years of schooling respectively, while only 4.5 percent had 11 or more years of schooling. Among the senior women in the age group 40-44 years, 14.1 percent, 8.9 percent, 6.1 percent and 15.5 percent of them have attended school for 1-5, 6-8, 9-10 and 11 or more years respectively.

There is a significant rural-urban differential in the level of education of women in Uttaranchal. About 48.8 percent of rural eligible women are non-literate and 16.3 percent, 14.5 percent, 9.5 percent and 10.7 percent of the women have 1-5, 6-8, 9-10 and 11 or more years of schooling. The corresponding figures in urban areas are 30.7 percent non-literate and 10.8 percent, 13.1 percent, 13.1 percent and 32.1 percent respectively. More Muslim women (76.3 percent) are non-literate compared to Hindu women (39.9 percent), Sikh women (37.2 percent) and women belonging to other religious communities (25.6 percent). For literate eligible women from all religious communities, maximum of them have either 11 or more or 1-5 years of schooling. The proportion of Hindu women with 1-5 years of schooling is 15.7 percent and the same is 7.9 percent for Muslim women, 12.5 percent for Sikh women and 4.7 percent for women from other religions. Among the Muslim women hardly 5.3 percent of them have 11 or more years of schooling, while 17.9 percent of Hindu women have attained this level of education.

The uneven level of educational attainment by caste can be noted from the recorded proportion of non-literate women among scheduled castes (66 percent), scheduled tribes (53.7 percent), other backward classes (58.6 percent) and other castes or tribes (32.7 percent). The literate women belonging to scheduled castes/tribes and other backward classes are concentrated more in the range of 1-5 to 6-8 years of schooling. The husband's education is an important characteristic, which has strong association with the education of eligible women. As many as 91 percent of women whose husbands are non-literate are also non-literate, while only 10.7 percent of women whose husbands have 11 or more or years of schooling are non-literate. Forty six percent of literate women educated for 11 or more years of schooling have husbands who have the same level of education.

Table 3.2 LEVEL OF EDUCATION OF ELIGIBLE WOMEN

Percent distribution of currently married women aged 15-44 by years of schooling, according to selected background characteristics, Uttaranchal, 2002-04

Background characteristic	Non-literate	Literate but no schooling	Years of schooling: 1-5 years	6-8 years	9-10 years	11 or more years	Missing	Total percent	Number of women
Age group									
15-19	37.9	0.1	23.8	21.0	12.6	4.5	0.0	100.0	383
20-24	31.1	0.2	14.4	19.0	15.2	19.9	0.1	100.0	2,042
25-29	38.6	0.1	14.1	14.0	12.1	21.1	0.0	100.0	2,235
30-34	46.9	0.3	14.6	13.8	8.6	15.9	0.0	100.0	1,955
35-39	55.3	0.2	14.7	11.5	7.7	10.7	0.0	100.0	1,688
40-44	55.1	0.4	14.1	8.9	6.1	15.5	0.0	100.0	1,338
Place of residence									
Rural	48.8	0.2	16.3	14.5	9.5	10.7	0.0	100.0	7,003
Urban	30.7	0.2	10.8	13.1	13.1	32.1	0.0	100.0	2,638
Religion									
Hindu	39.9	0.2	15.7	15.0	11.2	17.9	0.0	100.0	8,371
Muslim	76.3	0.4	7.9	6.4	3.5	5.3	0.0	100.0	1,069
Sikh	37.2	0.0	12.5	19.4	13.0	18.0	0.0	100.0	160
Other	(25.6)	(0.0)	(4.7)	(20.9)	(11.6)	(37.2)	(0.0)	(100.0)	42
Caste/tribe #									
Scheduled caste	66.0	0.4	16.1	10.6	2.8	4.2	0.0	100.0	1,267
Scheduled tribe	53.7	0.4	15.0	14.0	7.9	9.0	0.0	100.0	301
Other backward class	58.6	0.3	13.9	12.1	7.1	8.0	0.1	100.0	2,097
Other	32.7	0.2	14.8	15.9	13.6	22.8	0.0	100.0	5,719
Husband's education									
Non-literate	90.6	0.1	4.9	2.6	1.1	0.6	0.0	100.0	1,592
1-5 years	74.2	0.1	17.7	4.6	3.0	0.4	0.0	100.0	1,058
6-8 years	53.5	0.5	22.7	17.1	3.3	3.0	0.0	100.0	1,636
9-10 years	32.5	0.1	21.6	23.7	14.6	7.4	0.1	100.0	2,366
11 or more years	10.7	0.2	9.2	14.7	19.0	46.2	0.1	100.0	2,934
Total	43.9	0.2	14.8	14.1	10.5	16.5	0.0	100.0	9,641

Note: # Total number may not add up to N due to don't know and missing cases. Table includes 23 cases on husband's education, Literate but no schooling were not shown separately. ( ) Based on less than 50 unweighted cases.

3.3 Background Characteristics of Husbands of Eligible Women

In DLHS-RCH husbands of eligible women were also interviewed. The response rate for husbands is relatively low compared to that of eligible women. Selected background characteristics of husbands are shown in Table 3.3. Across the state of Uttaranchal, husbands are mostly in the age groups 35-44 and 25-34 years. Fewer husbands are less than 25 years old. In Uttaranchal, 87.7 percent of the husbands are Hindus, 10.4 percent are Muslims and presence of other religious groups is insignificant. Fourteen percent of husbands in the state belong to the scheduled castes and it is little more in rural areas (15 percent) than in urban areas (11.2 percent). About 57 percent of the husbands belong to castes other than scheduled caste, scheduled tribe and other backward classes. In urban areas, husbands from other castes constitute 52.2 percent, while it is 58.9 percent in rural areas. As regards educational characteristics of the husbands of surveyed eligible women, almost 44 percent of them have completed 10 years & above of

schooling and the proportion of non-literate husbands ranges from 14.2 percent in urban areas to 19.7 percent in rural areas, while the overall state figure is 18.2 percent.

Table 3.3 BACKGROUND CHARACTERISTICS OF MEN

Percent distribution of husbands of eligible women by selected background characteristics, according to residence, Uttaranchal, 2002-04

Background characteristic	Total	Residence	
		Rural	Urban
Age Group			
< 25	6.9	7.5	5.4
25-34	36.8	36.1	38.4
35-44	38.2	38.9	36.3
45 & above	18.1	17.4	19.9
Religion			
Hindu	87.7	90.3	80.9
Muslim	10.4	8.0	16.9
Christian	0.4	0.3	0.7
Sikh	1.4	1.4	1.2
Buddhist	0.0	0.0	0.0
Jain	0.1	0.0	0.4
Caste/tribe			
Scheduled caste	14.0	15.0	11.2
Scheduled tribe	3.6	4.2	2.0
Other backward class	22.9	20.1	30.3
Other #	57.0	58.9	52.2
Don't know	2.5	1.8	4.2
Education (Years of schooling)			
Non-literate	18.2	19.7	14.2
0-9@ years	38.1	40.4	32.0
10 years & above	43.7	39.9	53.9
Standard of living index			
Low	37.2	49.2	5.5
Medium	31.5	34.0	24.8
High	31.3	16.8	69.7
Number of living children			
0	10.2	10.6	9.1
1	13.9	12.3	18.2
2	24.0	22.0	29.5
3	24.2	25.1	22.0
4+	27.6	30.1	21.2
Number of Men	5,417	3,928	1,489

Note: # Higher caste (Not belonging to a scheduled caste, scheduled tribe and an other backward class)
@ Literate men with no year of schooling are included.

The proportion of husbands living in households classified as low, medium and high standard of living index are 37.2 percent, 31.5 percent and 31.3 percent respectively. In rural areas, 49.2 percent of the husbands live in low standard of living households compared to only 5.5 percent in urban areas. This is complementary in the case of husbands living in high standard of living households, 69.7 percent in urban and 16.8 percent in rural areas. In terms of household standard of living composition, those living in medium standard of living households are more in rural

areas (34 percent) and in rural Uttaranchal, almost half the husbands (49.2 percent) live in low standard of living households. Around 24 percent of husbands across the state reported to have two living children. More husbands in urban areas (18.2 percent) reported to have one living child, while more husbands in rural areas (25.1 percent) have three living children. Above 55 percent of the husbands of rural eligible women have more than three living children and it is 43 percent for husbands of urban eligible women.

3.4 Educational Level of Husbands of Eligible Women

Educational levels in categories of years of schooling classified by age, place of residence, religion and caste/tribe of husbands of eligible women are shown in Table 3.4. The distribution of non-literate husbands across age is more or less uniform, though it is marginally more for husbands above 45 years (22.7 percent) and in 35-44 years age group (19.6 percent) compared to 17.3 percent and 14.8 percent for husbands in the age groups less than 25 years and 25-34 years respectively. Among the literate husbands, irrespective of their age at the time of survey most of them have 9 years and above of schooling, 57.3 percent of those in 25-34 years and 50.6 percent of those in 35-44 years age group. As expected few of the younger husbands (17 percent) below 25 years have 11 or more years of schooling compared to 25 percent of those above 45 years. As in the case of eligible women, 48 percent of Muslim husbands are non-literate while the corresponding non-literate husbands of Hindu and other religions are 14.9 percent and 10 percent respectively. The proportions of husbands of Hindu, Muslim and other religions who have 11 or more years of schooling constitute 31.4 percent, 10.8 percent and 33.3 percent respectively. Most of the literate Muslim husbands (15.4 percent) have completed 6-8 years of schooling and the corresponding numbers are 17.8 percent and 10 percent respectively for Hindu and other religions husbands. Educational attainment of husbands of eligible women varies according to the caste/tribe they belong to. There are more non-literate husbands belonging to scheduled castes (30.5 percent) followed by other backward class husbands (28.7 percent). Among the scheduled caste and scheduled tribe husbands, 27.6 percent and 45.7 percent of them have 9 or more years of schooling. Among the husbands belonging to other backward classes, 28.7 percent of them are non-literate and 37.3 percent of them have 9 or more years of schooling.

Table 3.4 LEVEL OF EDUCATION OF MEN

Percent distribution of husbands of eligible women by years of schooling, according to selected background characteristics, Uttaranchal, 2002-04

Background characteristics	Non-literate	Literate but no schooling	Years of schooling: 1-5 years	6-8 years	9-10 years	11 or more years	Missing	Total percent	Number of men
Age group									
< 25	17.3	0.0	11.0	26.0	28.6	17.1	0.0	100.0	376
25-34	14.8	0.1	10.0	17.9	24.9	32.4	0.0	100.0	1,992
35-44	19.6	0.5	12.8	16.5	20.8	29.8	0.0	100.0	2,069
45+	22.7	0.2	18.0	17.5	16.5	24.9	0.0	100.0	980
Place of residence									
Rural	19.7	0.3	12.6	19.5	23.2	24.7	0.0	100.0	3,928
Urban	14.2	0.1	12.4	13.6	19.2	40.4	0.0	100.0	1,489
Religion									
Hindu	14.9	0.1	12.5	17.8	23.3	31.4	0.0	100.0	4,752
Muslim	48.0	1.6	13.1	15.4	11.1	10.8	0.0	100.0	564
Sikh	7.3	0.0	14.7	44.6	19.8	13.6	0.0	100.0	74
Other	(10.0)	(0.0)	(13.3)	(10.0)	(33.3)	(33.3)	(0.0)	(100.0)	27
Caste/tribe #									
Scheduled caste	30.5	0.0	19.3	22.5	17.4	10.2	0.0	100.0	756
Scheduled tribe	23.3	0.0	18.4	12.6	22.9	22.8	0.0	100.0	197
Other backward class	28.7	0.7	14.4	18.9	19.5	17.8	0.0	100.0	1,241
Other	10.2	0.2	9.8	16.7	24.6	38.6	0.0	100.0	3,089
Total	18.2	0.3	12.6	17.9	22.1	29.0	0.0	100.0	5,417

Note: # Total number may not add upto N due to don't know and missing cases. ( ) Based on less than 50 unweighted cases.

3.5 Children Ever Born and Surviving

In DLHS-RCH, currently married women in the age group of 15-44 years were asked about the children ever born alive and the number of children surviving. Table 3.5 shows mean children ever born and mean surviving children by selected background characteristics and sex of children. A look at the mean children ever born by age of the women reveals that older women had experience more average live births than younger women. On the average, women in the reproductive age group have given birth to more male children than female children and similarly, a sex differential is also noted when it comes to mean surviving children. Completed fertility, that is, mean children ever born to women in the age group 40-44 years is 4.3 for the state of Uttaranchal and it comprises an average of 2.3 male children and 2.0 female children. Out of the 4.3 mean children ever born to women in the 40-44 year age group an average of 3.9 children survived. By sex of children, out of 2.3 mean numbers of males, 2.1 survived on the average and the corresponding mean number of females surviving was 1.8 out of 2.0.

Women with longer marital duration have higher mean children ever born. On the average, women who are married for 15 or more years have 4.1 children ever born and on the average 3.7 of them are surviving. There is a minor rural-urban divide in terms of mean children ever born with 2.8 children in rural areas and 2.7 children in urban areas. The mean children ever born to women who are Hindu, Muslim, Sikh and other religions are 2.7, 3.8, 2.6 and 2.8 respectively. The corresponding mean surviving children are respectively 2.5, 3.5, 2.3 and 2.8 for

these religious groups. The average children ever born also vary by caste/tribe of the eligible women. For women belonging to scheduled caste, the mean children ever born are 3.3, for the scheduled tribe are 2.7, other backward classes are 3.2 and other castes are 2.5. For all religious groups, the mean number of surviving children is slightly more than 2 shared almost by one surviving male and one surviving female children on the average.

Table 3.5 CHILDREN EVER BORN AND LIVING

Mean children ever born (CEB) and children surviving (CS) by selected background characteristics of currently married women age 15-44 years, Uttaranchal, 2002-04

Background characteristic	Mean children ever born			Mean children surviving			Number of women
	Total	Male	Female	Total	Male	Female	
Age Group (years)							
15-19	0.3	0.2	0.1	0.3	0.2	0.1	383
20-24	1.1	0.6	0.6	1.1	0.5	0.5	2,042
25-29	2.5	1.3	1.2	2.3	1.2	1.1	2,235
30-34	3.4	1.8	1.7	3.1	1.6	1.5	1,955
35-39	3.8	2.0	1.8	3.5	1.8	1.7	1,688
40-44	4.3	2.3	2.0	3.9	2.1	1.8	1,338
Marital Duration							
0-4	0.7	0.4	0.3	0.7	0.3	0.3	2,089
5-9	2.2	1.2	1.0	2.1	1.1	0.9	1,995
10-14	3.2	1.6	1.6	3.0	1.5	1.4	1,928
15+	4.1	2.1	2.0	3.7	1.9	1.8	3,630
Residence							
Rural	2.8	1.5	1.4	2.6	1.3	1.2	7,003
Urban	2.7	1.4	1.3	2.5	1.3	1.2	2,638
Religion							
Hindu	2.7	1.4	1.3	2.5	1.3	1.2	8,371
Muslim	3.8	2.0	1.8	3.5	1.8	1.7	1,069
Sikh	2.6	1.3	1.2	2.3	1.2	1.1	160
Other	(2.8)	(1.4)	(1.5)	(2.8)	(1.3)	(1.4)	42
Caste/tribe #							
Scheduled caste	3.3	1.7	1.6	3.0	1.5	1.5	1,267
Scheduled tribe	2.7	1.6	1.1	2.4	1.4	1.0	301
Other backward class	3.2	1.6	1.5	2.9	1.5	1.4	2,097
Other	2.5	1.3	1.2	2.3	1.2	1.1	5,719
Education							
Non-literate	3.5	1.8	1.7	3.2	1.7	1.5	4,229
0-9@ years	2.5	1.3	1.2	2.3	1.2	1.2	2,955
10 years & above	1.8	0.9	0.8	1.7	0.9	0.8	2,453
Standard of living index							
Low	3.0	1.6	1.5	2.7	1.4	1.3	3,485
Medium	2.8	1.4	1.3	2.5	1.3	1.2	3,153
High	2.5	1.3	1.2	2.4	1.3	1.1	3,003
All women	2.8	1.5	1.3	2.6	1.3	1.2	9,641

Note: # Total number may not add upto N due to don't know and missing cases. Table includes 3 women with missing information on education. @ Literate women with no year of schooling are included. ( ) Based on less than 50 unweighted cases.

The mean children ever born is higher for non-literate women (3.5) than women who have completed 0-9 years of schooling (2.5) and 10 or more years of schooling (1.8). The mean number of surviving children for women corresponding to these educational levels is 3.2, 2.3 and

1.7 respectively. Further the mean children ever born for women classified into low, medium and high standard of living by SLI are 3.0, 2.8 and 2.5 respectively. For the state of Uttaranchal, the DLHS-RCH shows inverse association between mean children ever born and educational attainment of women and also the level of household economic comfort.

3.6 Completed Fertility by District

The level of completed fertility as measured by mean children, ever born to women of 40-44 years by districts in Uttaranchal together with mean number of surviving children are shown in Table 3.6. On an average, women on the verge of completing reproductive period have given birth to 4.3 children in their reproductive life of which 3.9 children are surviving on the average. Completed fertility in Uttaranchal varies from the low of 3.5 mean children ever born in Chamoli to the highest of 4.9 children in Nainital district. Completed fertility in terms of mean children ever born are also high in the districts of Udham Singh Nagar (4.8), Hardwar (4.7), Uttarkashi (4.6), Champawat (4.3), Pauri Garhwal (4.1) and Tehri Garhwal (4.0). The mean children ever born in all other districts of Uttaranchal are less than 4 children. It is also true that in most of the districts mean number of male children is more than the mean number of female children born to women in the 40-44 year age group. Hardwar (4.4) and Udham Singh Nagar (4.3) recorded highest mean number of surviving children. Looking at the absolute difference between mean children ever born and mean number of surviving children, it seems that infant and child mortality is high and varies among districts in Uttaranchal.

Table 3.6 CHILDREN EVER BORN AND LIVING BY DISTRICT

Mean children ever born (CEB) and children surviving (CS) by district of currently married women age 15-44 years, Uttaranchal, 2002-04

	Mean children ever born			Mean children surviving		
District	Total	Male	Female	Total	Male	Female
Almora	3.9	1.9	2.0	3.6	1.7	1.9
Bageshwar	3.9	2.0	1.9	3.5	1.8	1.7
Chamoli	3.5	1.8	1.7	3.3	1.7	1.7
Champawat	4.3	2.3	2.1	3.8	1.9	1.8
Dehradun	3.7	1.9	1.8	3.3	1.7	1.6
Hardwar	4.7	2.5	2.2	4.4	2.3	2.0
Nainital	4.9	2.7	2.2	4.2	2.4	1.9
Pithoragarh	3.6	1.9	1.8	3.3	1.7	1.6
Pauri Garhwal	4.1	2.1	1.9	3.7	1.9	1.7
Rudraprayag	3.9	2.0	2.0	3.5	1.9	1.6
Tehri Garhwal	4.0	1.9	2.0	3.7	1.7	1.9
Udham Singh Nagar	4.8	2.6	2.2	4.3	2.3	2.0
Uttarkashi	4.6	2.3	2.4	4.1	2.0	2.1
Uttaranchal	4.3	2.3	2.0	3.9	2.1	1.8

3.7 Birth Order

Birth order distribution by selected background characteristics of women is provided in Table 3.7 and Figure 3.1. This distribution can be used as a measure of fertility in the absence of formal measures of fertility, such as, crude birth rate and total fertility rate.

Table 3.7 BIRTH ORDER

Percent distribution of births during three years preceding the survey by birth order by selected background characteristics, Uttaranchal, 2002-04

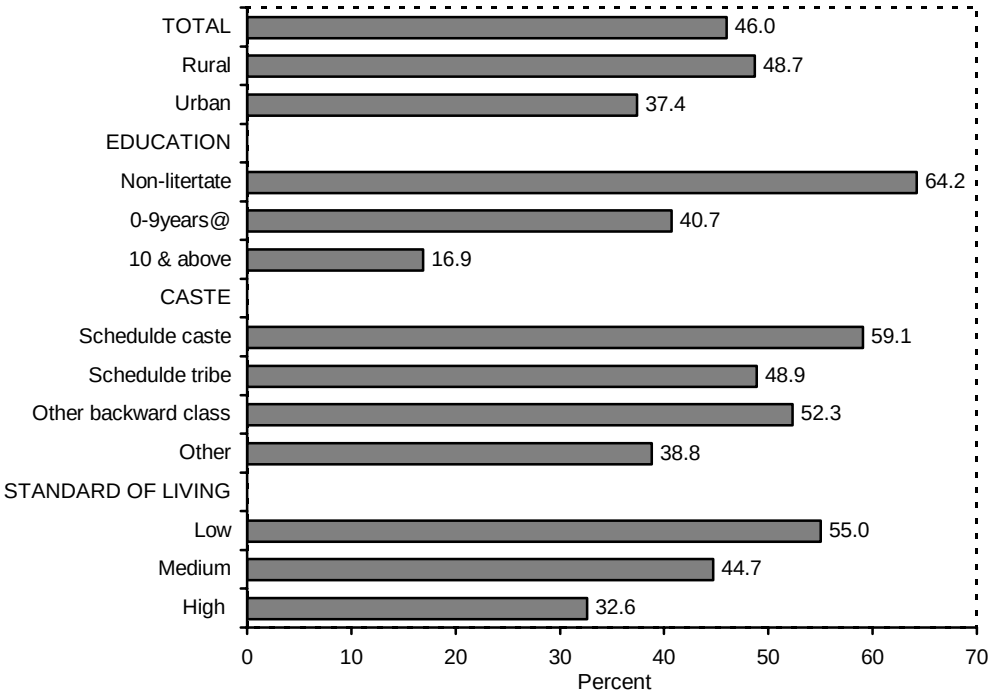
Background characteristic	Birth order				Total percent	Number of births
	1	2	3	4+		
Age of women						
15-19	90.7	9.3	0.0	0.0	100.0	106
20-24	56.7	32.4	8.6	2.2	100.0	1,520
25-29	16.9	28.6	28.0	26.6	100.0	1,520
30-34	3.3	13.1	25.8	57.8	100.0	771
35-39	1.3	6.1	9.8	82.9	100.0	248
40-44	0.0	0.4	5.8	93.9	100.0	83
Place of residence						
Rural	27.1	24.2	19.2	29.5	100.0	3,207
Urban	36.0	26.6	16.2	21.2	100.0	1,040
Education (Years of schooling)						
Non-literate	16.5	19.3	20.2	44.0	100.0	1,975
0-9@ years	31.6	27.7	21.4	19.3	100.0	1,258
10 years & above	51.2	31.9	11.6	5.3	100.0	1,011
Religion						
Hindu	31.1	25.5	19.5	23.9	100.0	3,510
Muslim	19.4	20.8	13.3	46.5	100.0	680
Other	31.6	31.2	17.4	19.8	100.0	56
Caste/tribe #						
Scheduled caste	19.9	20.9	22.4	36.7	100.0	670
Scheduled tribe	20.3	30.8	25.2	23.7	100.0	147
Other backward class	26.1	21.6	16.9	35.4	100.0	1,044
Other	34.5	26.7	18.1	20.7	100.0	2,265
Standard of living index						
Low	22.6	22.4	20.5	34.5	100.0	1,725
Medium	30.1	25.2	17.4	27.3	100.0	1,493
High	39.2	28.2	16.7	15.9	100.0	1,029
Total	29.3	24.8	18.5	27.5	100.0	4,246

Note: Total includes 3 births with missing information on mother's education. # Total number of births may not add up to N due to don't know and missing cases.

For the state of Uttaranchal, 29.3 percent of the births born in the three years period preceding the survey were of first order, 24.8 percent of second order and the remaining 46 percent were of order 3 and higher order births. By current age of eligible women, more than 80 percent of births to women in the age group 35-39 years and 40-44 years are 4 and higher order births. For women of 15-19 years, 90.7 percent births are of first order and 9.3 percent births are of second order. In the case of eligible women in urban areas 37.4 percent of the births are of order 3 and higher whereas this order births constitute 48.7 percent for rural women indicating that higher order

births are more concentrated in rural areas. Of the total births born to non-literate women, 64.2 percent are 3 and higher order births, followed by 40.7 percent for women with 0-9 years of schooling and 16.9 percent for women who had 10 or more years of schooling. In short, illiterate women have much more higher order births in comparison to educated women. Looking at the religion differential in birth order distribution, it is observed that 59.8 percent of births born to Muslim women are 3 and higher order births. For Hindu and women from other religions, the 3 and higher order births constitute 43.4 percent and 37.2 percent respectively. The occurrence of births of order 3 and above is more among scheduled caste (59.1 percent) than among scheduled tribe (48.9 percent), other backward class (52.3 percent) and other caste (38.8 percent) women. Incidence of births of order 3 and above for women classified by household standard of living index are 32.6 percent for high, 44.7 percent for medium and 55 percent for low living standard households.

Figure 3.1
Birth Order 3 & above by Selected Background Characteristic



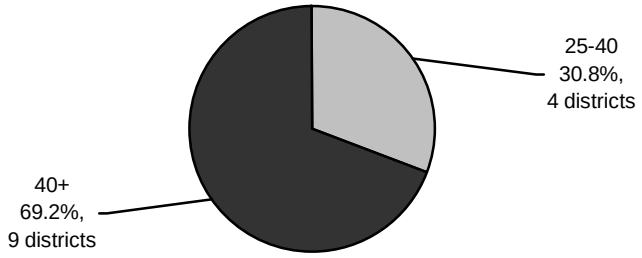
@ Literate women with no years of schooling are also included Uttaranchal, DLHS-RCH, 2002-04

3.8 Birth Order by District

Table 3.8 and Figure 3.2 shows the births order distribution by districts in Uttaranchal. The proportion of births of order 3 and above ranges from the lowest of 29.5 percent in Pauri Garhwal to the highest of 59.9 percent in Hardwar. The districts in Uttaranchal, which have lower proportion of births of order 3 and above, are Bageshwar (35.8 percent), Nainital (37.1

percent) and Almora (38.6 percent). The districts, which can be classified as having higher proportion of births of order 3 and above, are Uttarkashi (50.6 percent), Dehradun (48.2 percent), Champawat (47.5 percent) and Udham Singh Nagar (46.5 percent). The remaining districts fall midway between these districts in terms of incidence of births of order 3 and above.

Figure 3.2
Birth Order 3 & above by District



Uttaranchal, DLHS-RCH, 2002-04

Table 3. 8 BIRTH ORDER BY DISTRICT

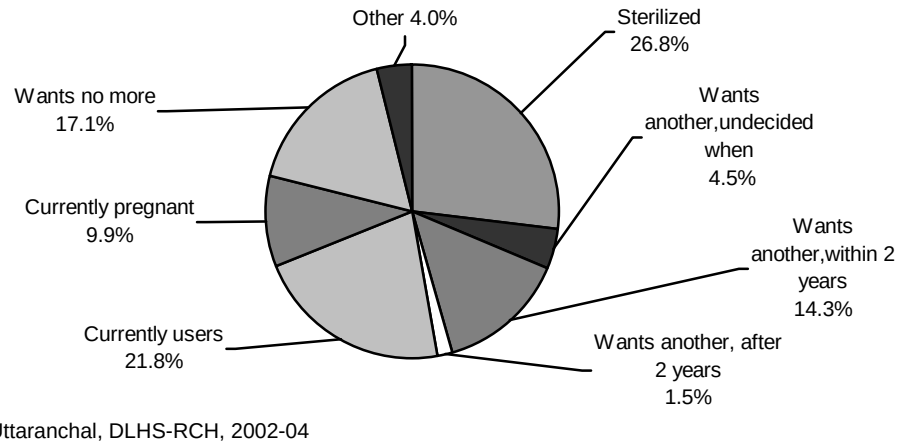
Percent distribution of births during three years preceding the survey by birth order, according to district, Uttaranchal, 2002-04

District	Birth order			
	1	2	3	4+
Almora	32.9	28.5	20.9	17.7
Bageshwar	38.5	25.7	20.0	15.8
Chamoli	26.2	31.9	22.2	19.7
Champawat	28.7	23.8	17.3	30.2
Dehradun	30.1	21.7	19.3	28.9
Hardwar	19.6	20.5	21.2	38.7
Nainital	35.7	27.1	16.5	20.6
Pithoragarh	30.6	25.1	15.7	28.7
Pauri Garhwal	43.4	27.0	16.2	13.3
Rudraprayag	30.8	25.0	21.7	22.5
Tehri Garhwal	32.9	24.5	18.7	23.9
Udham Singh Nagar	25.8	27.7	13.4	33.1
Uttarkashi	25.9	23.4	19.5	31.1
Uttaranchal	29.3	24.8	18.5	27.5

3.9 Fertility Preference

The distribution of currently married women desiring additional children and preferred sex of additional children by number of living children of the women is shown vividly in Table 3.9 and Figure 3.3. Out of the 1,088 women with no living children, 24.5 percent are currently pregnant and 3.2 percent are using spacing methods, while 61.1 percent want to have children within two years, 1 percent want to have children after two years, 5 percent are undecided about the timing of birth and 0.4 percent desired not to have any children. Among the currently married women, the desire for additional children dwindles down with increasing number of living children. As many as 34.5 percent of the women having two living children are using spacing methods, 8.2 percent of them want additional children within two years, only 1 percent after two years, 3.9 percent are undecided about the timing of the next child, 18.3 percent of them want no more additional children and 21.5 percent are sterilized. Use of permanent as well as temporary means of contraception tends to be accelerated with number of living children. In the state of Uttaranchal, out of the 9,641 surveyed representative women, 14.3 percent desired to have additional children within two years, 1.5 percent after two years, 17.1 percent want no more children, 9.9 percent are currently pregnant and 48.6 percent are using either terminal or temporary contraceptive methods. A total of 2,225 women want additional children irrespective of the number of living children. Out of 771 women who have no living children and desire for additional children, 19.7 percent want a boy as the first child, only 1.4 percent desired for girl, for 49.2 percent, the sex of the child is immaterial and 29.6 percent leave it to God. With increasing number of living children, male is the dominating preferred sex of the next child though a sizeable proportion of women desiring additional children expressed that the sex of the child was immaterial.

Figure 3.3
Fertility Preference



Uttaranchal, DLHS-RCH, 2002-04

Table 3.9 FERTILITY PREFRENCE
Percent distribution of currently married women by desire for children, according to number of living children, Uttaranchal, 2002-04

Desire for children	Number of living children					Total
	0	1	2	3	4+	
Desire for additional child						
Wants another soon[1]	61.1	27.2	8.2	3.6	2.8	14.3
Wants another later[2]	0.9	6.1	1.0	1.0	0.4	1.5
Want another, undecided when	5.0	14.9	3.9	2.1	1.5	4.5
Undecided	1.9	2.1	1.8	1.6	1.2	1.6
Up to God	2.0	1.0	0.9	1.0	1.2	1.2
Want no more	0.4	4.2	18.3	20.8	25.8	17.1
Sterilized	0.3	1.7	21.5	44.3	40.0	26.8
Currently users[3]	3.2	23.2	34.5	19.9	20.3	21.8
Currently pregnant	24.5	18.8	8.5	5.3	4.6	9.9
Declared infecund	0.5	0.8	1.3	0.4	1.8	1.1
Missing	0.3	0.0	0.0	0.0	0.3	0.1
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	1,088	1,395	2,124	2,046	2,988	9,641
Preferred sex of additional children						
Boy	19.7	28.6	57.3	55.1	46.0	33.8
Girl	1.4	9.5	5.3	1.2	5.7	5.0
Doesn't matter	49.2	33.6	19.3	20.4	23.7	34.8
Upto God	29.6	28.1	17.9	23.3	24.6	26.4
Missing	0.1	0.3	0.1	0.0	0.0	0.1
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	771	716	336	188	213	2,225

Note: [1] Wants next births within 2 years. [2] Wants to delay next birth for 2 or more years. [3] Other than sterilization

Pregnancy Outcomes

Table 3.10 shows distribution of pregnancy outcomes including live birth, stillbirth, induced abortion and spontaneous abortion by districts in Uttaranchal. For the state as a whole, 92.4 percent of the pregnancies ended in live births, 2.2 percent in induced abortions, 3.4 percent in spontaneous abortion and 2 percent in stillbirth. More pregnancies in rural areas ended in live births (93.1 percent) than in urban areas (90.3 percent), while the incidence of induced abortion is more in urban areas (3.7 percent) than in rural areas (1.7 percent). The proportion of pregnancies ending in live births ranges from 85.9 percent in Udham Singh Nagar to 97.1 percent in Almora. The districts on the lower side of pregnancies ending in live birth include Hardwar, Rudraprayag, and Tehri Garhwal with 90-92 percent of pregnancies in these districts ending in live births. Uttarkashi and Dehradun are the two other districts with more than 95 percent of pregnancies ending in live births. The incidence of stillbirth is highest in Hardwar (5.5 percent) followed by Rudraprayag (3.7 percent) and almost nil in Almora and Champawat. Induced abortion is higher in the districts of Udham Singh Nagar (5.1 percent), Nainital (4.1 percent) and Champawat (3.9 percent). Spontaneous abortion is least in Dehradun (0.9 percent) and highest in Udham Singh Nagar (7.3 percent). In terms of incidence of induced abortion and spontaneous abortion, Chamoli is moderate.

Table 3.10 OUTCOMES OF PREGNANCY

Percent distribution of all pregnancies of currently married women aged 15-44 years by their outcomes three year preceding the survey currently married women, according to districts, Uttaranchal, 2002-04

State/Districts	Live birth	Stillbirth	Induced abortion	Spontaneous abortion	Missing	Total percent
State-Rural	93.1	1.9	1.7	3.2	0.1	100.0
State-Urban	90.3	2.1	3.7	3.9	0.0	100.0
State-Total	92.4	2.0	2.2	3.4	0.1	100.0
Almora	97.1	0.3	0.7	2.0	0.0	100.0
Bageshwar	92.7	1.0	1.3	5.0	0.0	100.0
Chamoli	92.5	0.8	3.2	3.6	0.0	100.0
Champawat	93.5	0.3	3.9	2.4	0.0	100.0
Dehradun	96.8	1.4	0.9	0.9	0.0	100.0
Hardwar	90.3	5.5	0.7	3.2	0.3	100.0
Nainital	92.5	1.0	4.1	2.4	0.0	100.0
Pithoragarh	94.5	1.1	2.0	2.4	0.0	100.0
Pauri Garhwal	93.0	1.4	2.2	3.4	0.0	100.0
Rudraprayag	91.4	3.7	3.3	1.5	0.0	100.0
Tehri Garhwal	92.3	0.5	2.8	4.4	0.0	100.0
Udham Singh Nagar	85.9	1.7	5.1	7.3	0.0	100.0
Uttarkashi	97.0	0.7	0.2	2.0	0.0	100.0

CHAPTER IV

MATERNAL HEALTH CARE

Provisions of maternal health care services to ensure safe motherhood is one of the major components of the Reproductive and Child Health (RCH) programme. The RCH programme services for antenatal care, includes at least three antenatal care visits, iron prophylaxis for pregnant and lactating women, at least one dose of tetanus toxoid vaccine, detection and treatment of anaemia in mothers, and management and referral of high-risk pregnancies, natal care, that is encouragement of safe delivery, post-natal care, and management of unwanted pregnancies. In rural areas, the government delivers reproductive health and other health services through its network of Sub-Centres (SCs), Primary Health Centres (PHCs) and other health facilities. In addition, pregnant women and children can get services from private maternity homes, hospitals, private practitioners, and in some case non-governmental organisations (NGOs) and trust hospitals. In urban areas, reproductive health services are available mainly through government or municipal hospitals, Urban Health Posts (UHPs), Urban Family Welfare Centres (UFWCs), hospitals and nursing homes operated by NGOs, and private nursing and maternity homes.

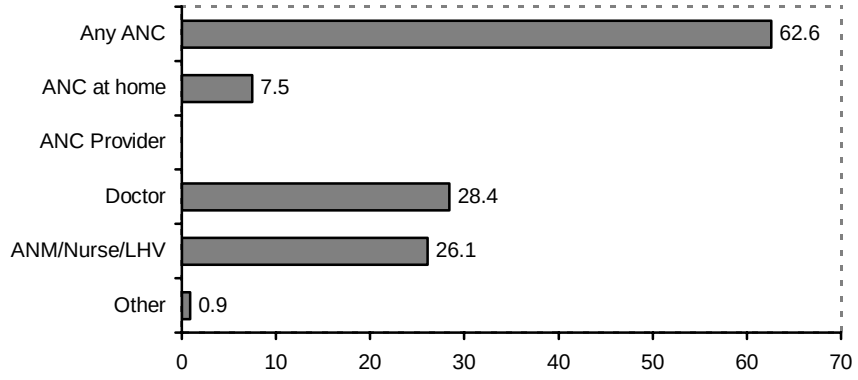
The National Population Policy (NPP), 2000 adopted by the Government of India (Ministry of Health and Family Welfare, 2000) reiterates the Government's commitments to the safe motherhood programme within the wider context of reproductive health. Among the national socio-demographic goals for 2010 specified by the policy, several goals pertain to safe motherhood, that 80 percent of all deliveries should take place in institutions by 2010, hundred percent deliveries should be attended by trained personnel, and the maternal mortality ratio should be reduced to a level below 100 per 100,000 live births. Empowering women for improved health and nutrition is one of the 12 strategic themes identified in the policy to be pursued either as stand-alone programmes or as intersectoral programmes.

In DLHS-RCH Phase-I, to all the eligible women who had their last pregnancy after January 1, 1999 a separate section on the status of maternal health and utilisation of maternal health care services was canvassed. In Phase-II, the same section was canvassed to all the eligible women who had their last pregnancy after January 1, 2001. The women whose last pregnancy terminated into live/still birth were asked about the details of antenatal, natal and post-natal care they received; pregnancy, delivery and post-delivery complications they suffered from and the treatment seeking behaviour in case of complications. Women whose last pregnancy terminated into abortion, either spontaneous or induced, were asked about the utilisation of safe abortion services and the post-abortion complications they experienced. This chapter presents information on antenatal, natal and postnatal care received by women whose last pregnancy had terminated during the three years preceding the survey as live birth or as stillbirth.

4.1 Antenatal Check-Ups

Women who had given a birth during the three years preceding the survey were asked whether they had gone for antenatal check-ups outside the home, and if they had, what type of service provider had given them the check-ups. They were also asked whether any health worker had visited them at home to provide antenatal check-ups. Table 4.1 and Figure 4.1 present the percentage of women who had given birth during the three years preceding the survey, and information regarding the antenatal check-ups they had by source of antenatal check-ups according to some selected background characteristics. Results show that 62.6 percent women received antenatal check-ups during the three years preceding the survey, more than RCH Round I (46.8 percent). About 28.4 percent of women received antenatal check-ups from doctors and 26.1 percent from ANM/Nurse/LHV. Only 7.5 percent women received antenatal check-ups at the doorstep from the ANMs or health worker.

Figure 4.1
Source of Antenatal Care



Note: Based on last live/still birth, born during three years preceding the survey

Uttaranchal, DLHS-RCH, 2002-04

Antenatal check-ups are more common among younger women age below 35 years than among older women, and it is more common among those women who had given their first birth. The percentage of women who received antenatal check-up was comparatively higher in urban areas (79.7 percent) than in rural areas (56.9 percent), and the percentage of women who received antenatal check-ups from doctors is much higher in urban areas (45.6 percent) than in rural areas (22.7 percent). On the other hand, while 32.4 percent of urban women received antenatal check-ups from auxiliary nurse midwife, nurse or LHVs, the same for women in rural areas is 24.1 percent. About 45.2 percent of non-literate women received antenatal check-ups whereas 85 percent women who had completed 10 years or more of education received antenatal check-ups for their last pregnancy that culminated into births (either live or still birth) during the three years preceding the survey.

Table 4.1 ANTENATAL CHECK-UP

Percentage of women* who received any antenatal check-up (ANC) during pregnancy by source of antenatal provider, according to selected background characteristics, Uttaranchal, 2002-04

Background characteristic	Any [1] antenatal check-up	Antenatal check-up only at home by ANM	Health personnel providing ANC[2]				Number of women
			Doctor	ANM/ Nurse/ LHV	Other health professional	Other[3]	
Age group							
Less than 20 years	64.0	9.2	25.6	30.2	2.1	0.0	102
20-34 years	64.6	7.6	29.4	27.0	0.5	0.4	3,474
35 years & above	40.8	6.4	18.5	15.3	0.0	0.9	321
Children ever born							
1	79.1	8.1	39.4	31.4	0.1	0.5	1,049
2	68.5	6.2	30.7	31.1	0.5	0.4	960
3	57.7	6.2	25.8	25.2	0.5	0.2	757
4+	44.7	9.1	17.9	17.0	0.8	0.4	1,098
Residence							
Rural	56.9	9.7	22.7	24.1	0.4	0.4	2,924
Urban	79.7	0.8	45.6	32.4	0.9	0.5	973
Education							
Non-literate	45.2	9.2	18.3	17.2	0.7	0.4	1,736
0-9 @ years	69.3	8.3	24.6	35.5	0.4	0.7	1,162
10 years & above	85.0	3.6	50.6	30.8	0.2	0.3	995
Religion							
Hindu	64.1	7.8	28.1	27.8	0.5	0.4	3,292
Muslim	50.9	5.2	29.6	15.2	0.3	0.7	556
Other	(94.7)	(10.5)	(47.4)	(36.8)	(0.0)	(0.0)	48
Caste/tribe#							
Scheduled caste	49.6	9.4	21.6	18.3	0.0	0.7	609
Scheduled tribe	55.4	2.9	26.7	25.8	0.0	0.0	120
Other backward class	59.9	7.7	29.9	20.7	1.3	0.5	925
Other	69.3	7.3	30.3	31.4	0.3	0.3	2,147
Standard of living index							
Low	48.0	11.7	15.7	20.2	0.2	0.4	1,555
Medium	64.2	7.0	26.3	30.1	1.1	0.4	1,359
High	83.6	1.6	51.6	30.1	0.2	0.6	982
Availability of health facility[4] in the village							
No	55.2	10.8	21.3	22.8	0.3	0.5	2,230
Yes	62.3	6.4	27.4	28.2	0.6	0.3	694
Total	62.6	7.5	28.4	26.1	0.5	0.4	3,896

Note: * Women who had their last live/still birth since 1-1-1999/1-1-2001. Total includes 32 women with zero parity and 3 with missing information on education who were not shown separately.[1] Antenatal check-ups either at home or outside from home at health facility. [2] Antenatal check-ups outside home and percentage add more than 100.0 due to multiple responses. [3] Other also includes trained and untrained *dai*. # Total figure may not add to N due to do not know and missing cases. @ Literate women with no years of schooling are also included. [4] Includes sub-centre, primary health centre, community health centre or referral hospital, government hospital, and government dispensary within the village. ( ) Based on less than 50 unweighted cases.

The proportion of women who received antenatal check-ups from a doctor increased steadily with increase in the level of education and the standard of living index. About 18.3 percent non-literate women as compared to 50.6 percent women having education of more than 10 years received ANC from doctors. Similarly, 15.7 percent women belonging to households with a low standard of living as against 51.6 percent of those from a high standard of living household fall in this category. The proportion of Hindu women who received antenatal check-ups from doctors (28.1 percent) was marginally lower than that of Muslim women (29.6 percent). About 30.3 percent of women from the 'other castes' category received antenatal check-ups from doctors, while it was 21.6 percent for scheduled caste women, and 26.7 percent for scheduled tribe women, and for women from other backward classes, it was

29.9 percent. Women from 'other castes' were more likely to receive antenatal check-ups from auxiliary nurse midwives (ANMs), nurses or LHVs. About 31.4 percent of 'other caste' women received antenatal check-ups from ANMs, while it was 18.3 percent among scheduled castes, 20.7 percent among other backward class women and 25.8 percent among the scheduled tribe women.

4.2 Antenatal Check-Ups at Health Facility

DLHS-RCH asked women who had a birth during the three years preceding the survey whether they had received antenatal check-ups, and if they had, from where they had availed such services.

Table 4.2 PLACE OF ANTENATAL CHECK-UP

Percentage of women* who received any antenatal check-ups (ANC) during pregnancy by source and place of antenatal check-ups, according to selected background characteristics, Uttaranchal, 2002-04

Background characteristic	Antenatal check-up only at home	Place of antenatal check-ups[1]: Govern-ment[2] health facility	Private[3] health facility	PHC	SC	ISM[4] facility: Govt.	ISM[4] facility: Private	Other	Number of women
Age group									
Less than 20 years	9.2	43.4	10.7	5.4	7.7	0.0	4.7	0.0	102
20-34 years	7.6	39.8	14.1	9.6	8.6	0.4	4.3	2.5	3,474
35 years & above	6.4	24.5	6.5	3.9	9.1	0.0	11.0	3.2	321
Children ever born									
1	8.1	46.7	20.1	12.5	5.1	0.5	5.4	1.7	1,049
2	6.2	43.6	14.9	5.7	8.5	0.3	4.2	2.7	960
3	6.2	39.0	10.3	6.9	12.2	0.5	2.3	2.0	757
4+	9.1	25.8	8.0	10.5	12.2	0.3	5.7	4.1	1,098
Residence									
Rural	9.7	33.1	10.4	10.1	9.9	0.5	5.8	3.7	2,924
Urban	0.8	55.3	22.3	7.7	6.1	0.2	2.7	0.2	973
Education									
Non-literate	9.2	25.6	8.1	10.1	8.0	0.4	3.9	4.9	1,736
0-9 @ years	8.3	48.1	9.9	10.6	14.2	0.3	3.6	2.9	1,162
10 years & above	3.6	50.1	26.7	7.2	4.1	0.5	6.2	0.2	995
Religion									
Hindu	7.8	40.7	12.3	10.3	9.6	0.4	4.5	2.9	3,292
Muslim	5.2	26.0	17.5	2.1	2.6	0.0	5.9	0.0	556
Other	(10.5)	(47.4)	(36.8)	(3.1)	(0.0)	(0.0)	(3.1)	(0.0)	48
Caste/tribe#									
Scheduled caste	9.4	31.5	6.3	6.5	13.4	0.0	3.5	5.6	609
Scheduled tribe	2.9	36.1	14.1	0.0	15.7	0.0	8.9	0.0	120
Other backward class	7.7	31.6	18.0	6.0	7.4	0.5	4.4	2.2	925
Other	7.3	45.0	13.3	11.4	7.8	0.4	4.7	2.1	2,147
Standard of living index									
Low	11.7	27.7	6.7	13.7	10.1	0.3	2.9	3.9	1,555
Medium	7.0	45.3	9.4	10.4	12.3	0.1	3.6	1.9	1,359
High	1.6	46.7	29.5	4.9	3.8	0.6	6.9	2.0	982
Availability of health facility[5] in the village									
No	10.8	31.4	9.4	11.5	7.4	0.1	5.8	4.5	2,230
Yes	6.4	38.4	13.5	6.5	16.4	1.3	5.6	1.9	694
Total	7.5	38.6	13.4	9.2	8.6	0.4	4.6	2.5	3,896

Note: ***** Women who had their last live/still birth since 1-1-1999/1-1-2001. Total includes 32 women with zero parity, 3 with missing information on education who were not shown separately. # Total figure may not add to N due to do not know and missing cases. @ Literate women with no years of schooling are also included. [1]Antenatal check-ups outside home and percentage add more than 100.0 due to multiple responses. [2] Includes sub-centre, primary health centre, community health centre or rural hospital, urban health centre/ urban health post/ urban family welfare centre, government hospital or dispensary. [3] Includes Private hospital/clinic or non-governmental hospital/ trust hospital or clinic. [4] Indian system of medicine. [5] Includes sub-centre, primary health centre, community health centre or referral hospital, government hospital, and government dispensary within the village. ( ) Based on less than 50 unweighted cases.

Table 4.2 shows the percentage of women who had received antenatal check-ups during pregnancy by place. During pregnancy, women received antenatal check-ups from multiple sources such as health workers providing ANC at home, government health facility, private health facility and at the Indian System of Medicine (ISM) facility etc. Women who received antenatal check-ups both at home and outside the home are categorised as having received care outside the home. Around 38.6 percent of women received antenatal check-ups at a government health facility, including 9.2 percent through primary health centre and 8.6 percent through sub-centre, and 13.4 percent at a private health facility. Other than this, 0.4 percent of women reported that they had received antenatal check-ups at the Government Indian System of Medicine (ISM) facility and 4.6 percent at the private ISM facility. As mentioned above, women availed antenatal check-ups from multiple sources. Women who were visited by an ANM might have also visited government and/ or private health facilities including ISM facilities.

Younger women were more likely to receive antenatal-check-ups at government health facilities (43.4 percent) than older women 39.8 percent for age 20-34 and 24.5 percent for age 35 and above. About 33.1 percent women from rural areas availed government health facilities for antenatal check-ups that were much lower than women in urban areas (55.3 percent). Similarly, a higher proportion of women (22.3 percent) from urban areas availed private health facilities for antenatal check-ups than women from rural areas (10.4 percent). A comparatively higher proportion of women who received antenatal check-ups at government health facilities are literate, Hindu, belonging to other castes, living in households with a high standard of living and come from those villages where health facilities are available.

4.3 Antenatal Check-Ups by District

Table 4.3 indicates that the antenatal coverage in Uttaranchal ranges from the highest of 81.7 percent in Bageshwar to the lowest of 45.5 percent in Hardwar. In almost all districts, except Hardwar, Rudraprayag and Uttarkashi, more than 50 percent of women got some kind of antenatal check-ups for their last birth during the three years preceding the survey. Antenatal check-ups received from doctors were the lowest in Uttarkashi (20.6 percent) and it is highest in Hardwar (32.9 percent) followed by Dehradun (32.7 percent). In 3 out of 13 districts, Pauri Garhwal (45.7 percent), Chamoli (42.6 percent) and Nainital (41.5 percent), more than 40 percent women received antenatal check-ups by ANM/Nurse/LHV.

The extent of utilisation of government health facilities for antenatal check-ups was higher than that of private health facilities. The range of antenatal check-ups coverage through government facilities was highest in Pauri Garhwal (60.5 percent) to the lowest of 18.1 percent in Hardwar and only in Udham Singh Nagar, more than 20 percent of the women visited private health facility. In all the districts of Uttaranchal, less than 10 percent of women availed of the Indian system of medicine (either government or private) facilities for an antenatal check-up with the highest being in the district of Hardwar (7.4 percent) followed by Nainital (5.3 percent) and Dehradun (5.1 percent).

Table 4.3 ANTENATAL CHECK-UPS BY DISTRICT

Percentage of women* who received any antenatal care (ANC), by source and place of antenatal check-ups by district, Uttaranchal, 2002-04

District	Any [1] antenatal check-up	Antenatal check-up only at home by ANM	Health personnel providing ANC		Place of antenatal check-ups		
			Doctor	ANM/ Nurse	Govern-ment [2] health facility	Private[3] health facility	ISM[4] facility
Almora	53.4	2.5	32.1	18.4	42.3	6.5	2.0
Bageshwar	81.7	13.6	24.1	39.9	56.6	11.6	0.0
Chamoli	76.7	9.2	24.9	42.6	56.6	8.9	0.0
Champawat	78.6	26.8	24.2	27.3	37.7	13.3	0.0
Dehradun	51.2	4.3	32.7	13.3	30.1	13.2	5.1
Hardwar	45.5	5.1	32.9	7.4	18.1	15.7	7.4
Nainital	73.0	6.2	23.9	41.5	49.4	12.0	5.3
Pithoragarh	56.5	7.5	31.7	17.9	42.4	6.1	1.1
Pauri Garhwal	81.2	4.8	30.7	45.7	60.5	16.7	0.0
Rudraprayag	47.6	5.8	22.7	19.8	33.1	5.7	2.9
Tehri Garhwal	70.9	8.7	30.3	30.6	45.4	15.4	0.0
Udham Singh Nagar	81.3	10.7	31.4	39.2	41.6	25.0	0.0
Uttarkashi	49.9	15.0	20.6	14.1	31.5	2.7	0.6
Uttaranchal	62.6	7.5	28.4	26.1	38.6	13.4	2.8

Note: ***** Women who had last live/still birth during three years preceding the survey. [1] Antenatal check-ups either at home or health facility. [2] Includes sub-centre, primary health centre, community health centre or rural hospital, urban health centre/ urban health post/ urban family welfare centre, government hospital or dispensary. [3] Includes Private hospital/clinic or non-governmental hospital/ trust hospital or clinic. [4] Either government or private Indian system of medicine.

4.4 Reasons for Not Seeking Antenatal Check-Ups

Table 4.4 shows the percentage of women who had given live/still births during the three years preceding the survey and who did not receive any antenatal check-ups by the main reason for not seeking check-ups according to residence and availability of health facility in the village. About 56.2 percent of women stated that it was not necessary to have an antenatal check-up. A marginally higher proportion of rural women (56.3 percent) than urban women (55.6 percent) felt that it was not necessary to have an antenatal check-up. About 57.2 percent of the women from villages with a health facility stated that an antenatal check-up was not necessary whereas 56.1 percent of women from those villages where a health facility is not available fall in this category. About 15.3 percent women said that the health facility was too far or that there was no transportation. Other factors contributing to non-use of antenatal care were lack of knowledge of these services (7.2 percent), feeling of not customary to go for an antenatal check-up (6.6 percent), costs too much (5.9 percent) and no time to go and family did not allow to avail antenatal care (4 percent each). About 1.7 percent of the women reported 'poor quality of services' as the main reason. About 9.5 percent of the women from villages with a health facility reported that they had lack of knowledge about these services, whereas the corresponding figure was 6 percent of women from villages without a health facility.

Table 4.4 REASONS FOR NOT SEEKING ANTENATAL CHECK-UPS

Percentage of women* who did not receive any antenatal check-up by the main reason for not receiving an antenatal check-up, according to residence and availability of health facility in the village, Uttaranchal, 2002-04

Reason		Residence		Availability of health facility[1] in the village	
	Total	Rural	Urban	No	Yes
Not Necessary	56.2	56.3	55.6	56.1	57.2
Not customary	6.6	6.0	10.3	5.7	7.1
Cost too much	5.9	6.0	5.8	5.5	7.7
Health facility too far/ No transport	15.3	17.5	0.8	19.9	8.6
Poor quality service	1.7	1.7	2.2	1.4	2.9
No time to go	4.0	3.8	5.4	3.6	4.3
Family did not allow	4.0	3.8	5.4	3.6	4.3
Lack of knowledge	7.2	6.7	10.2	6.0	9.5
Other	4.0	4.1	3.8	4.0	4.2
Number of women	1,455	1,258	197	998	260

Note: * Women who had their last live/still birth since 1-1-1999/1-1-2001.

[1] Includes sub-centre, primary health centre, community health centre or referral hospital, government hospital, and government dispensary within the village.

Note: percentage may add more than 100.0 due to multiple response

4.5 Components of Antenatal Check-ups

Women who received any kind of antenatal check-ups were asked whether they received each of the several components of antenatal check-ups at least once during their pregnancy. Table 4.5 presents the percentage of women who received specific components of check-ups by residence. Except for X-rays (which are not recommended as a standard component of antenatal care), all of the measurements and tests are part of essential obstetric care or are required for monitoring high-risk pregnancies.

About 65.3 percent of the women had an abdominal examination, 37.1 percent had a urine test and 35.4 percent had a blood test as part of the antenatal check-ups. Other common components of antenatal check-ups were blood pressure check-up (23.3 percent), weight measurement (22 percent), internal examination (19.5 percent), height measurement (8.7 percent) and breast examination (6.1 percent). About 15.5 percent of women had a sonogram or ultrasound, 3.5 percent had an X-ray and only 0.6 percent of women reported that they had an amniocentesis test. All of these measurements or tests were performed more often during antenatal check-ups in urban areas than in rural areas.

The type of advice received by women who had antenatal check-ups for last live/still births during three years preceding the survey is also presented in Table 4.5. Advice on diet was given to 67.9 percent of urban women as compared to 53.1 percent of rural women and 57.8 percent women in general. About 20.5 percent of the women received advice on danger signs of pregnancy. Women were less likely to receive advice on delivery care (15.4 percent), on newborn care (13.1 percent), on breastfeeding (8.1 percent) and on family planning (6.3 percent).

Table 4.5 COMPONENTS OF ANTENATAL CHECK-UPS

Percentage of women* who received an antenatal check-up by specific components of antenatal check-up, according to residence, Uttaranchal, 2002-04

Components of antenatal check-ups	Total	Rural	Urban
Antenatal measurements/tests			
Weight measured	22.0	18.7	29.0
Height measured	8.7	6.4	13.7
Blood pressure checked	23.3	17.9	34.8
Blood tested	35.4	29.4	48.2
Urine tested	37.1	29.7	53.0
Abdomen examined	65.3	63.7	68.9
Internal examined	19.5	15.6	27.7
Breast examined	6.1	4.2	10.2
X-ray	3.5	2.9	4.9
Sonography /ultrasound	15.5	13.4	20.1
Amniocentesis	0.6	0.1	1.7
Antenatal advice			
Diet	57.8	53.1	67.9
Danger signs of pregnancy	20.5	19.0	23.6
Delivery care	15.4	13.1	20.5
Breast feeding	8.1	6.0	12.6
New born care	13.1	10.7	18.1
Family planning	6.3	5.2	8.8
Number of women who received any antenatal check-up	2,439	1,664	776

Note: * Women who had their last live/still birth since 1-1-1999/1-1-2001

4.6 Antenatal Care Services

In India, as per the Reproductive and Child Health Programme, all pregnant women should be registered in the first 12-16 weeks (Ministry of Health and Family Welfare, 1997). Accordingly the first antenatal check-ups should take place at latest during the first trimester of the pregnancy. It also includes the provision of at least three antenatal care visits, of at least one tetanus toxoid injection, and supplementary iron in the form of IFA Tablets daily for 100 days. To assess whether the women had received all the care during pregnancy, information was collected regarding number of antenatal visits, timing of the first visit, received tetanus toxoid injection and supplement iron folic acid Tablets. The results are presented in Table 4.6. In Uttaranchal, 28 percent of the women received at least three antenatal check-ups and only 15.8 percent had four or more check-ups. At least three antenatal check-ups were received by 49.7 percent of women in urban areas compared with only 20.7 percent of women in rural areas. Number of visits for antenatal care varies by education, children ever born, religion, caste and standard of living index. Only 15.3 percent of non-literate, 26.4 percent literate women (educated below high school) and 51.5 percent of women who had 10 or more years of schooling visited for minimum three antenatal check-ups. Parity of women is negatively associated with antenatal check-ups. About 41.8 percent women with parity one received at least three antenatal check-ups compared to just 16.3 percent women with parity 4 and above.

Table 4.6 ANTENATAL CARE

Percent distribution of women who had live/still births during three years preceding the survey by number of antenatal check-ups, the stage of pregnancy at the time of first check-up, the number of tetanus toxoid injections received and were given iron folic acid (IFA) Tablets/syrup during pregnancy, and percentage who received full antenatal check-ups by some selected background characteristics, Uttaranchal, 2002-04

		Residence		Education			Children ever born			
Antenatal care indicators	Total	Rural	Urban	Non-literate	0-9@ years	10 years & above	1	2	3	4+
Number of ANC visits										
No visit	37.3	43.0	20.3	54.8	30.7	14.8	20.8	31.4	42.3	55.3
1	6.2	7.1	3.7	7.2	7.8	2.7	4.7	6.1	6.4	7.9
2	28.5	29.2	26.3	22.7	35.1	30.7	32.6	32.0	29.3	20.4
3	12.2	10.3	17.8	9.4	13.8	14.9	17.0	11.2	11.6	9.1
4+	15.8	10.4	31.9	5.9	12.6	36.6	24.8	19.2	10.5	7.2
Missing	0.1	0.1	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0
Stage of pregnancy at the time of the first antenatal check-up										
No antenatal check-up	37.3	43.0	20.3	54.8	30.7	14.8	20.8	31.4	42.3	55.3
First trimester	25.9	19.5	45.2	14.6	26.1	45.2	39.6	28.2	20.5	14.1
Second trimester	30.3	30.9	28.7	23.8	36.0	35.1	32.1	34.2	31.2	24.5
Third trimester	6.4	6.6	5.8	6.8	7.2	4.7	7.4	6.1	6.0	6.1
Missing	0.1	0.1	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0
Women who received TT										
No TT	28.6	33.0	15.5	43.3	21.5	11.4	15.5	20.9	32.2	45.8
1	6.8	7.8	3.9	8.2	8.2	2.7	5.8	6.9	6.9	7.8
2+	64.4	59.1	80.4	48.3	70.3	85.6	78.6	71.8	60.8	46.3
Do not remember/ missing	0.2	0.1	0.3	0.2	0.0	0.3	0.1	0.3	0.2	0.1
Women who received IFA Tablets/syrup										
No IFA/syrup	46.2	50.6	32.9	66.2	37.1	21.9	29.7	40.0	50.7	64.1
Received but not consumed	2.0	1.9	2.6	2.3	2.4	1.0	2.2	1.8	2.5	1.8
Consumed one IFA per day	33.6	29.8	45.1	18.3	41.7	50.9	44.8	38.4	30.2	20.8
Received 100+ IFA Tablets/syrup	20.0	18.1	26.0	9.3	21.0	37.8	27.2	23.7	18.3	11.2
Percentage of women who received full [1] antenatal check-ups	10.5	7.6	19.1	3.9	9.2	23.4	16.2	11.6	8.9	5.0
Number of women	3,896	2,924	973	1,736	1,162	995	1,049	960	757	1,098

Note: Total includes 32 women with zero parity and 3 women with missing information on education who were not shown separately.

@ Literate women with no years of schooling are also included. [1] At least three visits for antenatal check-ups, at least one TT injection received and was given adequate amount of IFA Tablets/syrup.

Continued…

Table 4.6 ANTENATAL CARE (contd)

Percent distribution of women who had live/still births during three years preceding the survey by number of antenatal check-ups, the stage of pregnancy at the time of first check-up, the number of tetanus toxoid injections received and iron and were given iron folic acid (IFA) Tablets/syrup during pregnancy, and percentage who received full antenatal check-ups by some selected background characteristics, Uttaranchal, 2002-04

Antenatal care indicators	Religion			Caste#				Standard of living index			Availability of health facility[2] in the village	
	Hindu	Muslim	Other	Scheduled caste	Scheduled tribe	Other backward class	Other	Low	Medium	High	No	Yes
Number of ANC visits												
No visit	35.9	49.1	(2.6)	50.4	44.6	40.0	30.7	52.0	35.6	16.4	44.8	37.5
1	5.8	8.2	(5.3)	7.2	9.6	7.0	5.5	7.5	6.4	4.0	7.1	7.1
2	29.9	20.2	(26.3)	23.9	25.3	20.4	34.3	27.4	32.1	25.2	28.6	31.2
3	12.0	12.0	(28.9)	9.1	14.8	14.4	12.1	8.1	14.4	15.5	9.6	12.5
4+	16.4	10.5	(34.2)	9.4	5.7	18.1	17.4	5.0	11.3	38.9	10.0	11.5
Missing	0.0	0.0	(2.6)	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.2
Stage of pregnancy at the time of the first antenatal check-up												
No antenatal check-up	35.9	49.1	(2.6)	50.4	44.6	40.0	30.7	52.0	35.6	16.4	44.8	37.5
First trimester	26.3	20.7	(55.3)	16.2	20.8	28.3	28.4	11.2	27.7	46.8	18.3	23.3
Second trimester	32.4	17.6	(39.5)	27.6	27.6	22.2	35.6	30.9	29.7	30.2	30.5	32.0
Third trimester	5.4	12.7	(0.0)	5.8	6.9	9.5	5.3	5.8	6.9	6.6	6.5	7.0
Missing	0.0	0.0	(2.6)	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.2
Women who received TT												
No TT	27.8	36.2	(0.0)	37.1	16.3	29.7	25.8	44.8	23.8	9.6	34.5	28.2
1	6.4	8.9	(5.3)	7.7	17.0	6.4	5.8	7.5	8.2	3.7	7.9	7.3
2+	65.8	54.7	(86.8)	55.0	66.7	63.8	68.3	47.5	67.9	86.4	57.6	64.1
Do not remember/ missing	0.1	0.2	(7.9)	0.2	0.0	0.1	0.2	0.2	0.1	0.3	0.1	0.4
Women who received IFA Tablets/syrup												
No IFA/syrup	43.4	65.0	(13.2)	58.8	49.1	51.2	39.0	58.4	46.2	26.8	51.8	46.8
Received but not consumed	1.8	2.6	(7.9)	2.7	1.0	1.2	2.3	2.0	1.6	2.6	2.0	1.4
Consumed one IFA per day	36.1	17.1	(57.9)	26.6	36.3	29.2	38.5	23.3	34.5	48.8	28.5	33.9
Received 100+ IFA Tablets/syrup	21.4	9.6	(50.0)	12.3	22.6	18.0	23.3	12.8	19.2	32.7	17.5	19.8
Percentage of women who received full [1] antenatal check-ups	11.1	4.8	(36.8)	5.6	9.9	11.2	11.7	4.2	8.8	22.8	7.0	9.5
Number of women	3,292	556	48	609	120	925	2,147	1,555	1,359	982	2,230	694

Note: [1] At least three visits for antenatal check-ups, at least one TT injection received and was given adequate amount of IFA Tablets/syrup. # Total figure may not add to N due to don't know and missing cases. [2] Includes sub-centre, primary health centre, community health centre or referral hospital, government hospital, and government dispensary within the village.
( ) Based on less than 50 unweighted cases.

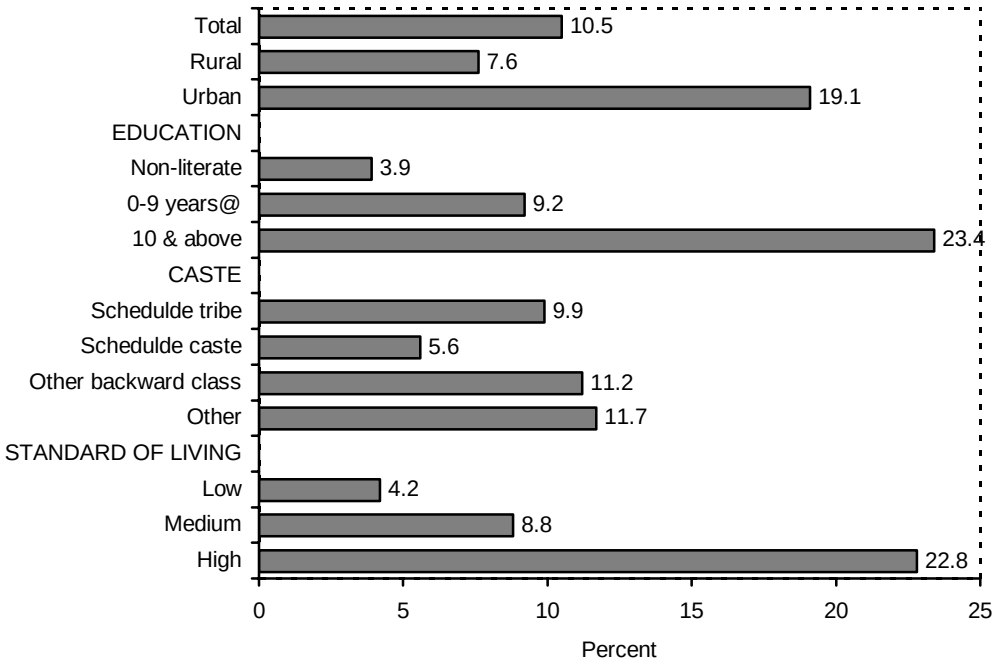
Hindu women (28.4 percent) were more likely to have at least three visits for antenatal check-ups than Muslim women (22.5 percent). This coverage is slightly lower for women from scheduled castes (18.5 percent) and scheduled tribes (20.5 percent) than for women from other backward classes (32.5 percent) and other castes (29.5 percent). Having three or more antenatal visits also increased with the standard of living – 13.1 percent for women with a low standard of living, 25.7 percent for women with a medium standard of living and 54.4 percent for women with a high standard of living. Availability of health facility in the village does not make any significant difference to the minimum three visits for antenatal check-ups.

Data on timing of first antenatal check-ups shows that about one-fourth of the women received their first antenatal check-up in the first trimester of pregnancy, another 30.3 percent received their first check-up in the second trimester and 6.4 percent of the women received their first check-up in the third trimester. A relatively higher proportion of women in the urban areas (45.2 percent) as compared to those in rural areas (19.5 percent) had a check-up in the first trimester of pregnancy. The first antenatal check-up in the first trimester has steadily increased with level of education. Only 14.6 percent of non-literate women had undergone their first antenatal check-up in the first trimester while 45.2 percent of women who had completed at least 10 years of schooling received their first antenatal check-up in the first trimester. About 39.6 percent of the women with parity-1 as compared to only 14.1 percent women with parity four and above had undergone an antenatal check-up in the first trimester. Muslim women were less likely to go for an antenatal check-up in the first trimester of their pregnancy as compared to Hindu women and just 16.2 percent of scheduled caste women undertook an antenatal check-up in the first trimester as compared with 20.8 percent of scheduled tribe women, 28.3 percent of other backward class women and 28.4 percent women from 'other' caste category. About 11.2 percent women with low standard of living, 27.7 percent women with medium standard of living and 46.8 percent women with high standard of living respectively had undergone their first antenatal check-up during the first trimester of their pregnancy period.

Nutritional deficiencies in women are often exacerbated during pregnancy because of the additional nutrient requirements for foetal growth; therefore a pregnant woman needs six times more iron than a non-pregnant woman. The information on receiving iron folic acid Tablets/syrup during pregnancy is also collected. Table 4.6 shows that 53.8 percent of the women in Uttaranchal who had live/still births during three years preceding the survey received IFA supplements. The coverage of IFA Tablets is relatively higher in urban areas (67.1 percent) than in rural areas (49.4 percent). IFA coverage is lower among non-literate women, women with low standard of living, scheduled caste women and women of higher parity. IFA coverage is also lower among Muslim (35 percent) women than Hindu (56.6 percent) women. Again, during pregnancy in the last three years preceding the survey, only 20 percent of women received 100 or more IFA Tablets, 18.1 percent in rural areas and 26 percent in urban areas. Intake of 100 or more IFA is positively associated with education and standard of living index and negatively associated with parity. More Hindu women and other caste women received 100 or more IFA Tablets than their counterparts. Such a large difference in receiving IFA or intake of 100 or more IFA Tablets/syrup is not found while analysing the situation by availability of health facility in the village.

For the last live birth or stillbirth during the three years preceding the survey, women were asked whether they were given tetanus toxoid injection to prevent them and their baby from getting tetanus. Table 4.6 shows that 64.4 percent of the women received two or more tetanus toxoid injections. Coverage of two or more TT injection is much higher in urban areas (80.4 percent) than that in rural areas (59.1 percent). The coverage of at least one tetanus toxoid injection for Hindu women (72.2 percent) is more than that for Muslim women (63.6 percent). Coverage of at least one tetanus toxoid injection is higher among schedule tribe women (83.7 percent) than among schedule caste (62.7 percent), other backward classes (70.2 percent) and 'other' caste category women (74.1 percent). About 56.5 percent of non-literate women received at least one tetanus toxoid injection whereas 78.5 percent of literate women with 9 years of schooling received at least one tetanus toxoid injection and 88.3 percent women who had completed 10 years or more of schooling received at least one tetanus toxoid injection. Around 90.1 percent of women with a high standard of living received at least one tetanus toxoid injection while the corresponding figures for women with low and medium standard of living are 55 percent and 76.1 percent respectively. This coverage varies inversely by parity. At least one tetanus toxoid injection was received by 84.4 percent women of Parity-1 compared with 54.1 percent women of Parity 4 and above.

Figure 4.2
Full Antenatal Care by Background Characteristic



@ Literate mothers with no years of schooling are also included. Uttaranchal, DLHS-RCH, 2002-04

The percentage of women who received full antenatal care (i.e. at least three antenatal check-ups, at least one tetanus toxoid injection and supplementary iron in the form of IFA Tablets daily for 100 days as recommended by the RCH programme) has been presented in Figure 4.2. Only 10.5 percent of women in Uttaranchal received full antenatal care. Coverage of full antenatal care is low for non-literate women, women with higher parity, Muslim women, women from scheduled castes, women with a low standard of living and for women from those villages where health facilities are not available. Full antenatal coverage was also lower in rural areas (7.6 percent) than in urban areas (19.1 percent).

4.7 Antenatal Care Indicator by District

Table 4.7 shows the percentage of women who had given live/still birth during the three years preceding the survey who received different types of antenatal care (the percentage who received antenatal check-up in the first trimester of pregnancy, the percentage who received at least three antenatal check-ups, the percentage who received at least one tetanus toxoid injection, the percentage given 100 or more iron folic acid Tablets/syrup and the percentage who received full antenatal care services) by district.

Table 4.7 ANTENATAL CARE INDICATORS BY DISTRICT

Percentage of women* who received different type of antenatal care by district, Uttaranchal, 2002-04

District	Percentage that received an antenatal check-up in the first trimester of pregnancy	Percentage that received three or more antenatal check-ups	Percentage that received at least one tetanus toxoid injection	Percentage that received adequate amount of IFA[1]	Percentage that received full[2] antenatal check-ups
Almora	20.6	24.9	62.1	11.8	6.6
Bageshwar	26.1	26.5	80.0	37.8	15.3
Chamoli	32.5	23.6	74.5	22.8	8.6
Champawat	31.7	31.0	76.8	24.9	16.3
Dehradun	31.1	35.5	57.6	23.6	15.2
Hardwar	22.9	24.1	70.5	10.6	8.1
Nainital	35.7	37.6	87.5	30.4	15.4
Pithoragarh	22.3	25.7	71.9	22.8	11.7
Pauri Garhwal	28.7	34.8	79.4	28.2	13.7
Rudraprayag	18.5	16.3	55.0	19.6	9.0
Tehri Garhwal	21.2	22.9	70.5	29.7	11.6
Udham Singh Nagar	31.5	31.7	80.5	14.4	6.6
Uttarkashi	11.2	17.8	56.2	21.7	10.1
Uttaranchal	25.9	28.0	71.2	20.0	10.5

Note: * Women who had their last live/still birth since 1-1-1999/1-1-2001. [1] 100 or more iron folic acid Tablets including syrup. [2] At least three visits for antenatal check-ups, at least one TT injection received and adequate amount of IFA.

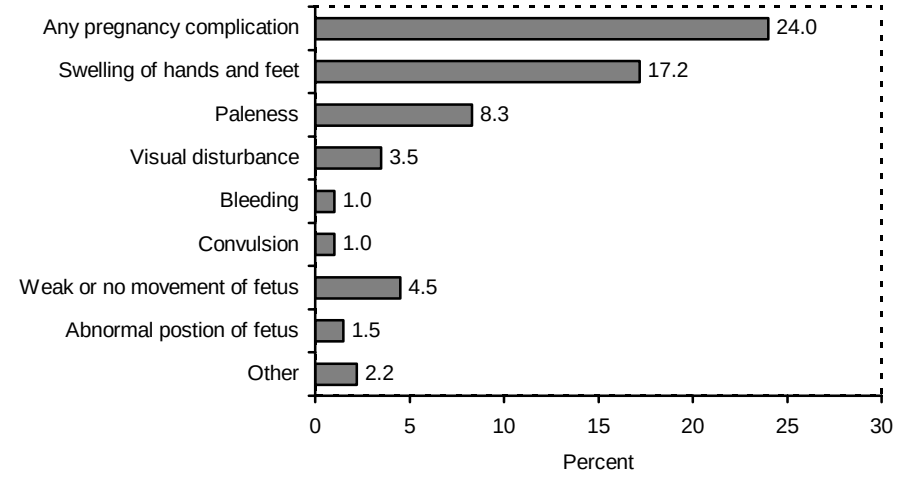
The utilisation of antenatal care services differs from district to district. Only in the district of Nainital, more than one-third (35.7 percent) of the women received their first antenatal check-up in the first trimester of pregnancy. The percentage of women who received at least three visits for antenatal check-ups ranges from 16.3 percent in Rudraprayag to 37.6

percent in Nainital. In two districts namely Rudraprayag and Uttarkashi, the coverage of at least three visits of ANC was less than 20 percent (see Map-3). There has been good coverage of tetanus toxoid injection in the all districts, ranging from 55 to 87.5 percent, but on the other hand, performance regarding received of 100 or more IFA Tablets is poor. In all the districts, the value ranges from 11 to 38 percent, and it is lowest in Hardwar. The percentage of women who received full antenatal care ranges from 6.6 percent each in Almora and Udham Singh Nagar to 16.3 percent in Champawat. In 6 out of the 13 districts namely, Almora, Udham Singh Nagar, Hardwar, Chamoli, Rudraprayag and Uttarkashi, the coverage rate of full antenatal care is below that of the state average (10.5 percent).

4.8 Pregnancy Complications and Treatment

Complications during pregnancy may affect both women's health and the outcome of the pregnancy adversely. Early detection of complications during pregnancy and their management are important components of the safe motherhood programme. In the survey, all the eligible women who had given a live or still birth during the three years preceding the survey were asked if at any time during the pregnancy, they had experienced any of the following pregnancy-related problems such as swelling of hands and feet, paleness, visual disturbance, vaginal bleeding, convulsions, weak or no movement of foetus, abnormal position of foetus and other problems. All the information is based on women's self-reporting which is presented in Table 4.8 and Figure 4.3.

Figure 4.3
Percentage of women with Pregnancy Complication and by Symptoms



Uttaranchal, DLHS-RCH, 2002-04

Table 4.8 PREGNANCY COMPLICATIONS

Percentage of women who had live/still births during three years preceding the survey by pregnancy complication and type of complication during pregnancy by some selected background characteristics, Uttaranchal, 2002-04

Background characteristic	Percentage of women with any pregnancy complication	Type of pregnancy complication;								Number of women
		Swelling of hands and feet	Paleness	Visual disturbances	Bleeding	Convulsion	Weak or no movement of foetus	Abnormal position of foetus	Other	
Age group (years)										
15-19	25.7	16.8	13.5	1.1	0.0	0.0	1.5	0.0	4.8	102
20-24	24.7	17.4	8.1	4.3	1.5	1.5	6.3	1.2	1.7	1,337
25-29	22.3	16.0	7.5	2.9	0.7	0.7	4.2	1.8	2.2	1,405
30-34	25.9	19.4	8.7	3.5	0.9	1.4	3.0	2.1	2.5	732
35-39	25.3	18.2	11.5	3.2	0.5	0.3	3.8	0.0	3.7	241
40-44	19.1	12.9	6.9	4.4	0.8	0.8	0.0	2.0	2.5	80
Children ever born										
1	26.0	19.4	6.7	3.2	1.0	0.8	4.8	1.0	2.8	1,049
2	21.3	14.8	7.4	3.3	1.0	1.0	4.8	1.3	0.8	960
3	24.8	16.7	8.4	3.2	0.9	1.7	4.3	3.1	2.9	757
4+	23.6	17.4	10.6	3.8	1.1	0.6	3.6	1.1	2.5	1,098
Residence										
Rural	21.9	15.0	8.1	3.4	1.0	1.1	4.5	1.6	2.4	2,924
Urban	30.5	23.8	8.8	3.6	0.9	0.8	4.7	1.3	1.9	973
Standard of living index										
Low	20.7	14.0	8.1	3.0	0.6	1.2	4.2	2.1	2.9	1,555
Medium	23.0	15.7	8.6	4.2	1.3	1.1	5.3	1.1	1.6	1,359
High	30.8	24.2	8.3	3.1	1.2	0.8	3.9	1.0	2.1	982
Received any ANC										
Yes	26.1	18.8	8.5	3.5	1.3	1.0	5.0	1.4	2.6	2,439
No	20.5	14.5	8.0	3.5	0.5	1.1	3.7	1.6	1.6	1,455
Total	24.0	17.2	8.3	3.5	1.0	1.0	4.5	1.5	2.2	3,896

Note: Total includes 32 women with zero parity, 2 women with missing information on receiving any ANC and 2 on type of pregnancy complication who were not shown separately. @ Literate women with no years of schooling are also included.

About 24 percent of the women experienced at least one pregnancy related problem. The proportion was higher among urban women (30.5 percent) than among rural women (21.9 percent). The proportion of women aged 30 years and above and those with higher parity who have had at least one pregnancy complication is more than the proportion of younger women and women with low parity. This proportion is higher among women who had received some kind of antenatal care during their pregnancy than among those who did not. About 26.1 percent of women who had an antenatal check-up reported that they had experienced at least one problem during their pregnancy while 20.5 percent of women who did not receive any antenatal check-up during their pregnancy fall in this category. The major problems reported were 'swelling of hands and feet' (17.2 percent), 'paleness' (8.3 percent), and 'weak or no movement of foetus' (4.5 percent). Only 3.5 percent reported 'visual disturbances', 1.5 percent reported 'abnormal position of foetus' and 1 percent each reported 'vaginal bleeding' and 'convulsions'. Other problems related to pregnancy were reported by 2.2 percent of women. Swelling of hands and feet is more common among older women, women with parity-1 and parity-4 and above and women with high a standard of living. The percentage of women who suffered from paleness were more from the age groups of 30-34 years and 40-44 years, more from rural areas, more with a low standard of living and more of those who did not receive any kind of antenatal care during pregnancy. Paleness, visual disturbances and convulsions increased steadily with increase of parity but are negatively associated with standard of living index. The younger women (15-19 years of age) were more likely to report vaginal bleeding and abnormal position of foetus as pregnancy complications.

Women who reported at least one pregnancy related complication were asked whether they had consulted someone or had sought treatment for their problem and also the source of treatment. Table 4.9 shows the percentage of women who had pregnancy complications who obtained advice or had sought treatment by source of treatment according to residence and availability of health facility in the village. About 35.7 percent of women reported that they had obtained advice or consulted someone for their problem. The proportion was higher among urban women (43.5 percent) than among rural women (32 percent) and 39.4 percent of women who sought treatment were from those villages where health facilities were available as compared to 29.3 percent of women with non-availability of health facilities within their villages.

Among women who sought treatment for pregnancy complications, 37.4 percent visited a government health facility including a primary health centre (5.7 percent) and sub-centre (1.6 percent). More than half of them visited a private health facility and 4.5 percent had gone to a facility with the Indian system of medicine, while another 4.9 percent obtained advice from another health facility. The proportion of women who visited a private health facility is higher in urban areas (62.7 percent) than in rural areas (50.7 percent). Among women who sought treatment, 80.9 percent went to a doctor and 14.9 percent to an auxiliary nurse midwife or nurse or LHV and another 4.1 percent to someone else. A doctor examined 87.3 percent of the women in urban areas and 76.9 percent in rural areas, whereas ANM/Nurse/LHV examined 16.7 percent women in rural areas and 12.1 percent in urban areas.

Table 4.9 TREATMENT FOR PREGNANCY COMPLICATIONS

Percentage of women* who had any pregnancy complication, sought treatment and source of treatment according to residence and availability of health facility in the village, Uttaranchal, 2002-04

Treatment and source	Total	Residence		Availability of health facility[5] in the village	
		Rural	Urban	No	Yes
Percentage of women sought treatment who had any pregnancy complication	35.7	32.0	43.5	29.3	39.4
Number of women	334	205	129	137	68
Percentage sought treatment at health facility					
Government health facility[1]	37.4	38.6	35.5	43.0	29.9
Primary health centre	5.7	7.7	2.4	10.0	3.1
Sub centre	1.6	2.4	0.3	2.3	2.4
Private health facility[2]	55.3	50.7	62.7	47.5	57.3
ISM[3] facility	4.5	5.1	3.7	5.7	3.7
Other	4.9	6.3	2.6	3.8	11.4
Percent distribution of women who obtained treatment from					
Doctor	80.9	76.9	87.3	75.6	79.7
ANM/nurse/midwife/LHV	14.9	16.7	12.1	20.2	9.4
Other[4]	4.1	6.2	0.6	4.2	10.4
Missing	0.1	0.0	0.0	0.0	0.5
Total percent	100.0	100.0	100.0	100.0	100.0
Number of women	335	206	129	138	68

Note: [1] Include municipal hospital, dispensary, urban health centre/urban health post/urban family welfare centre, community health centre/rural hospital, primary health centre and sub centre. [2]Include private hospital/clinic and non-governmental organization/trust hospital. [3]Either government or private, Indian system of medicine. [4]Other includes *Dai* (trained or untrained), other health professionals and ISM practitioner. [5]Includes sub-centre, primary health centre, community health centre or referral hospital, government hospital and government dispensary within the village.

4.9 Delivery Care

4.9.1 Place of Delivery

One of the important thrusts of the Reproductive and Child Health Programme is to encourage deliveries under proper hygienic conditions under the supervision of trained health professionals. The provision of delivery services in the government health institutions is one of the components of the RCH programme. For each live/still birth during three years preceding the survey, DLHS-RCH asked the women where (place) their children were born, who assisted during the deliveries in case of home deliveries, characteristics of delivery and any problems that occurred during the delivery. Table 4.10 and Figure 4.4 present the place of delivery. A very small percentage of the births (10.7 percent) took place in government health institutions, 13 percent in private health institutions and a large proportion of the births (76.2 percent) took place at home. About 42.3 percent of the deliveries in urban areas and 17.6

percent of the deliveries in rural areas took place in health institutions. Deliveries in health facilities in Uttaranchal rose from 16.2 percent in Round-I to 23.7 percent in Round-II.

Table 4.10 PLACE OF DELIVERY

Percent distribution of women who had given live/still births during three years preceding the survey, by place of delivery, according to selected background characteristics, Uttaranchal, 2002-04

Background characteristics	Health institutions		Home	Other	Missing	Total percent	Number of women
	Public	Private					
Age group (in years)							
Below 20	17.3	6.1	76.6	0.0	0.0	100.0	102
20-34	10.7	13.8	75.4	0.1	0.0	100.0	3,474
35 and above	8.6	6.4	84.7	0.3	0.0	100.0	321
Children ever born							
1	15.0	21.5	63.3	0.1	0.0	100.0	1,049
2	11.8	14.9	73.3	0.0	0.0	100.0	960
3	10.0	9.7	80.2	0.1	0.0	100.0	757
4+	5.7	4.7	89.4	0.2	0.0	100.0	1,098
Residence							
Rural	8.6	9.0	82.4	0.0	0.0	100.0	2,924
Urban	17.3	25.0	57.4	0.3	0.0	100.0	973
Education							
Non-literate	5.9	4.7	89.2	0.1	0.0	100.0	1,736
0-9@ years	11.3	8.6	80.0	0.1	0.1	100.0	1,162
10 years & above	18.5	32.4	49.0	0.1	0.0	100.0	995
Religion							
Hindu	11.5	12.8	75.6	0.1	0.0	100.0	3,292
Muslim	5.9	11.0	82.8	0.2	0.0	100.0	556
Other	(21.1)	(47.7)	(34.2)	(0.0)	(0.0)	(100.0)	48
Caste#							
Scheduled caste	10.1	5.2	84.6	0.1	0.0	100.0	609
Scheduled tribe	10.1	12.5	77.4	0.0	0.0	100.0	120
Other backward class	6.6	13.5	79.8	0.0	0.0	100.0	925
Other	13.0	15.2	71.6	0.2	0.0	100.0	2,147
Standard of living index							
Low	5.9	3.7	90.2	0.1	0.0	100.0	1,555
Medium	11.7	7.3	81.0	0.0	0.0	100.0	1,359
High	17.1	35.5	47.3	0.1	0.0	100.0	982
Number of antenatal check-ups							
No check-up	5.5	4.2	90.2	0.1	0.0	100.0	1,455
1	12.3	7.2	80.0	0.4	0.0	100.0	242
2	9.8	10.1	79.9	0.1	0.0	100.0	1,110
3	13.2	13.6	73.1	0.1	0.0	100.0	474
4+	22.3	40.5	37.2	0.0	0.0	100.0	614
Delivery characteristics							
Normal	8.7	10.0	81.2	0.1	0.0	100.0	3,613
Caesarean	33.2	60.5	6.3	0.0	0.0	100.0	200
Assisted	45.9	26.4	27.7	0.0	0.0	100.0	83
Availability of health facility[1] in the village							
No	7.7	7.7	84.5	0.0	0.0	100.0	2,230
Yes	11.3	13.0	75.6	0.1	0.0	100.0	694
Total	10.7	13.0	76.2	0.1	0.0	100.0	3,896

Note: Total includes 32 women with zero parity, 3 cases with missing information on education, 2 on number of ANC visits and 1 on delivery characteristics who were not shown separately. # Total figure may not add to N due to do not know and missing cases. @ Literate women with no years of schooling are also included. [1] Includes sub-centre, primary health centre, community health centre or referral hospital, government hospital, and government dispensary within the village. ( ) Based on less than 50 unweighted cases.

The proportion of births occurring in health institutions is higher for young women under 35 years (23-24 percent) than for women aged 35 years and above (15 percent).

Institutional deliveries, particularly in private health facilities, increase sharply with education and the standard of living. Around 10.6 percent of the births to non-literate women and 50.9 percent births to literate women who had completed at least 10 or more years of schooling took place at health institutions. Women with a high standard of living were more likely to give birth in health institutions than women with a low standard of living. The proportion of institutional deliveries decreases as parity increases from parity one (36.5 percent) to parity four and above (10.4 percent). Institutional delivery is lower for Muslim women (16.9 percent) than for Hindu women (24.3 percent). Only 15.3 percent births of women from scheduled-castes are institutional deliveries as compared to 22.6 percent of births to women from scheduled-tribes, 20.1 percent to other backward classes and 28.2 percent of births to women from the 'other' caste category. Institutional deliveries are more common among women who had four or more antenatal check-ups (62.8 percent) than among who had fewer antenatal check-ups (20-27 percent). Institutional deliveries are least prevalent among births to women who did not receive any antenatal check-ups (9.7 percent). As expected, a large proportion of births that occurred through caesarean section (93.7 percent) and 72.3 percent of assisted deliveries took place at health institutions. At the same time, 6.3 percent of caesarean deliveries and 27.7 percent of assisted deliveries took place at home. About 24.3 percent of births in villages with availability of health facility took place at health institutions compared to 15.4 percent of births in villages without any health facility.

4.9.2 Assistance During Home Delivery

Table 4.11 shows distribution of assistance during home delivery by selected background characteristics. Generally, assistance during delivery can be provided by medical staff (doctors, ANM/nurse/LHV, TBA, un-trained *dai*) and relatives/friends. If more than one type of attendant assisted during the delivery, then only the most qualified person is considered. In the last three years only 1.8 percent of home deliveries were attended by doctors, 9.8 percent by ANM or nurse or LHV, 11.6 percent by trained birth attendants, 64.4 percent by untrained *dais*, 11.4 percent were attended by relatives and friends and 1.1 percent of home deliveries were not attended by anyone (Figure 4.4). Overall, health professionals attended 11.6 percent of deliveries that took place at home. The percentage of births (home delivery) attended by health professionals decreases with the increase in women's age. About 18.5 percent of home deliveries were attended by health professionals for women aged below 20 years, 12.1 percent for women aged 20-34 years and only 5.1 percent of births for women aged 35 and above were attended by health professionals. In rural areas, 9.6 percent of births were attended by health professionals as compared to 20.2 percent of that in urban areas. The percentage of births attended by health professionals decreased steadily with increase in the parity of women.

Births to literate women who had completed 10 or more years of schooling which were attended by health professionals is three times higher than those of non-literate women. Health professionals attended about 11.7 percent of home deliveries to women with a medium standard of living and 6.5 percent of home deliveries to women with a low standard of living. Home deliveries are more likely to be attended by health professionals among Hindu women (11.9 percent) than among Muslim women (9.7 percent).

Table 4.11 ASSISTANCE DURING HOME DELIVERY AND SAFE DELIVERY

Percent distribution of women who had given live/still births during three years preceding the survey, by assistance during home delivery, and percentage of safe delivery, according to selected background characteristics, Uttaranchal, 2002-04

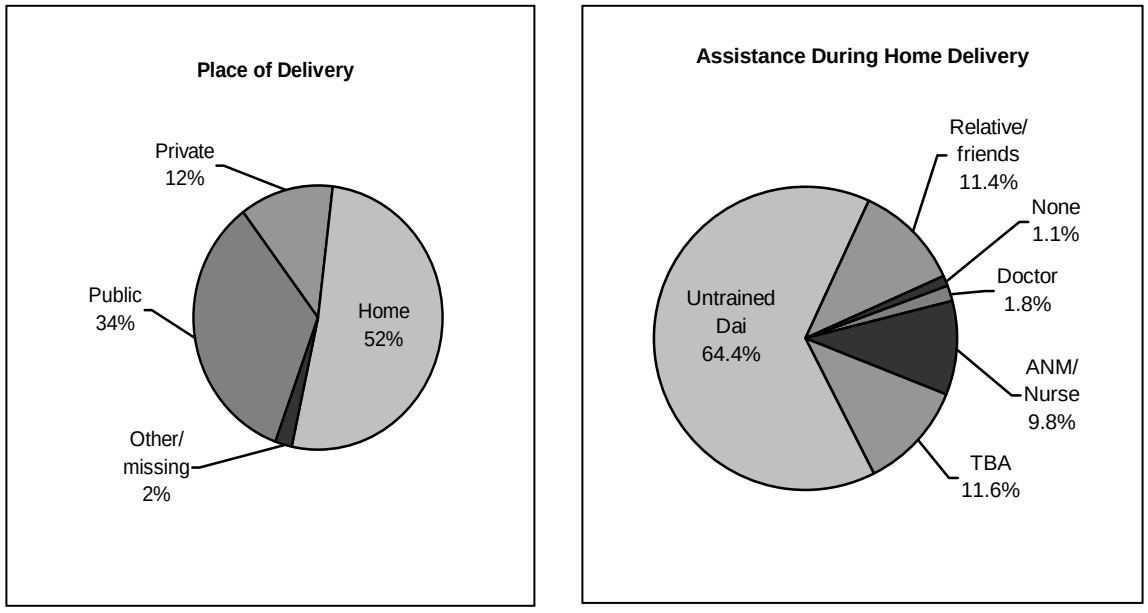
Background characteristics	Attendant assisting during home delivery[1]						Number of women	Percentage of safe[2] delivery
	Doctor	ANM/ Nurse/ LHV	TBA	Un-trained *dai*	Relative / friends	None		
Age group (in years)								
Below 20	0.0	18.5	5.9	63.8	11.8	0.0	78	37.6
20-34	2.0	10.1	11.7	63.4	11.5	1.3	2,619	33.6
35 and above	0.8	4.3	9.6	74.7	10.5	0.2	272	19.4
Children ever born								
1	3.0	15.2	11.9	57.8	10.8	0.8	665	48.2
2	2.3	14.6	12.6	56.9	13.0	0.6	704	39.0
3	1.5	6.8	9.3	69.0	11.3	2.0	607	26.4
4+	0.9	4.6	11.4	71.4	10.5	1.2	982	15.3
Residence								
Rural	1.8	7.8	10.3	65.4	13.3	1.4	2,410	25.4
Urban	1.7	18.5	16.1	60.4	3.2	0.1	559	53.9
Education								
Non-literate	2.1	4.9	9.1	73.3	9.1	1.5	1,549	16.9
0-9@ years	1.0	11.4	13.1	56.9	16.7	0.9	929	29.7
10 years & above	2.4	22.5	15.2	50.5	8.6	0.4	488	63.2
Religion								
Hindu	1.9	10.0	10.8	62.5	13.3	1.3	2,490	33.3
Muslim	1.3	8.4	14.2	75.1	0.9	0.1	461	25.0
Other	*	*	*	*	*	*	18	73.7
Caste#								
Scheduled caste	2.1	5.3	7.7	74.0	9.6	1.4	515	21.6
Scheduled tribe	0.0	4.8	13.4	76.5	5.3	0.0	93	26.3
Other backward class	2.8	11.7	14.4	64.4	5.3	1.4	738	31.7
Other	1.4	10.8	10.9	60.1	15.7	1.0	1,538	36.9
Standard of living index								
Low	1.6	4.9	7.0	66.9	17.5	2.0	1,403	15.4
Medium	1.8	9.9	13.1	67.5	7.3	0.5	1,101	28.4
High	2.4	24.6	20.4	49.8	2.6	0.1	464	65.4
Number of antenatal check-ups								
No check-up	1.1	3.6	8.3	74.1	12.5	0.5	1,312	13.9
1	2.8	10.0	11.2	67.7	8.2	0.2	194	29.7
2	1.7	13.8	10.5	58.3	13.2	2.5	886	32.4
3	2.1	16.1	16.6	54.1	9.8	1.3	346	40.1
4+	5.1	20.5	24.6	45.8	3.2	0.0	228	72.3
Delivery characteristics								
Normal	1.2	9.5	11.5	65.0	11.5	1.1	2,933	27.4
Caesarean	*	*	*	*	*	*	13	97.9
Assisted	*	*	*	*	*	*	23	98.3
Availability of health facility[3] in the village								
No	1.7	7.1	10.0	64.7	14.7	1.7	1,885	22.9
Yes	2.1	10.4	11.2	67.8	8.3	0.2	524	33.7
Total	1.8	9.8	11.6	64.4	11.4	1.1	2,968	32.5

Note: Total includes 11 women with zero parity, 2 with missing information on education and 1 on number of ANC visits who were not shown separately. @ Literate women with no years of schooling are also included. # Total figure may not add to N due to do not know and missing cases. [1] If the respondent mentioned more than one attendant, only the most qualified attendant is shown. [2] Either institutional delivery or home delivery assisted by doctor/ANM/Nurse/LHV. [3] Includes sub-centre, primary health centre, community health centre or referral hospital, government hospital, and government dispensary within the village. ( ) Based on less than 50 unweighted cases. *: Percentage not shown due to very few cases.

Only 7.4 percent of home deliveries to women from scheduled castes, 4.8 percent to scheduled tribes, 14.5 percent to other backward classes and 12.2 percent to women belonging

to 'other castes' category were attended by health professionals. About 4.7 percent of home deliveries to women who did not have any antenatal check-ups were attended by health professionals compared to 25.6 percent of home deliveries to women who had four or more antenatal check-ups. About 10.7 percent of home deliveries that were normal were attended by health professionals, which differs substantially to births by either caesarean section or assisted (70-92 percent), but the result should be interpreted with caution due to the small number of cases. Health professionals attended 8.8 percent of home deliveries in villages with non-availability of health facilities and 12.5 percent of home deliveries in villages with availability of a health facility.

Figure 4.4
Place of Delivery and Assistance During Delivery



Note: Percentage may add more than 100.0 due to rounding

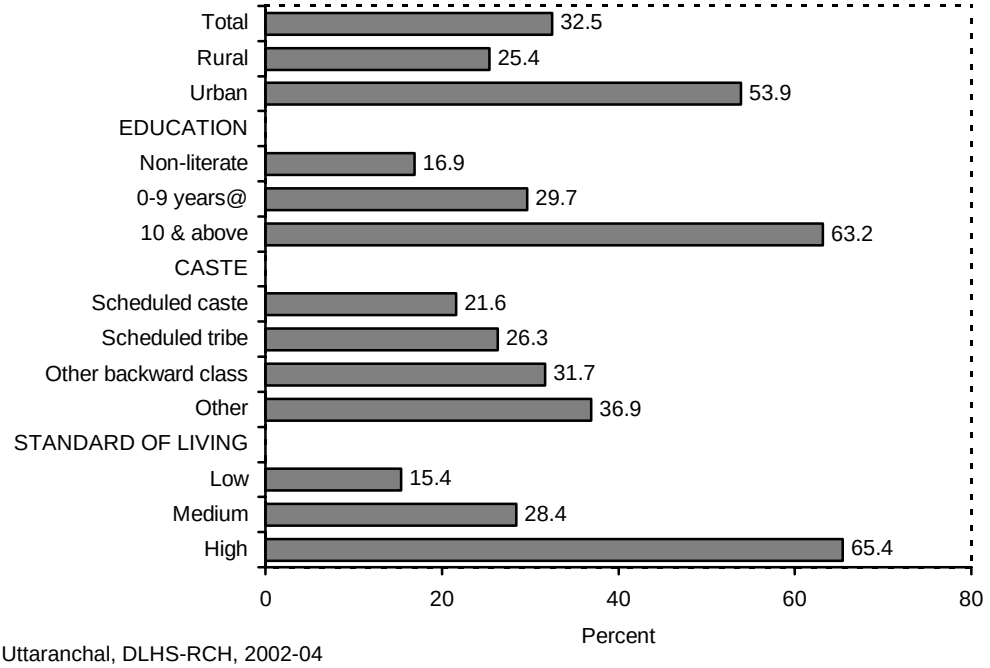
Uttaranchal, DLHS-RCH, 2002-04

4.9.3 Delivery Assisted by Skilled Persons

The extent of safe deliveries varied substantially by background characteristics of women (Table 4.11 and Figure 4.5). About one-third of the births (32.5 percent) in Uttaranchal were safe. In urban areas more than half (53.9 percent) of the deliveries were safe as against little more than one-fourth (25.4 percent) in rural areas. About 34-38 percent of the deliveries were safe for younger women aged below 35 than for elderly women (19.4 percent). The proportion of safe deliveries was lower among Muslim women (25 percent) than among Hindu women (33.3 percent). Only 21.6 percent of births to women from scheduled castes were safe deliveries, compared to 26.3 percent to women from scheduled tribes, 31.7 percent

to women from other backward classes and 36.9 percent of births to women from 'other castes' category. The proportion of safe deliveries decreases as parity rises from 1 (48.2 percent) to 4 and above (15.3 percent). Safe deliveries were least prevalent among women who did not receive any antenatal check-ups (13.9 percent) and it is most prevalent among women who had four or more antenatal check-ups (72.3 percent). The proportion of safe deliveries increased sizeably with women's education and standard of living. Only 16.9 percent of non-literate women had safe deliveries whereas its prevalence is 63.2 percent among women who had completed at least high school. Women with a high standard of living had 65.4 percent safe deliveries compared to 28.4 percent of women with a medium standard of living and 15.4 percent with a low standard of living. As compared to women who had caesarean and assisted deliveries (70-92 percent) only 27.4 percent of women with normal deliveries had safe deliveries. The proportion of safe deliveries was higher in villages with a health facility than to women from those villages were health facilities are not available.

Figure 4.5
Delivery Assisted by Skilled Person by Background Characteristic



Uttaranchal, DLHS-RCH, 2002-04

4.10 Reasons for Not Going to Health Institutions for Delivery

Table 4.12 shows the percentage distribution of women who did not deliver in health institutions in the three years preceding the survey. The main reasons for not going to health institutions have been presented according to residence and availability of health facility in the village. More than half (56.7 percent) of the women stated that it was not necessary to deliver in health institutions. It is surprising to see that a higher proportion of urban women

(61.6 percent) than rural women (55.5 percent) felt this way. Also, 64.7 percent of women stated that it was not necessary to deliver in health institutions when their villages were equipped with health facilities, when compared to 52.9 percent of women from villages where a health facility is not available. About 12.7 percent of the women said that their family did not allow to deliver in health institutions. Other factors contributing for not going to health institutions for delivery were 'it cost too much' (11 percent), 'no transportation' or 'health facility is too far' (5.8 percent), 'not customary' (5.3 percent), 'no time to go' (3.1 percent) and 'better care at home' (2.1 percent). About 1.6 percent reported lack of knowledge regarding the delivery facilities. One percent women did not opt for institutional delivery due to poor quality of services. The corresponding figures were 0.7 percent in urban areas and 1.1 percent in rural areas. It is also needs mention that 13.8 percent of women from villages without a health facility reported 'costs too much' as a reason for not having delivery at health institutions compared to 8.6 percent women from villages with a health facility.

Table 4.12 REASONS FOR NOT GOING TO HEALTH INSTITUTIONS FOR DELIVERY

Percent distribution of women who had given last live/still birth at home during three years preceding the survey by the main reason for not going to health institution for delivery, according to residence and availability of health facility in the village, Uttaranchal, 2002-04

		Residence		Availability of health facility[1] in the village	
Reason	Total	Rural	Urban	No	Yes
Not Necessary	56.7	55.5	61.6	52.9	64.7
Not customary	5.3	4.7	7.7	5.1	3.4
Cost too much	11.0	12.7	3.9	13.8	8.6
Health facility too far/ No transport	5.8	7.1	0.0	8.7	1.5
Poor quality service	1.0	1.1	0.7	0.9	1.8
No time to go	3.1	3.2	2.6	3.2	3.2
Family did not allow	12.7	10.9	20.5	10.6	12.0
Better care at home	2.1	2.2	1.5	2.1	2.6
Lack of knowledge	1.6	1.9	0.3	2.1	1.2
Other	0.1	0.1	0.0	0.0	0.3
Total percent	100.0	100.0	100.0	100.0	100.0
Number of women	2,968	2,410	559	1,885	524

Note: [1]Includes sub-centre, primary health centre, community health centre or referral hospital, government hospital, and government dispensary within the village.

4.11 Delivery Characteristics by District

Table 4.13 shows the delivery characteristics by district; institutional delivery (delivery in government or private health institutions), home delivery and attendant assistance during home delivery for last live/still births to women during the three years preceding the survey. The proportion of institutional delivery is lowest in Uttarkashi (8.2 percent) followed by Champawat (12.8 percent) and it is highest in Pauri Garhwal (33.2 percent).

Table 4.13 DELIVERY CHARACTERISTICS BY DISTRICT

Place of delivery, assistance during home deliveries, and percentage of safe deliveries by district, Uttaranchal, 2002-04

Districts	Percentage of women who had institutional delivery	Percentage of women who had delivery at home	Home delivery assisted by skilled[1] persons	Percentage of safe[2] delivery
Almora	22.6	77.4	13.7	33.2
Bageshwar	24.1	75.9	21.8	40.7
Chamoli	18.7	80.4	7.2	24.5
Champawat	12.8	87.2	15.0	25.9
Dehradun	31.6	68.4	7.7	36.9
Hardwar	31.0	69.0	4.4	34.0
Nainital	19.8	79.8	17.8	34.0
Pithoragarh	28.7	71.3	9.1	35.2
Pauri Garhwal	33.2	66.0	14.9	43.0
Rudraprayag	16.6	82.8	7.8	23.0
Tehri Garhwal	27.2	72.7	14.6	37.9
Udham Singh Nagar	20.3	79.7	21.6	37.5
Uttarkashi	8.2	91.8	2.1	10.1
Uttaranchal	23.7	76.2	11.6	32.5

Note: Table includes last live/still birth since 1-1-1999/1-1-2001.
[1] Includes Doctor/ANM/Nurse.
[2] Either institutional delivery or home delivery assisted by skilled person.

Compared to delivery in a health facility, deliveries at home are more common in all the districts of Uttaranchal. A little less than one-fourth (23.7 percent) of the births in the state are institutional deliveries, but in all the districts, more than 65 percent of the births took place at home and Uttarkashi had more than 90 percent of home deliveries. Except Bageshwar and Udham Singh Nagar district, less than one fifth of home deliveries were attended by a health professional. The extent of safe deliveries also varies by district. In 9 of 13 districts, the proportion of safe deliveries is below state average; it ranges from 10.1 percent in Uttarkashi to 43 percent in Pauri Garhwal. The proportion of safe deliveries is less than 25 percent in three districts i.e. Uttarkashi, Rudraprayag and Chamoli (see Map-4).

4.12 Complications During Delivery

Complications during delivery include 'premature labour', 'obstructed labour', 'prolonged labour (more than 12 hours)', 'breech presentations', 'excessive bleeding during delivery' and 'other problems' at the time of delivery reported by women during the three years preceding the survey. About one-fifth of the women (20.1 percent) experienced at least one problem during delivery (Table 4.14 and Figure 4.6). The proportion of delivery complications is slightly higher among urban women (21.7 percent) than among rural women (19.6 percent). Women in the age group 20-34 years and women with parity 1 reported more delivery related problems than younger (below 20 years) and older (above 35 years) women and women with higher parity. This proportion is relatively high among women who had received some kind of antenatal care during their pregnancy. About 16.1 percent of women who had not had any

antenatal check-up reported that they experienced at least one problem during their delivery when compared to 18-30 percent of women who had received some kind of antenatal check-up. Among women who had assisted or caesarean delivery, around 63 percent reported experiencing such problems and only 16.8 percent women with normal deliveries cited complications during delivery. A relatively higher proportion of women who delivered in health institutions (34-41 percent) faced at least one delivery complication compared to those who delivered at home (14.8 percent).

Table 4.14 DELIVERY COMPLICATIONS

Percentage of women who had given last live/still births during three years preceding the survey by delivery complication, according to selected background characteristics, Uttaranchal, 2002-04

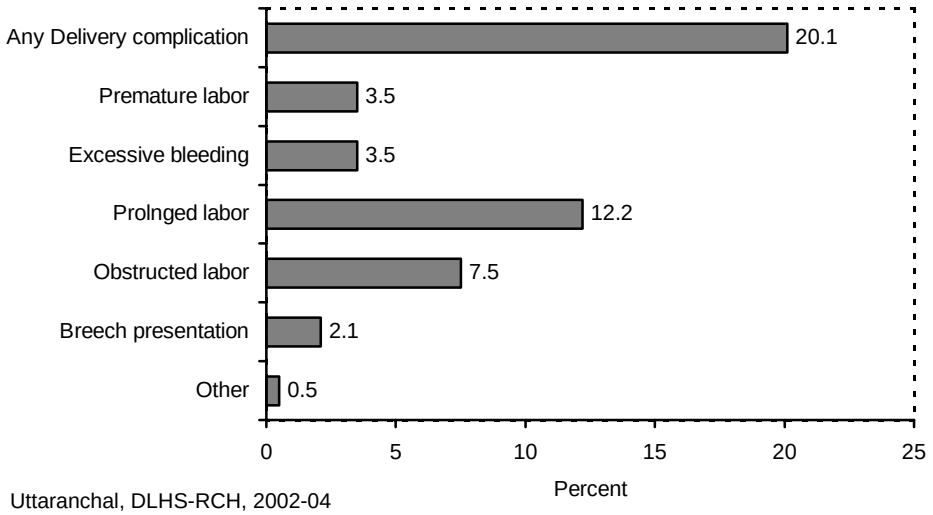
Background characteristic	Any delivery complic-ation	Type of delivery complication; Prematu-re labour	Excessi-ve bleeding	Prolong-ed labour	Obstruct-ed labour	Breech presnta-tion	Other	Number of women
Age group (in years)								
Below 20	13.6	4.4	6.1	7.1	5.4	0.0	1.8	102
25-34	20.7	3.5	3.6	12.4	7.7	2.3	0.5	3,474
35 and above	16.7	3.7	1.9	11.5	5.7	1.2	0.5	321
Children ever born								
1	25.5	3.8	5.1	15.9	11.7	2.6	0.5	1,049
2	19.7	3.9	2.3	10.8	8.0	1.9	0.6	960
3	15.3	4.0	1.3	8.7	3.0	2.5	0.6	757
4+	17.2	2.4	4.3	10.9	6.1	1.6	0.3	1,098
Residence								
Rural	19.6	3.2	3.5	12.4	6.2	1.9	0.5	2,924
Urban	21.7	4.7	3.5	11.6	11.4	2.8	0.5	973
Number of antenatal check-ups								
No check-up	16.1	3.2	1.9	9.6	5.1	1.1	0.8	1,455
1	17.8	3.7	7.3	10.7	4.8	2.3	0.7	242
2	19.0	2.9	3.2	13.3	7.2	1.5	0.1	1,110
3	23.6	2.2	6.4	16.5	9.2	1.9	0.0	474
4+	30.0	6.3	3.9	13.5	13.3	5.8	0.9	614
Delivery characteristics								
Normal	16.8	3.0	2.9	10.6	5.1	1.1	0.3	3,613
Caesarean	62.6	8.9	9.4	30.3	42.9	17.7	2.3	200
Assisted	64.1	13.2	13.8	40.9	26.4	9.9	4.1	83
Place of delivery								
Government sector	33.7	9.0	6.0	17.7	15.7	5.8	0.0	418
Private sector	40.7	9.5	5.3	20.4	20.3	6.7	0.9	505
Home	14.8	1.8	2.8	10.1	4.2	0.8	0.5	2,968
Total	20.1	3.5	3.5	12.2	7.5	2.1	0.5	3,896

Note: Table includes 32 women with zero parity, 2 with missing information on number of ANC visits, 1 on delivery characteristics and 5 cases on place of delivery who were not shown separately.

The major problems reported were ‘prolonged labour’ (12.2 percent), ‘obstructed labour’ (7.5 percent), ‘premature labour’ (3.5 percent) and ‘excessive bleeding (3.5 percent).

Only 2.1 percent reported 'breech presentation' and 0.5 percent reported 'other' problems related to delivery. Premature labour, excessive bleeding, prolonged labour, obstructed labour and breech presentation are more common among younger women, and women with low parity. Rural women were more likely to report excessive bleeding whereas premature labour, obstructed labour and breech presentations are more prevalent among urban women. Premature labour, prolonged labour, excessive bleeding and other health problems related to delivery were more among women whose last delivery was assisted with instruments and obstructed labour and breech presentation was more likely among those who had a caesarean delivery during the three years preceding the survey. Women whose recent delivery was performed in medical institutions were more likely to report premature labour, prolonged labour, breech presentation and obstructed labour compared with place of delivery other than medical institutions.

Figure 4.6
Percentage of women with Delivery Complication and by Symptoms



Uttaranchal, DLHS-RCH, 2002-04

4.13 Post Delivery Complications and Treatment

Table 4.15 and Figure 4.7 present information about women who faced complications after delivery according to some selected background characteristics. The incidence of post delivery complications was judged by any of the following during the first six-weeks of delivery- 'high fever', 'lower abdominal pain', 'foul smelling vaginal discharge', 'excessive bleeding', 'convulsion', 'severe headache', and 'other' problems. About 26.9 percent of women reported that they faced any of these problems during the first six weeks after their delivery. The proportion of women who cited at least one post delivery complication is slightly higher in rural areas (27.2 percent) than in urban areas (26 percent). Older women aged 35 years and above, women with higher parity of 3 and 4 and over, those who had caesarean and assisted deliveries, those whose deliveries took place at private health

institutions and those whose deliveries at home were attended by a TBA (trained birth attendant) are more prone to report at least one post delivery related problem.

Table 4.15 POST DELIVERY COMPLICATIONS

Percentage of women who had given last live/still births during three years preceding the survey by post delivery complication, according to selected background characteristics, Uttaranchal, 2002-04

Background characteristic	Any post delivery complic-ation	Type of post delivery complication							Number of women
		High fever	Lower abdom-inal pain	Foul smelling vaginal discharge	Excess-ive bleeding	Convul-sion	Severe head-ache	Other	
Age									
Below 20	19.6	4.5	9.6	4.4	2.3	0.0	8.7	2.0	102
25-34	26.9	11.7	18.1	5.2	5.9	1.2	10.5	1.1	3,474
35 and above	29.8	15.1	19.2	6.7	8.1	1.6	14.3	2.5	321
Children ever born									
1	24.4	9.8	14.2	3.5	6.1	1.3	8.8	0.7	1,049
2	26.1	11.2	18.5	4.3	5.0	.9	7.2	0.3	960
3	29.9	14.1	20.8	8.7	6.1	1.2	15.0	2.2	757
4+	27.4	12.4	18.4	5.5	6.8	1.3	12.3	1.7	1,098
Residence									
Rural	27.2	10.7	19.8	6.3	6.4	1.3	10.2	1.4	2,924
Urban	26.0	15.2	12.4	2.3	4.9	1.1	12.5	0.7	973
Delivery characteristics									
Normal	26.0	10.9	17.6	5.4	6.0	1.1	10.3	1.1	3,613
Caesarean	38.5	21.9	23.8	5.0	5.9	2.0	17.9	3.2	200
Assisted	38.4	25.9	19.7	5.3	8.4	2.7	15.5	0.8	83
Place of delivery									
Government sector	25.3	12.2	11.8	3.4	6.7	0.0	10.8	1.3	418
Private sector	29.9	16.1	14.3	4.6	4.2	1.0	12.3	0.6	505
Home	26.7	11.1	19.5	5.8	6.2	1.4	10.6	1.3	2,968
Assistance during home delivery									
Doctor	24.6	13.2	15.7	3.1	3.1	1.9	13.4	1.2	54
ANM/Nurse/LHV	28.9	10.5	20.6	2.6	5.5	0.0	10.2	1.4	291
TBA	36.9	19.4	22.5	8.0	15.0	2.4	14.3	1.7	337
Untrained dai	25.2	10.3	18.6	5.6	5.0	1.7	10.5	1.4	1,912
Relative/friends	22.5	8.4	20.0	5.5	3.8	0.1	7.4	0.3	338
None	(21.4)	(3.6)	(17.9)	(10.7)	(10.7)	(0.0)	(0.0)	(3.6)	34
Total	26.9	11.8	18.0	5.3	6.0	1.2	10.8	1.2	3,896

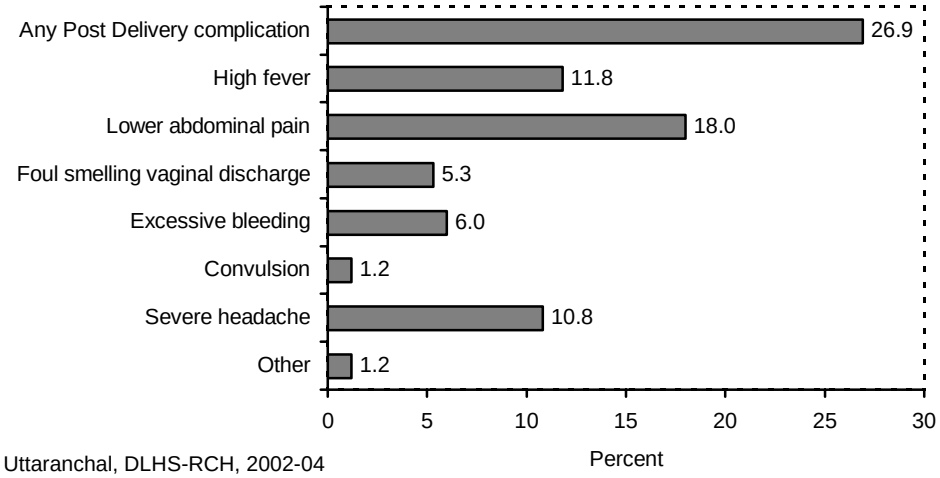
Note: Total includes 32 women with zero parity, 1 with missing information on delivery characteristics, 5 cases on place of delivery and 2 cases on assistance during home delivery who were not shown separately.

( ) Based on less than 50 unweighted cases

Women reported lower abdominal pain (18 percent), high fever (11.8 percent), severe headache (10.8 percent), excessive vaginal bleeding (6 percent), foul smelling vaginal discharge (5.3 percent) and convulsion (1.2 percent) as the type of post delivery complication they suffered from. Rural-urban differences in almost all the symptoms of postpartum complication are significant. All the postpartum complications are more prevalent among older women aged 35 years and above than among women below 35 years. The symptoms of postpartum complications were increasing steadily with increased parity. There are minimal

differences in the likelihood of having different symptoms in the postpartum period by place of delivery except for lower abdominal pain, which is prevalent more in home deliveries than in institutional deliveries. Women who had the last delivery at home and were not assisted by anyone were more likely to have lower abdominal pain, convulsions, foul smelling vaginal discharge and other postpartum problems during the first six weeks of delivery. Symptoms like high fever and severe headache are more common for women who delivered at home assisted by a doctor than for women whose home deliveries were assisted by a ANM/nurse/LHV, untrained *dai*, or relatives or friends.

Figure 4.7
Percentage of women with Post Delivery Complication and by Symptoms



Uttaranchal, DLHS-RCH, 2002-04

Women who reported at least one complication during the postpartum period were asked whether they had consulted or sought treatment for their problems and also the source of treatment. Table 4.16 shows the percentage of women who had post delivery complications and who sought treatment by source of treatment according to residence and availability of health facility in the village. About 43.9 percent of women reported that they had obtained advice or had consulted someone for their problems. The proportion was higher among urban women (63.1 percent) than among rural women (37.8 percent) and 54.3 percent women sought treatment from those villages where health facility was available as compared to 33.7 percent women who did not have a health facility within their village.

Table 4.16 TREATMENT FOR POST DELIVERY COMPLICATIONS

Percentage of women who had last live/still births during three years preceding the survey and who had any post delivery complication, sought treatment for the problems, and source of treatment according to residence and availability of health facility in the village, Uttaranchal, 2002-04

Treatment and source	Total	Residence		Availability of health facility[5] in the village	
		Rural	Urban	No	Yes
Percentage of women sought treatment who had any post delivery complication	43.9	37.8	63.1	33.7	54.3
Number of women	461	301	160	215	86
Percentage sought treatment at health facility					
Government health facility[1]	29.5	31.0	26.7	30.7	31.7
Primary health centre	2.7	3.9	0.3	3.3	5.4
Sub centre	2.5	3.8	0.0	3.8	3.5
Private health facility[2]	61.5	57.8	68.6	57.1	59.3
ISM[3] facility	2.5	2.9	1.7	2.7	3.5
Other	7.6	10.0	3.0	10.5	8.7
Percent distribution of women who obtained treatment from					
Doctor	77.4	80.0	72.6	80.3	79.3
ANM/nurse/midwife/LHV	18.0	14.0	25.6	13.8	14.6
Other health professionals[4]	2.9	4.4	0.3	4.3	4.5
Other	1.6	1.6	1.5	1.6	1.6
Total percent	100.0	100.0	100.0	100.0	100.0
Number of women	461	301	160	215	86

Note: [1] Include municipal hospital, dispensary, urban health centre/urban health post/urban family welfare centre, community health centre/rural hospital, primary health centre and sub centre. [2]Include private hospital/clinic and non-governmental organization/trust hospital. [3]Either government or private, Indian system of medicine. [4]Other includes *Dai* (trained or untrained), other health professionals and ISM practitioner. [5]Includes sub-centre, primary health centre, community health centre or referral hospital, government hospital and government dispensary within the village.

Among women who sought treatment for complications in the postpartum period, only 29.5 percent visited a government health facility including primary health centre and sub-centre (3 percent each). More than 60 percent of women visited a private health facility and 2.5 percent went to a facility with the Indian system of medicine (either government or private) and another 7.6 percent obtained advice from other health facilities. The proportion of women who visited a government health facility is relatively higher in rural areas (31 percent) than in urban areas (26.7 percent). On the other hand, the proportion of women seeking treatment from a private health facility is more in urban areas (68.6 percent) than in rural areas (57.8 percent). Among women who sought treatment, 77.4 percent preferred to go to a doctor, 18 percent visited an auxiliary nurse midwife or nurse or LHV, 2.9 percent went to other health professionals and 1.6 percent went to some one else. About 72.6 percent of these women in urban areas and 80 percent in rural areas went to a doctor, whereas a visit to an ANM/nurse/LHV was by 14 percent in rural areas and 25.6 percent in urban areas. There is

also a minor difference by availability of health facilities and non-availability of health facilities in the village. About 79.3 percent of women who belonged to villages with availability of health facilities were seen by doctor compared to 80.3 percent of women belonging to villages with non-availability of health facilities.

4.14 Obstetric Morbidity by District

The extent of health problems/complications women suffer during pregnancy, delivery and post delivery period indicates the state of obstetric morbidity. Table 4.17 presents the incidence of pregnancy, delivery and post-delivery complications and treatment seeking behaviour in case of pregnancy and post delivery complications by district. As mentioned earlier, in the state, 24 percent, 20.1 percent and 26.9 percent of the women experienced pregnancy, delivery and post delivery complications respectively. About 35.7 percent of the women sought treatment for pregnancy complications and 43.9 percent for post delivery complications. In every district, between 15 and 36 percent of the women experienced at least one of the symptoms of pregnancy complications.

Table 4.17 PREGNANCY, DELIVERY AND POST DELIVERY COMPLICATIONS

Extent of pregnancy, delivery and post delivery complications and treatment seeking behaviour by districts, Uttaranchal, 2002-04

District	Percentage of women[1]				
	Who had complication during pregnancy	Sought treatment for pregnancy complication[2]	Who had delivery complication	Who had post delivery complication	Sought treatment for post delivery complication[3]
Almora	15.8	29.1	9.1	16.2	9.6
Bageshwar	15.8	30.3	28.7	30.3	38.7
Chamoli	15.9	34.6	21.5	26.0	32.6
Champawat	23.8	39.6	22.8	19.5	54.9
Dehradun	36.4	28.4	29.8	38.3	22.5
Hardwar	28.9	44.8	20.7	30.0	58.9
Nainital	25.3	29.0	10.4	29.5	54.9
Pithoragarh	24.7	34.2	14.8	21.8	25.9
Pauri Garhwal	15.2	66.9	21.6	21.4	51.1
Rudraprayag	16.0	26.2	8.6	14.4	43.0
Tehri Garhwal	16.6	41.8	23.9	24.1	31.3
Udham Singh Nagar	24.9	39.0	32.3	28.6	66.1
Uttarkashi	25.1	18.8	12.4	23.6	31.9
Uttaranchal	24.0	35.7	20.1	26.9	43.9

Note: [1] Women who had last live/still birth during three years preceding the survey. [2] Women who reported at least one complication of pregnancy. [3] Women who reported at least one post delivery complication.

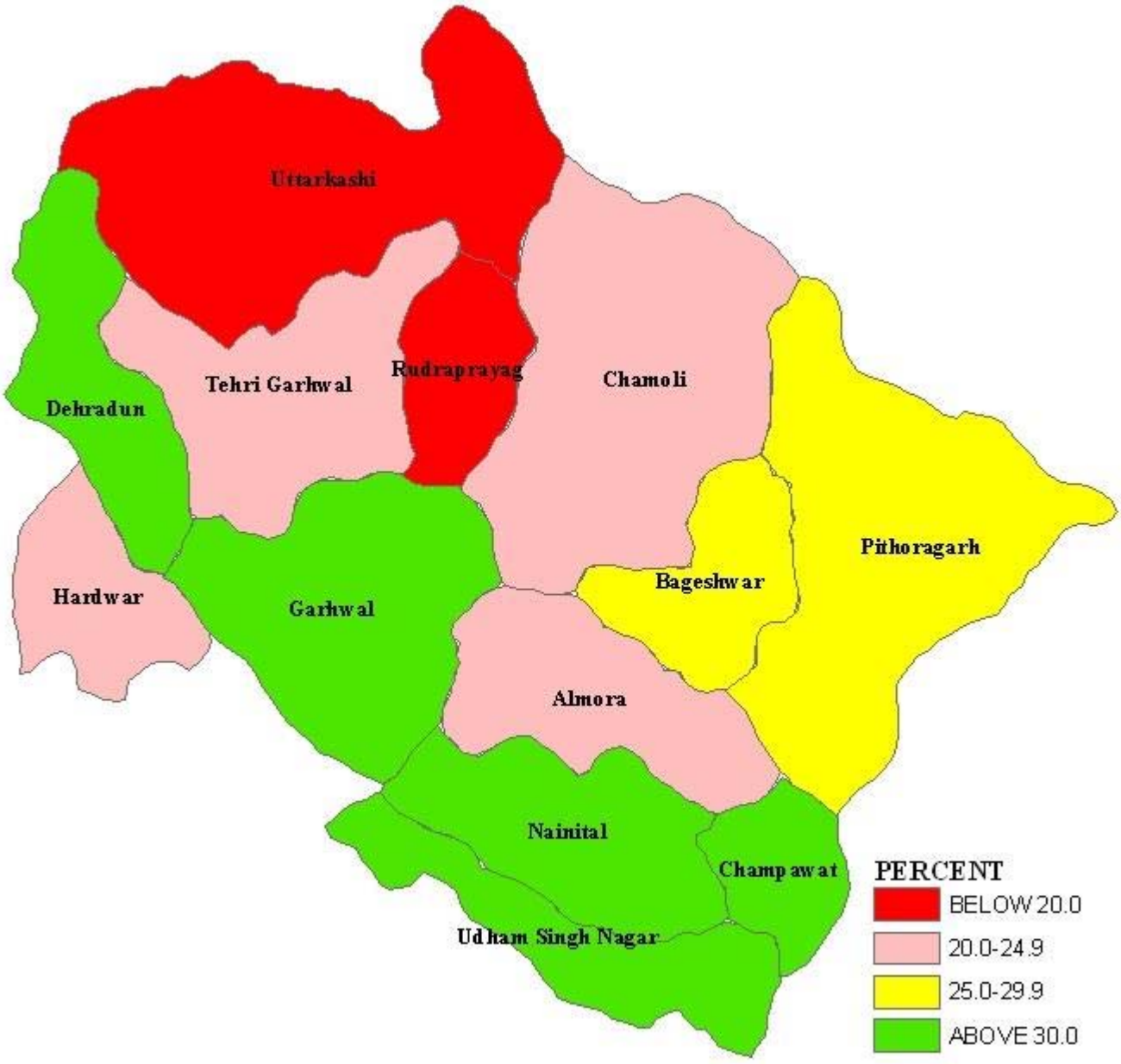
In a few districts like Dehradun (36.4 percent) and Hardwar (28.9 percent), the incidence of pregnancy complications is comparatively higher than other districts. The incidence of post delivery complication is higher than that of pregnancy and delivery complications. The percentage of women who experienced at least one type of delivery complication ranges from 8.6 percent in Rudraprayag to 32.3 percent in Udham Singh Nagar

and the incidence of post delivery complication varies from 14.4 percent in Rudraprayag to 38.3 percent in Dehradun. The incidence of all three types of complications seems to be linked with each other in varying proportions.

In most of the districts of Uttaranchal, a majority of the women received some kind of antenatal care. In spite of that, in all districts (except Pauri Garhwal) less than 50 percent of the women sought treatment for pregnancy complications. Similarly, among women who experienced at least one symptoms of postpartum complication, the proportion seeking treatment also varies substantially across the districts, ranging from just 9.6 percent in Almora to 66.1 percent in Udham Singh Nagar.

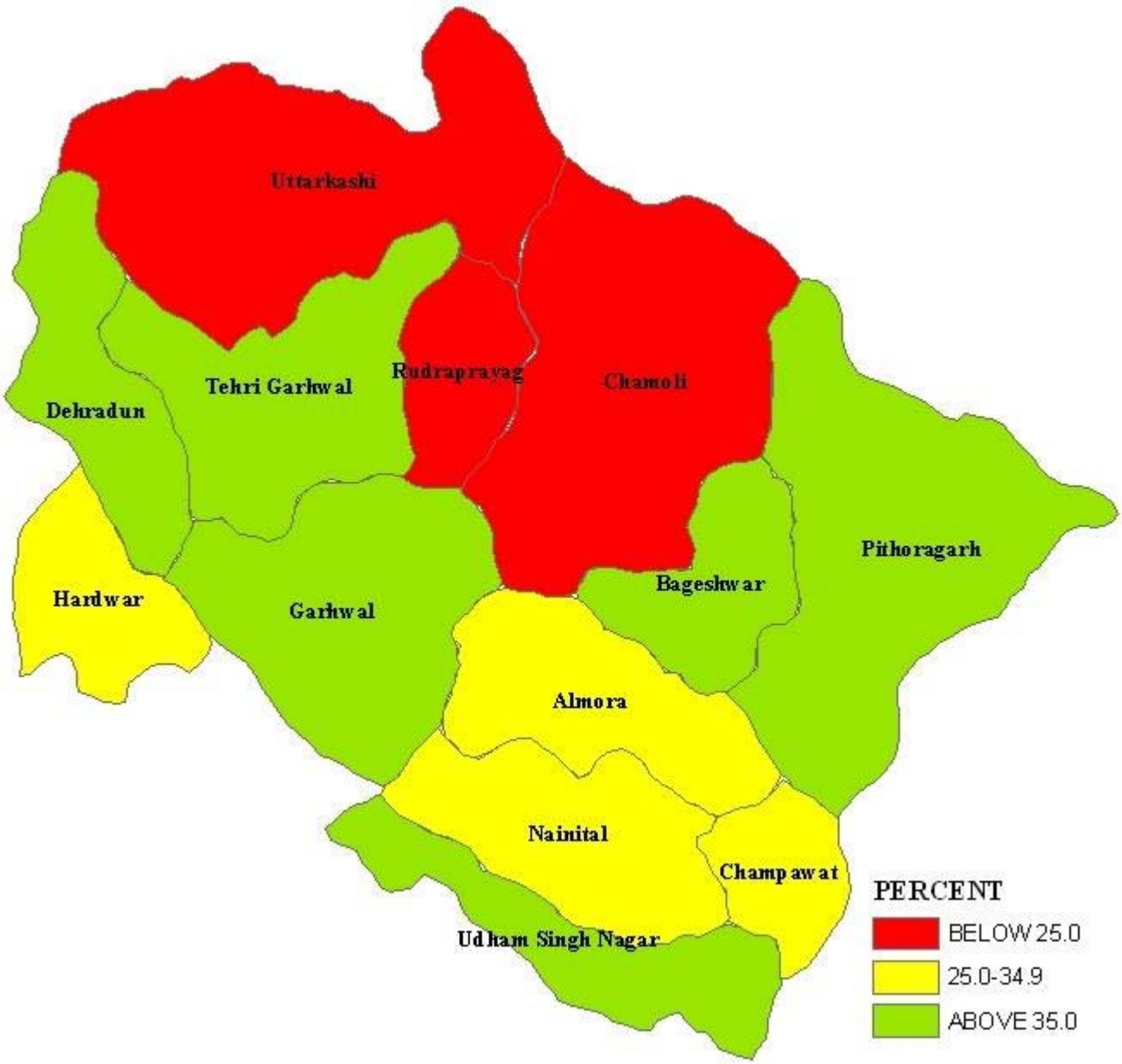
Map-3

Three or more Antenatal Check-Ups, Uttaranchal



Map-4

Delivery Attended by Skilled Person, Uttaranchal



CHAPTER V

CHILD CARE AND IMMUNIZATION

Child health services under the Reproductive and Child Health (RCH) programme include health education to mothers on breast-feeding and services for immunization, Vitamin A supplements and Iron prophylaxis, treatment of diarrhoea and Acute Respiratory Infections (ARIs). The District Level Household Survey (DLHS) covered all the currently married women whose last surviving child was born during the three years preceding the survey, and information on those breastfeeding currently and duration of breastfeeding. They were also asked about their awareness of diarrhoea management and danger signs of pneumonia and practices followed in case of episodes of diarrhoea and ARI among the children. Data on immunization, administering Vitamin A supplements and Iron prophylaxis was collected for the last two living children born after January 1, 1999/2001. This chapter presents an analysis of the data collected on the above aspects.

5.1 Breastfeeding

Educating mothers on correct breastfeeding practices and child nutrition is one of the components of the RCH programme. Infant feeding practices have significant effects on the health of both mothers and children. Mothers are affected through the influences of breastfeeding on the period of postpartum infertility, and hence on fertility levels and the length of birth intervals. These effects vary according to the duration and intensity of breastfeeding. Proper infant feeding, starting from the time of birth, is important for the physical and mental development of the child. Breastfeeding improves the nutritional status of young children and reduces morbidity and mortality. Breast milk not only provides important nutrients, but also protects the child against infection. The timing and type of supplementary foods introduced in an infant's diet have significant effects on the child's nutritional status.

As recommended by the World Health Organization (WHO), breastfeeding should be initiated immediately after birth and should be continued upto a minimum of six months. The WHO also suggests that the yellowish milk, known as colostrums, should be given to the baby because it provides protection against certain infections. Afterwards, it has to be supplemented with other semi-solid and solid foods at the proper time intervals.

Table 5.1 shows the breastfeeding practices by women for children born during the three years preceding the survey in Uttaranchal. Although the practice of breastfeeding is common in Uttaranchal, the initiation of breastfeeding within two hours of the birth of the child is not always followed. About 27.2 percent of the children were breastfed within two hours of birth, and 44.4 percent were breastfed within one day of birth (including those who were breastfed within two hours of birth), while 54.3 percent of children were breastfed after one day of birth. As shown in Figure 5.1, about 17.2 percent of the children were breastfed within one day of birth but after two hours of birth, 33.2 percent were breastfed after the first day of birth but before 3 days, and 21.1 percent children were put to the breast after three days. About 1.3 percent of the children were never breastfed. More than half of the women (69.9 percent) who gave birth to children during the three years preceding the survey squeezed the first milk from the breast before they began

breastfeeding. Not more than 52.8 percent of children in any socio-economic groups were breastfed within two hours of birth. Nearly 52.8 percent of children from scheduled tribe were breastfed within two hours of birth, and 44 percent of children from scheduled castes were breastfed within one day of birth. Women who reside in urban areas, women who have had high school education and above and women who live in households with a high standard of living are much less likely to start breastfeeding their children early. A large proportion of children from urban areas (63 percent), Muslim children (67.6 percent), children from other castes (50.5 percent), children of illiterate mothers (58.9 percent), and children from households with a high standard of living were put to the breast after one day of birth.

Table 5.1 INITIATION OF BREASTFEEDING

Percentage of children under age 3 whose mother started breastfeeding within two hours of birth, within one day of birth, and after one day of birth and percentage whose mother squeezed the first milk from her breast before breastfeeding by selected background characteristics, Uttaranchal, 2002-04

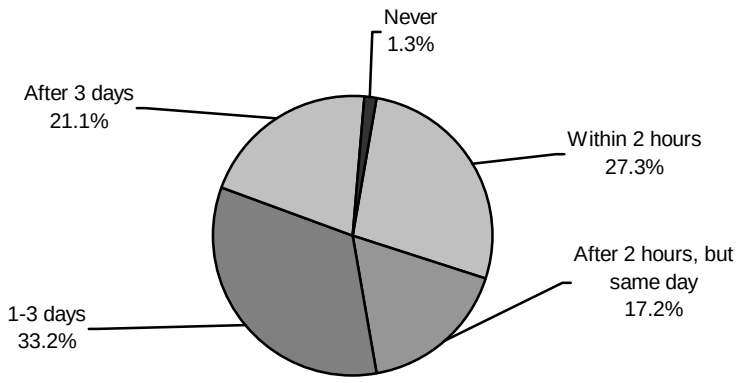
Background characteristic	Percentage started breastfeeding			Percentage whose mother squeezed first milk from breast	Number of children
	Within two hours of birth	Within one day of birth[1]	After one day of birth		
Residence					
Rural	28.5	47.4	51.4	71.2	2,650
Urban	23.3	35.5	63.0	66.0	877
Mother's education					
Non-literate	25.3	39.9	58.9	66.0	1,585
0-9@ years	30.7	48.5	50.3	72.5	1,051
10 and above	26.7	47.8	50.7	74.1	888
Religion					
Hindu	28.6	47.2	51.6	71.0	2,969
Muslim	20.4	30.9	67.6	62.4	512
Other	(14.7)	(23.5)	(70.6)	(85.3)	45
Caste/tribe#					
Scheduled caste	26.5	44.0	54.8	65.1	536
Scheduled tribe	52.8	74.2	25.8	57.1	112
Other backward class	20.9	33.0	65.3	65.9	842
Other	29.2	48.3	50.5	73.8	1,938
Standard of living index					
Low	28.2	47.9	51.5	72.7	1,409
Medium	26.7	42.3	56.4	69.0	1,243
High	26.6	41.9	55.7	66.8	875
Total	27.2	44.4	54.3	69.9	3,527

Note: Table based on youngest living child born during the three years preceding the survey. Table includes 3 children with missing information on mother's education who were not shown separately. [1] Includes children whose mother started breastfeeding within two hours of births. @ Literate mother with no years of schooling are included. #Total figure may not add to N due to do not know and missing cases. ( ) Based on less than 50 unweighted cases

The custom of squeezing the first milk from the breast before breastfeeding is widely practised in every group, but it is slightly higher among the mothers of scheduled caste children, children with Hindu religion, and children whose mothers are educated. Children who live in households with a high standard of living are less likely than children in other households to have mothers who squeezed the first milk from the breast before breastfeeding. In rural areas, the custom of squeezing the first milk from the breast before breastfeeding is more compared to

urban areas. Mothers of children born in the three years preceding the survey were asked whether the child had been fed breast milk exclusively and if so, what the duration was. Here it needs to be mentioned that, exclusive breastfeeding includes breastfeeding the child without giving it anything including water. Results are shown in Table 5.2.

Figure 5.1
Initiation of Breastfeeding



Uttaranchal, DLHS-RCH, 2002-04

Table 5.2 EXCLUSIVE BREASTFEEDING BY CHILD'S AGE

Percentage of children under age 3 years by exclusive breastfeeding, according to child's age in month, Uttaranchal, 2002-04

Age in months	Status of exclusive breastfeeding			Number of children
	Exclusive breastfeeding	At least 4 months	At least 6 months	
<2	96.4	*	*	188
2-3	82.4	*	*	260
4-5	70.4	86.6	*	311
6-7	43.0	90.6	62.7	290
8-9	24.7	80.5	62.2	306
10-11	13.7	85.3	63.3	242
12-13	9.9	81.9	67.5	240
14-15	8.5	85.5	64.6	238
16-17	5.7	81.6	52.9	288
18-19	2.8	92.7	60.6	295
20-21	1.4	82.9	62.7	274
22-23	5.9	92.0	75.0	185
24-25	1.9	88.5	65.7	281
26-27	0.0	85.5	44.7	184
28-29	3.6	82.2	60.8	285
30-31	0.1	83.7	56.3	251
32-33	0.0	80.9	55.7	179
34-35	0.0	86.0	68.6	210
< 4 months	87.0	*	*	464
4-6 months	63.0	87.9	*	418
7-9 Months	27.1	83.6	60.7	400

Note: Table based on youngest living child born during the three years preceding the survey

In Uttaranchal, 87 percent of children under four months of age are exclusively breastfed. The percentage of infants exclusively breastfed drops steadily from 96.4 percent for children under 2 months of age to 70.4 percent for children who are 4-5 months old. About 88 percent of children in the age group 4-6 months were exclusively breastfed up to 4 months and 61 percent of children in the age group 7-9 months are exclusively breastfed upto 6 months.

5.1.1 Breastfeeding by Districts

Table 5.3 shows that in all the districts of Uttaranchal, except Dehradun and Nainital, not more than 40 percent of the children were put to the breast within two hours of birth. Less than 10 percent of the children were breastfed within two hours of birth in Udham Singh Nagar district. More than two-fifth of the children were put to the breast after one day of birth in Almora, Bageshwar, Champawat, Udham Singh Nagar, Pauri Garhwal, Hardwar, Nainital, Pithoragarh, Rudraprayag, Dehradun and Uttarkashi districts. In 11 of the 13 districts, the mothers of more than 56 percent children squeezed the first milk before breastfeeding.

Table 5.3 BREASTFEEDING BY DISTRICT

Percentage of children under age 3 whose mother started breastfeeding within two hours of birth, within one day of birth and after one day of birth, percentage whose mother squeezed the first milk from her breast before breastfeeding and percentage of children who were exclusively breastfed by district, Uttaranchal, 2002-04

District	Percentage started breastfeeding			Percentage whose mother squeezed first milk from breast	Exclusive breastfeeding[2]
	Within two hours of birth	Within one day of birth[1]	After one day of birth		
Almora	21.6	38.4	61.1	78.6	59.2
Bageshwar	12.2	31.4	68.4	76.4	39.8
Chamoli	23.3	72.4	26.4	78.6	52.6
Champawat	16.7	34.4	65.6	93.0	62.0
Dehradun	47.6	56.5	42.5	54.2	62.9
Pauri Garhwal	19.4	55.1	42.6	82.6	53.5
Hardwar	23.5	38.6	58.8	56.0	62.9
Nainital	42.0	47.4	51.2	63.6	71.6
Pithoragarh	28.3	40.6	58.0	76.9	66.7
Rudraprayag	50.0	57.8	42.2	75.4	84.1
Tehri Garhwal	29.9	70.4	27.5	83.1	50.8
Udham Singh Nagar	9.7	24.4	74.0	78.3	51.5
Uttarkashi	29.4	41.9	57.5	68.0	75.8
Uttaranchal	27.2	44.4	54.3	69.9	61.3

Note: Table based on youngest living child born during the three years preceding the survey
[1] Includes children whose mother started breastfeeding within two hours of births. [2] Based on youngest children age 6 moths and older at the time of survey and breastfed exclusively 6 months or more as mother reported.

There is a great deal of variation in the extent of exclusive breastfeeding for six months. It is highest in Rudraprayag (84 percent) and lowest in Bageshwar (40 percent) district.

5.2 Immunization of Children

The immunization of children against six serious but prevenTable diseases namely, tuberculosis, diphtheria, pertusis, poliomyelitis and measles is the main component of the child survival programme. As part of the National Health Policy, the National Immunization Programme is being implemented on a priority basis. The Government of India initiated the Expanded Programme on Immunization (EPI) in 1978 with the objective of reducing morbidity, mortality and disabilities among children from six diseases.

The Universal Immunization Programme (UIP) was introduced in 1985-86 with the objective of covering at least 85 percent of all infants against the six vaccine prevenTable diseases by 1990. This scheme has been introduced in every district of the country. The standard immunization schedule developed for the child immunization programme specifies the age at which each vaccine should be administrated and the number of doses to be given. Routine vaccinations received by infants and children are usually recorded on a vaccination card that is issued for the child.

In the first phase of Round II, all the women with last and last but one living child born after January 1, 1999 were asked whether the child/children had received the vaccination against polio, tuberculosis (BCG), diphtheria, whooping cough (pertusis), tetanus (DPT) and measles, and for the second phase, the reference period was from January 1, 2001. For Polio and DPT, further information on polio at birth and number of doses was asked. Children who received BCG, three doses of DPT and polio (excluding polio 0) and measles considered to be fully vaccinated. Information on the source of immunization for last dose and in case where immunization was not given, the reason for not giving immunization was also compiled.

Table 5.4, Figures 5.2 and 5.3 presents vaccination coverage rates for children in the age group 12-25 months. Only 44.3 percent of the children are fully vaccinated, and around 23.4 percent have not received any routine vaccination. Coverage of each vaccination except Polio 0 is much higher than the percentage fully vaccinated. BCG, the first and second dose of DPT and Polio vaccine has each been given to more than three-fourths of children (Figure 5.3). Only 55.8 percent of the children have received three doses of DPT and 55.5 percent of the children received 3 drops of Polio, and only 54.4 percent of the children have been vaccinated against measles. Moreover, not all children who begin the DPT and polio vaccination series go on to complete them. The differences between the percentage of children receiving the first and third doses is 13-percentage point for DPT and 14 percentage points for polio.

There has been some improvement in full vaccination coverage in Uttaranchal since the time of Round I in 1998-99. These data indicate that despite the progress that has been made in immunization coverage for children in Uttaranchal, coverage levels are still low and a large proportion of children who received some early vaccinations dropped out of the programme before receiving all of the recommended vaccinations.

Table 5.4 VACCINATION OF CHILDREN

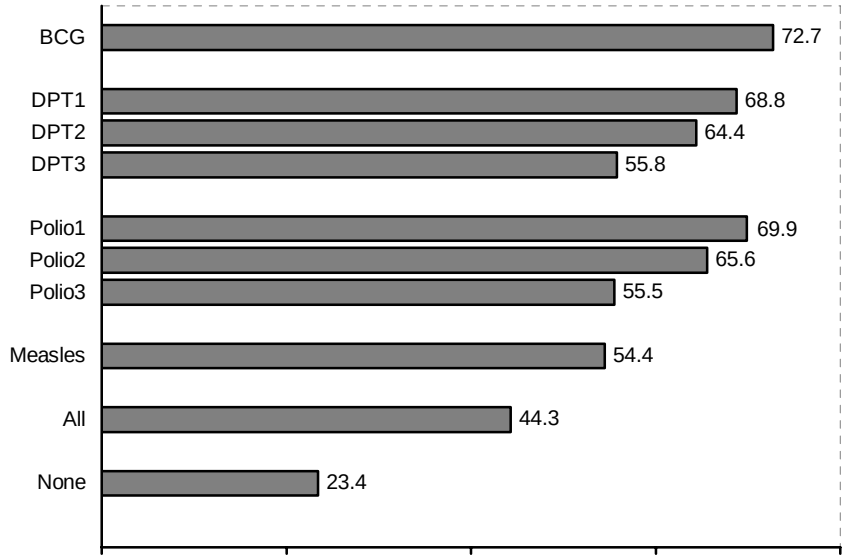
Percentage of children age 12-23 months who received vaccination according to some selected background characteristics, Uttaranchal, 2002-04

Background characteristic	Polio 0	BCG	DPT 1	DPT 2	DPT 3	Polio 1	Polio 2	Polio 3	Measles	Full [1] vaccination	No vaccination	Number of children
Residence												
Rural	14.9	68.2	64.4	59.9	51.6	66.2	61.6	51.4	50.8	41.3	27.2	926
Urban	46.6	86.6	82.6	78.1	68.8	81.4	78.1	68.3	65.5	53.7	11.6	301
Sex of the child												
Male	27.0	76.5	70.9	67.3	60.5	72.3	68.9	58.9	59.4	47.6	20.2	623
Female	18.2	68.8	66.7	61.3	50.9	67.4	62.3	52.0	49.2	41.0	26.7	604
Birth order												
1	33.9	90.2	88.0	83.9	76.2	87.0	80.9	71.7	73.7	62.0	7.7	367
2	26.5	76.1	75.6	73.0	62.7	78.0	76.0	65.9	55.5	47.3	18.3	330
3	16.9	69.5	61.1	57.1	49.9	61.4	59.9	49.3	52.7	39.8	28.7	233
4+	9.0	49.7	43.7	36.3	27.5	46.5	39.7	29.0	30.6	22.7	44.2	297
Mother's education												
Non-literate	9.3	52.6	45.9	40.7	35.3	48.5	44.3	35.9	33.7	25.6	41.8	569
0-9@ years	18.3	85.4	84.2	80.7	70.7	85.6	82.1	70.2	67.7	58.7	11.3	358
10 years and above	53.3	95.6	94.0	89.8	76.8	91.8	86.6	75.3	77.8	62.8	2.8	300
Religion												
Hindu	23.3	77.4	73.8	69.5	60.6	73.9	69.5	60.4	59.0	49.1	19.5	1,012
Muslim	16.9	46.3	41.0	35.5	27.7	47.4	43.2	27.1	27.8	16.1	44.9	199
Caste/tribe#												
Scheduled caste	17.6	60.0	52.4	47.4	41.5	54.8	49.5	37.5	41.0	31.0	35.4	200
Scheduled tribe	(26.9)	(57.7)	(57.7)	(53.8)	(50.0)	(57.7)	(57.7)	(53.8)	(46.2)	(42.3)	(34.6)	46
Other backward class	20.8	63.9	58.6	52.7	42.5	61.6	54.7	42.9	43.2	30.5	29.4	293
Other	25.3	82.3	80.2	76.3	66.9	79.7	76.4	66.7	64.4	55.1	15.9	655
Standard of living index												
Low	7.2	61.8	58.1	53.9	48.0	57.6	53.5	46.6	44.4	38.1	35.4	491
Medium	17.9	75.3	68.8	64.3	54.4	73.0	70.3	56.0	56.7	44.5	19.7	442
High	55.5	86.8	86.9	81.8	70.8	85.8	78.9	69.8	67.5	54.4	9.0	294
Total	22.7	72.7	68.8	64.4	55.8	69.9	65.6	55.5	54.4	44.3	23.4	1,227

Note: Total includes 33 cases on don't know in caste category and 16 cases on other in religion who were not shown separately.
Table includes only last and last but one living child born since 1.1.1999/1.1.2001.
@ Literate mothers with no years of schooling are included. # Total figure may not add to N due to do not and missing cases.
[1] BCG, three injection of DPT, three doses of Polio (excluding Polio 0) and measles. ( ) Based on less than 50 unweighted cases

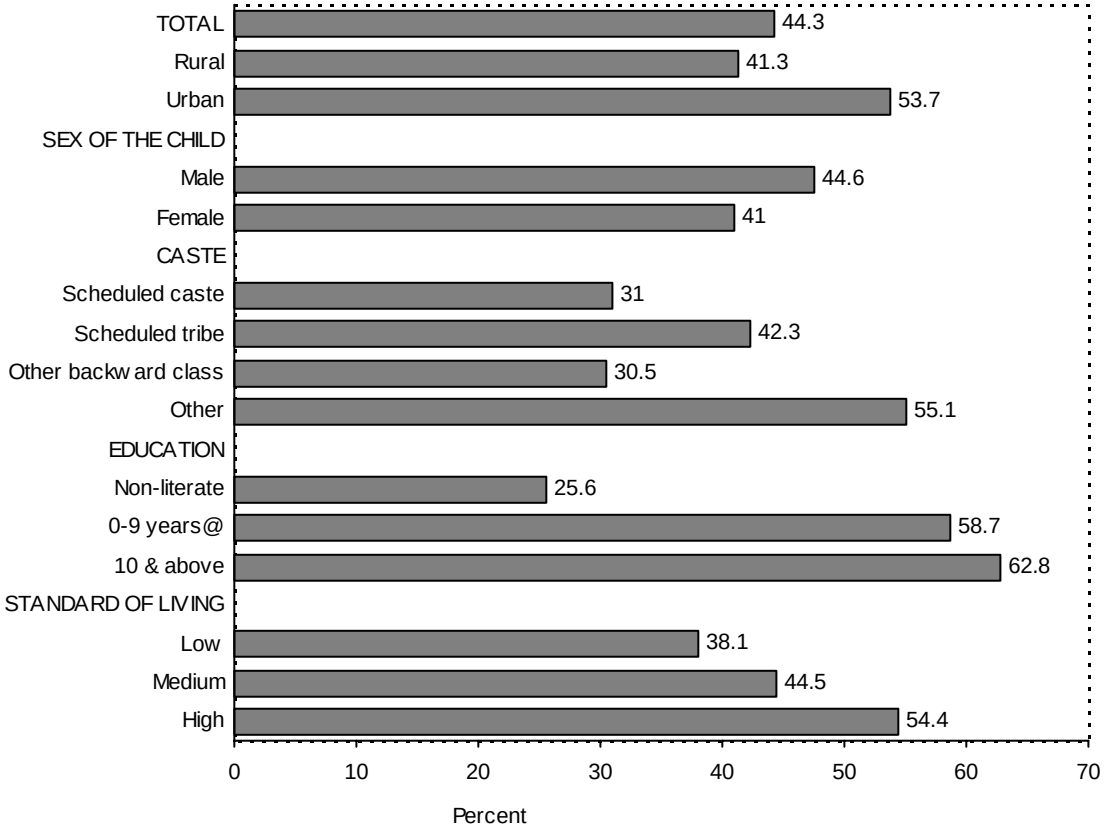
The data indicates that the coverage of each type of vaccine is more in urban areas than in rural areas. Around 53.7 percent of the children in urban areas had received all the recommended vaccinations by the time of the survey, compared with 41.3 percent in rural areas. Differentials in rural-urban against polio 0 may be observed from the Table. About 46.6 percent of the children have received polio vaccine at the time of birth in urban areas whereas only 14.9 percent in the rural areas.

Figure 5.2
Percentage of Chidren Age 12-23 Months who have Received Specific Vaccinations, Uttaranchal



Male children (41 percent) are more likely than female children (47.6 percent) to be fully vaccinated. Male children are also much more likely than female children to have received most of the individual vaccinations. The relationship between vaccination coverage and birth order is consistently negative for almost all vaccinations. A large majority of first-order births occur to younger women who are more likely than older women to utilize child health care services. As with the use of child health care services, there is a positive relationship between mother's education and children's vaccination coverage. Only 25.6 percent children of non-literate mothers are fully vaccinated compared to 58.7 percent of children with mothers' education below high school and 62.8 percent of mothers who have at least completed high school. Hindu children are much more likely than Muslim children to have received each of the recommended vaccinations. Children from Other Backward Classes are more likely to have BCG, DPT-1, DPT-2, DPT-3, Polio-1, Polio-3, Polio-3 and measles vaccinations compared to children from Scheduled Castes. Although children from Other caste are more vaccination coverage compared to all castes. The standard of living index of the household has a strong positive relationship with vaccination coverage. Nearly 54.4 percent of children from households with a high standard of living are fully vaccinated, whereas only 38.1 percent of children are from households with a low standard of living.

Figure 5 .3
Percentage of Children Age 12-23 Months
Who Have Received All Vaccination, Uttaranchal



Uttaranchal, DLHS-RCH, 2002-04

@ Literate mothers with no years of schooling are also included.

Table 5.5 shows the percentage of children in the age group 12-23 months and 24-35 months with a vaccination card, and the percentage who received various vaccinations during the first year of life by current age of children and place of residence. The interviewer was shown this vaccination card.

The proportion of children fully vaccinated by age 12 months increased slightly from 44.3 percent for children in the age group 12-23 months to 49.9 percent for children in the age group 24-35 months. A rural-urban differential for the coverage of full vaccination is also observed. Nearly 41.3 percent of children in the age group 12-23 months are fully vaccinated against 46.8 percent of children in the age group 24-35 months in rural areas, and this gap is much wider in urban areas (Figure 5.4). Around 53.7 percent of children in the age group 12-23 months have received all vaccinations in urban areas compared to 58.4 percent with children in the age group 24-35 months. Younger children aged 12-23 months are more likely to receive each type of vaccine except BCG, Polio-3, DPT-3 and Measles.

Table 5.5 CHILDHOOD VACCINATION RECEIVED BY 12 MONTHS OF AGE

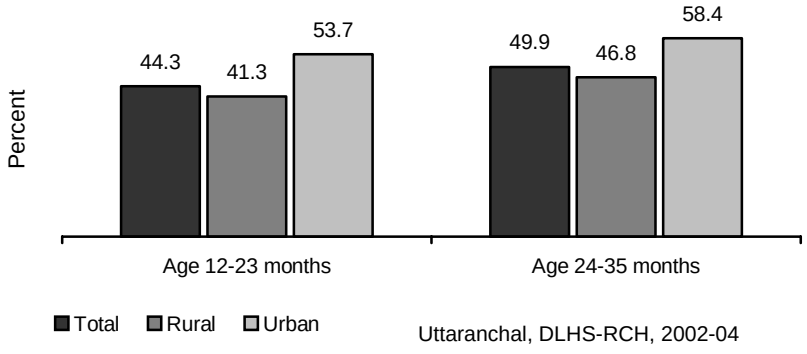
Percentage of children age 12-23 months and 24-35 months with a vaccination card that shown to the interviewer and percentage who received specific vaccinations by 12 months of age according to residence, Uttaranchal, 2002-04

Vaccination status	Total	Rural	Urban

	12-23 months	24-35 months	12-23 months	24-35 months	12-23 months	24-35 months
Vaccination card shown to interviewer	15.5	13.5	14.2	10.3	19.5	22.3
Percentage vaccinated by 12 months of age						
Polio 0	22.7	22.8	14.9	16.2	46.6	40.7
BCG	72.7	73.0	68.2	69.6	86.6	82.4
Polio doses						
No Polio	27.3	27.9	31.5	31.6	14.2	17.8
1	4.3	2.9	4.6	2.9	3.4	2.9
2	10.2	7.7	10.3	8.5	10.0	5.4
3	56.1	59.4	51.8	55.3	69.5	70.5
Don't remember	2.0	2.2	1.6	1.7	3.0	3.5
DPT injection						
No DPT	28.8	28.6	33.6	32.3	13.9	18.6
1	4.5	2.3	4.5	2.8	4.4	1.2
2	8.6	7.6	8.3	7.5	9.4	8.0
3	55.8	59.5	51.6	55.4	68.8	70.6
Don't remember/missing	2.4	1.9	2.0	2.0	3.5	1.6
Measles	54.4	59.3	50.8	55.6	65.5	69.5
Full [1] vaccination	44.3	49.9	41.3	46.8	53.7	58.4
No vaccination at all	23.4	22.6	27.2	25.2	11.6	15.6
Number of children	1,227	1,240	926	906	301	334

Note: Table includes only last and last but one living child born since 1.1.1999/1.1.2001
[1] BCG, three injection of DPT, three doses of Polio (excluding Polio 0) and measles

Figure 5.4
Child vaccination by age



5.3 Source of Immunization

Table 5.6 gives the percent distribution of children under three years of age who have received any vaccination by the source of last vaccine, according to place of residence and availability of health facilities in the village. The hospital is the primary provider of childhood vaccinations in Uttaranchal. Most of the children (72 percent) were immunized at the government health facilities and only 12.7 percent at private health facilities. Further, among the children immunized, 46.1 percent of them had received vaccination from the hospital, 10.4 percent from sub-centre, and 10.1 percent from community health centre or from primary health centre. The percentage of children receiving vaccination from the private sector is considerably lower in rural areas (8.6 percent) than in urban areas (22.9 percent). Even in urban areas, however, 72 percent of children received their vaccination from the government health facility. Children from those villages where health facilities are available are slightly more likely to receive vaccination from the government health facility.

Table 5.6 SOURCE OF CHILDHOOD VACCINATION

Percent distribution of children under age 3 who have received any vaccination by source of last vaccination, according to place of residence and availability of health facilities in the village, Uttaranchal, 2002-04

		Residence		Availability of health facility[1] in the village	
Source of vaccination	Total	Rural	Urban	No	Yes
Government health sector					
Government/municipal hospital	46.1	42.2	56.0	41.9	43.3
Community/primary health centre	10.1	10.0	10.0	10.7	8.0
Sub-centre	10.4	12.1	5.9	9.2	21.1
RCH/MCP camp	5.2	7.1	0.1	7.2	6.7
Private health sector					
Private hospital	4.8	3.3	8.4	2.5	6.0
Private doctor	7.9	5.3	14.5	5.7	4.2
ISM[2] health facility	1.6	1.7	1.4	1.6	2.0
Other	12.8	17.0	2.0	19.9	8.4
Do not remember	1.2	1.1	1.4	1.3	0.3
Missing	0.1	0.1	0.1	0.1	0.1
Total percent	100.0	100.0	100.0	100.0	100.0
Number of children	2,912	2,096	816	1,576	520

Note: Table includes last and last but one living children born in the three years preceding the survey.
[1] Includes sub-centre, primary health centre, Community health centre or referral hospital, government hospital, and government dispensary within the village.
[2] Either government or private health facility of Indian System of Medicine

5.4 Reason for Not Immunizing the Children

Table 5.7 presents the percent distribution of children under the age of three years who did not receive any vaccination by reason as reported by the mother according to place of residence and availability of health facilities in the village. About 30.3 percent of the children did not receive any vaccination because the mothers of children were unaware of the need for immunization, and 14 percent of children were not vaccinated, as the mothers feel that they were too young. The

other reasons for not immunizing the children as reported by the mothers were place or time of vaccination was inconvenient (13.2 percent), ANM absent/ vaccine not available (10.6 percent), place or time of vaccination was not known (10.1 percent), fear of side effects (5.2 percent), no faith in vaccination (4.4 percent) and family problems (5.9 percent). The percentage of children who did not receive any vaccinations is considerably lower in urban areas (29.9 percent) than in rural areas (30.5 percent), as they were unaware of the need for immunization as reported by their mothers. Surprisingly children from those villages where health facilities are available are more likely to report that they were unaware of the need for immunization as compared to those villages where health facilities are not available. Where health facilities were unavailable, place and time inconvenient and child too young were reported more as reasons for not immunizing the children compared to the areas having the health facilities.

Table 5.7 REASON FOR NOT GIVING VACCINATION

Percent distribution of children under age 3 who did not receive any vaccination by reason reported by mother for not giving vaccination, according to place of residence and availability of health facilities in the village, Uttaranchal, 2002-04

Reason	Total	Residence		Availability of health facility[1] in the village	
		Rural	Urban	No	Yes
Unaware of need for immunization	30.3	30.5	29.9	29.9	33.2
Place/time unknown	10.1	9.9	11.2	8.7	15.2
Place/time inconvenient	13.2	14.9	4.6	15.6	12.1
Fear of side effect	5.2	3.5	13.2	3.5	3.8
No faith in Immunization	4.4	3.4	9.3	4.1	0.7
ANM absent/vaccine not available	10.6	11.9	4.2	12.8	8.0
Long waiting time	0.1	0.0	0.4	0.0	0.0
Child too young	14.0	13.7	15.5	14.2	11.7
Family problems[2]	5.9	6.2	4.3	6.1	6.5
Other	2.6	3.0	1.1	2.3	5.9
Total percent	100.0	100.0	100.0	100.0	100.0
Number of children	1,060	879	181	713	166

Note: Table includes last and last but one living children born in the three years preceding the survey.
[1] Includes sub-centre, primary health centre, Community health centre or referral hospital, government hospital, and government dispensary within the village.
[2] Includes mother too busy, family problems, including illness of mother, and illness of child

5.5 Vitamin A and IFA Supplements

Vitamin A deficiency is one of the most common nutritional deficiency disorders in the world, affecting more than 250 million children worldwide (Bolem et. al., 1997). The child survival programme also includes administration of five doses of Vitamin A for prevention of night blindness and distribution of IFA for iron supplement. In Round II, mothers of children born during the three years before the survey were asked whether their children had received a dose of Vitamin A and IFA Tablets/syrup. Those who said that their children had received a dose of Vitamin A and IFA Tablets/syrup were further asked how many doses were given. Table 5.8 shows the percentage of children in the age group 12-35 months who received at least one dose of Vitamin A and IFA Tablets/syrup by selected background characteristics. In the state of Uttaranchal as a whole, only 19.2 percent of the children received at least one dose of Vitamin A,

and only five percent received IFA Tablets/syrup. This indicates that a large number of children in Uttaranchal did not receive Vitamin A supplements and very few children received IFA Tablets/syrup supplementation.

Table 5.8 VITAMIN A AND IFA SUPPLEMENTATION FOR CHILDREN

Percentage of children age 12-35 months who have received at least one dose of Vitamin A and iron folic acid Tablets/syrup, according to selected background characteristics, Uttaranchal, 2002-04

Background characteristic	Percentage who received at least one dose of vitamin A	Percentage who received iron folic acid Tablets/syrup	Number of children
Age of the child			
12-23 months	19.3	4.1	1,227
24-35 months	19.2	5.5	1,240
Sex of the child			
Male	19.9	5.1	1,272
Female	18.5	4.5	1,195
Birth order			
1	26.7	6.0	723
2	19.7	4.8	620
3	19.0	6.0	468
4+	10.7	2.8	652
Residence			
Rural	17.8	3.3	1,832
Urban	23.3	9.2	635
Mother's education			
Non-literate	9.3	2.6	1,163
0-9 years@	19.6	3.9	721
10 years and above	38.4	10.3	581
Religion			
Hindu	21.2	4.9	2,049
Muslim	6.5	2.7	390
Other	(56.7)	(26.1)	27
Caste/tribe #			
Scheduled caste	17.7	2.5	375
Scheduled tribe	25.4	16.3	73
Other backward class	15.2	4.0	647
Other	21.2	5.4	1,300
Standard of living index			
Low	12.9	1.4	1,017
Medium	19.6	5.4	837
High	29.1	9.8	613
Availability of health facility in the village[1]			
Yes	20.3	4.6	402
No	17.1	3.0	1,431
Total	19.2	4.8	2,467

Note: Table includes last and last but one living children born in the three years preceding the survey.
Total includes 74 women with do not know in caste category @ Literate mother with no years of schooling are also included here. # Total figure may not add to N due to do not know and missing cases.
[1] Includes sub-centre, primary health centre, Community health centre or referral hospital, government hospital, and government dispensary within the village. ( ) Based on less than 50 unweighted cases

Children in the age group 12-23 months and 24-35 months are receiving nearly similar percentage of at least one dose of Vitamin A and IFA Tablets/syrup. Male children are more likely to receive Vitamin A and IFA Tablets/syrup than female children. Children living in urban areas, children whose mother completed high school and above, children living in households with a high standard of living, and children living in those villages where health facilities are available are more likely to receive a dose of Vitamin A and IFA Tablets/syrup. Children of birth order 4 or above are much less likely than children of birth order 1, 2 or 3 to receive any dose of vitamin A and IFA Tablets/syrup. Similarly, children from other backward class are less likely to receive at least one dose of Vitamin A and a dose of IFA Tablets/syrup than schedule tribe category.

Table 5.9 CHILDHOOD VACCINATION BY DISTRICT

Percentage of children age 12-23 months with a vaccination card that shown to the interviewer and percentage who received specific vaccinations and Vitamin A supplementation by district, Uttaranchal, 2002-04

	Percentage vaccinated[1]							Percentage received at least one dose of Vitamin A[3]
District	Polio 0	BCG	DPT3	Polio3	Measles	Full[2]	None	
Almora	26.6	83.2	61.3	60.5	66.3	50.6	16.5	18.9
Bageshwar	18.8	88.5	75.8	75.8	72.0	66.2	11.5	36.0
Chamoli	13.2	83.6	67.4	67.4	71.8	62.8	14.4	27.4
Champawat	9.2	75.4	67.0	67.0	66.9	64.2	24.6	32.4
Dehradun	27.9	67.2	45.9	42.7	54.1	31.3	30.3	23.8
Pauri Garhwal	22.7	83.7	78.5	76.2	74.0	71.7	16.3	36.5
Hardwar	29.3	52.7	28.9	34.6	29.5	15.1	32.3	15.3
Nainital	19.4	85.0	77.1	72.5	74.4	64.9	12.7	8.1
Pithoragarh	25.2	79.7	69.7	69.5	65.0	61.7	19.7	19.9
Rudraprayag	18.8	85.1	64.1	62.4	46.6	42.5	11.9	10.1
Tehri Garhwal	22.6	74.7	60.5	60.5	56.8	56.3	25.3	28.6
Udham Singh Nagar	24.0	71.9	60.0	59.1	51.3	49.3	28.1	22.1
Uttarkashi	7.7	67.2	43.6	44.2	39.7	33.8	31.0	4.2
Uttaranchal	22.7	72.7	55.8	55.5	54.4	44.3	23.4	19.2

Note: Table includes only last and last but one living child born since 1.1.1999/1.1.2001
[1] Children age 12-23 months, [2] BCG, three injection of DPT, three doses of Polio (excluding Polio 0) and measles.
[3] Children age 12-35 months.

5.6 Immunization Coverage by District

The coverage of vaccination rates for all vaccines for children in the age group 12-23 months in each district is presented in Table 5.9. There are inter-district differentials in the coverage for different vaccinations, and for children receiving all vaccinations and those that did not receive any vaccination at all. The percentage of children who are fully vaccinated ranges from 15.1 percent in Hardwar to 71.7 percent in Pauri Garhwal. In three districts, namely Hardwar (15.1 percent), Dehradun (31.3 percent) and Uttarkashi (33.8 percent) the coverage of full immunization is below 40 percent (see Map-5) and including these three districts in Rudraprayag (42.5 percent) the coverage rate of full immunization is below the state average of 44.3 percent. About 32.3 percent of children in Hardwar district were not vaccinated at all, and in five districts, the percentage of children not vaccinated is higher than the state average. In nearly all

the districts, fewer children have received the measles vaccine than any of the other vaccinations. The coverage of polio drops at the time of birth varies from the lowest in Uttarkashi (7.7 percent) to the highest in Hardwar (29.3 percent).

District wise variations in the percentage of children who received at least one dose of Vitamin A are also shown in Table 5.9. The percentage of children in the age group 12-35 months who received at least one dose of Vitamin 'A' supplements ranges from 4.2 percent in Uttarkashi to 36.5 percent in Pauri Garhwal. Nainital (8.1 percent), Rudraprayag (10.1 percent), Hardwar (15.3 percent) and Almora (18.9 percent) stand out as having below the state average to receive at least one dose of Vitamin A.

5.7 Child Morbidity and Treatment

This section discusses the awareness, prevalence and treatment of diarrhoea and acute respiratory infection (ARI). Mothers of surviving children born during the three years preceding the survey were asked if their children suffered from cough and cold or diarrhoea during the two weeks preceding the survey, and if so, the type of treatment that had been given. Accuracy of all these measures is affected by the reliability of the mother's recall of when the diseases occurred.

5.7.1 Awareness of Diarrhoea

Diarrhoea is a major killer disease of children under five years of age. Deaths from acute diarrhoea are mostly due to dehydration resulting from loss of water and electrolytes. An attempt was made to collect data on awareness of diarrhoea management and the practice followed during the episode of diarrhoea. This has been presented in Table 5.10.

In Uttaranchal, 66.2 percent of the mothers with births in the three years preceding the survey were aware of what to do when a child had diarrhoea and 19.1 percent were aware that ORS should be given. About 29.1 percent of the women were aware of salt and sugar solution. Some of the women also reported that they would continue normal food (1.8 percent), continue breastfeeding (3.5 percent), and give plenty of fluids (3.1 percent), and about 34.1 percent of women did not know what to give a child who had diarrhoea. As expected, knowledge of ORS is higher among urban women (35.5 percent) than rural women (13.6 percent), and among high school and above educated women (46.1 percent) as compared to non-literate women (5.8 percent). Women belonging to scheduled castes (11.3 percent) are less likely to know about ORS than women belonging to other castes (23.9 percent). About 41.5 percent of women having a high standard of living know about ORS and it declines to 17.6 percent for women with a medium standard of living and 6.1 percent for women with a low standard of living. Knowledge of ORS is more among middle-aged women than among younger women. Women from villages with availability of health facilities are more aware of diarrhoea management than women from villages with no health facilities.

Table 5.10 AWARENESS OF DIARRHOEA

Percentage of women who are aware of diarrhoea management, type of practice followed if child gets diarrhoea, and percentage of women whose child suffered[1] from diarrhoea by selected background characteristics, Uttaranchal, 2002-04

Background characteristic	Knowledge of diarrhoea manage-ment	Type of practices to be followed if child gets diarrhoea*						
		Give ORS	Salt and sugar solution	Continue normal food	Continue breastfe-ding	Give plenty of fluids	Do not know	Number of women
Age								
15-24	65.5	17.9	27.1	1.4	3.8	2.6	34.7	1,395
25-34	68.5	21.2	32.5	2.2	3.8	3.6	31.8	2,105
35-44	53.8	10.0	14.5	0.9	0.9	2.1	47.2	307
Residence								
Rural	61.2	13.6	24.3	1.6	3.7	2.8	39.1	2,854
Urban	81.1	35.5	43.3	2.5	2.9	4.0	19.1	953
Mother's education								
Non-literate	54.7	5.8	15.0	0.9	2.2	1.9	45.5	1,690
0-9@ years	67.3	15.4	28.5	1.7	3.6	2.6	33.0	1,129
10 and above	84.7	46.1	53.9	3.5	5.8	5.7	15.6	984
Religion								
Hindu	65.6	20.2	29.9	1.7	3.9	3.1	34.7	3,209
Muslim	69.4	12.3	23.3	1.6	1.4	2.4	31.1	551
Other	(78.4)	(33.3)	(50.0)	(11.1)	(2.8)	(13.9)	(22.2)	47
Caste/tribe#								
Scheduled caste	53.8	11.3	21.5	0.6	2.6	2.9	46.7	579
Scheduled tribe	57.6	14.2	43.5	7.1	2.5	0.7	42.4	119
Other backward class	70.8	15.4	26.6	1.3	2.6	2.3	29.7	908
Other	68.8	23.9	31.8	2.1	4.4	3.8	31.4	2,101
Standard of living index								
Low	54.0	6.1	15.1	0.8	2.4	2.4	46.1	1,516
Medium	68.0	17.6	29.3	1.7	3.8	2.8	32.3	1,322
High	82.9	41.5	50.5	3.5	4.9	4.6	17.5	968
Availability of health facility[2] in the village								
Yes	61.9	16.1	22.4	2.3	4.9	3.4	38.4	666
No	61.0	12.9	24.9	1.4	3.4	2.7	39.3	2,187
Total	66.2	19.1	29.1	1.8	3.5	3.1	34.1	3,807

Note: Table based on women with living children born since 01.01.1999 for phase - I /01.01.2001 for phase - II. [1] Last two weeks prior to survey.

@ Literate mother with no years of schooling are included. # Total figure may not add to N due to do not know and missing cases.

[2] Includes sub-centre, primary health canter, Community health centre or referral hospital, government hospital, and government dispensary within the village. Total includes 3 women missing information on education, which are not shown separately.

( ) Based on less than 50 unweighted cases.

5.7.2 Treatment of Diarrhoea

About 16.4 percent of the women reported that their children suffered from diarrhoea during the two weeks before the survey (Table 5.11). Women, whose children had diarrhoea, were further asked about treatment with ORS, any other medical treatment and source of treatment. About 21.4 percent of the women mentioned that they gave ORS therapy and 69 percent of the women said that their child had been treated at a health facility. Use of ORS for the treatment of diarrhoea in Uttaranchal is much higher among urban women than among rural women. It was observed that a marginally higher proportion of women from those villages where health facilities are available within the village used ORS for the treatment of diarrhoea.

Table 5.11 TREATMENT OF DIARRHOEA

Percentage of women who sought treatment whose child suffered from diarrhoea and by source of treatment, according to place of residence and availability of health facility in the village, Uttaranchal, 2002-04

Sought treatment/ source of treatment	Total	Residence		Availability of health fcaility[2] in the village	
		Rural	Urban	Yes	No
Percentage of women whose child suffered[1] from diarrhoea	16.4	16.4	16.4	17.4	16.1
Number of women	3,807	2,854	953	666	2,187
Percentage of women whose child suffered[1] from diarrhoea treated with ORS	21.4	15.6	38.8	15.8	15.6
Percentage of women whose child suffered[1] from diarrhoea sought treatment	69.0	68.8	69.7	83.4	64.0
Number of women	625	469	156	116	353
Source of treatment					
Government health facility					
Hospital/dispensary	12.2	11.6	13.8	49.2	53.6
UHC/UHP/UFWC	0.1	0.1	0.0	0.8	3.7
CHC/ Rural hospital	1.6	2.1	0.0	3.7	0.0
Primary health centre	3.4	2.9	4.7	34.2	1.4
Sub centre	2.9	3.9	0.0	3.0	10.2
Private health facility					
NGO/Trust hospital/clinic	0.1	0.1	0.0	0.6	0.0
Private hospital clinic	64.5	61.0	75.1	7.7	14.8
ISM[3] facility	13.6	13.4	14.2	30.5	23.6
Home remedy	8.5	11.2	0.6	1.3	.0
Other	3.4	3.7	2.2	4.4	3.4
Percent distribution of women who seek treatment by					
Doctor	87.3	84.4	96.1	85.3	84.0
ANM/Nurse/LHV	4.2	5.5	0.3	5.1	5.7
Relative/friends	3.7	4.9	0.0	4.1	5.2
Dai (trained or untrained)	0.3	0.0	1.0	0.0	0.0
Chemist/medical shop	4.3	5.2	1.5	5.5	5.1
ISM practitioner	0.3	0.0	1.1	0.0	0.0
Total percent	100.0	100.0	100.0	100.0	100.0
Number of women	431	323	109	97	226

Note: Table based on women with living children born since 01.01.1999 for phase - I /01.01.2001 for phase - II.

[1] Last two weeks prior to survey. [2] Includes sub-centre, primary health centre, Community health centre or referral hospital, government hospital, and government dispensary within the village. [3] Either government or private health facility of Indian System of Medicine.

Among those mothers whose children suffered from diarrhoea during the two weeks before the survey and who consulted or sought treatment, about 64.5 percent of women visited private hospitals/clinics and 13.6 percent of women treated their children through an Indian System of Medicine (ISM) facility.

5.7.3 Awareness of Pneumonia

Another major killer disease among infants and children is Acute Respiratory Infections (ARI) including pneumonia. Early diagnosis and treatment with antibiotics can prevent a large proportion of ARI/pneumonia deaths. An attempt was made to understand the awareness level of pneumonia, and the proportion of children who had suffered from pneumonia during the two weeks before the survey and their treatment seeking behaviour. This is presented in Table 5.12. It was found that about 60.4 percent of the women in Uttaranchal with births in the three years preceding the survey were aware of the danger signs of pneumonia. A relatively higher proportion of women in urban areas (75.6 percent) were aware of the danger signs of pneumonia as compared to women from rural areas (55.4 percent). Knowledge of the danger signs of pneumonia is higher among women aged 25-34 years (61.7 percent), Muslim women (81.3 percent), other backward class women (68.1 percent), highly educated women (66 percent), women living in high standard of living households (72 percent) and women living in those villages with health facilities (55.6 percent).

Women who were aware of the danger signs of pneumonia were further asked about the different types of signs of pneumonia. Most of the women mentioned ‘chest in drawing’ (91.6 percent), ‘difficulty in breathing’ (55.8 percent), ‘wheezing / whistling’ (33.1 percent), ‘pain in chest and productive cough’ (30.1 percent), ‘condition get worse than before’ (20.5 percent), ‘not able to drink or take a feed’ (18.5 percent), ‘rapid breathing’ (18.4 percent), and ‘excessive drowsy and difficulty in keeping awake’ (13.3 percent).

5.7.4 Treatment of Pneumonia

About 13.1 percent of the women reported that their child had suffered from pneumonia during the two weeks before the survey; the corresponding figures were 13.6 percent in rural areas and 11.6 percent in urban areas (Table 5.13). The incidence of pneumonia varies little with availability of health facilities in the villages.

Table 5.13 also shows the percentage of women whose children suffered from ARI symptoms in the two weeks before the survey and who sought advice/treatment at a health facility or provider. About 78.8 percent of women whose children were ill with ARI sought some advice or treatment. This percentage is relatively lower in rural areas (78.3 percent) than in urban areas (80.4 percent) and in villages without health facilities (77.3 percent) than in villages with health facilities (81.1 percent).

Among them who got advice for children ill with ARI, 71.5 percent of women visited private hospital/clinic, and only 10.5 percent went to government hospital/dispensary, whereas 9.6 percent of them opted for home remedy.

Table 5.12 AWARENESS OF PNEUMONIA

Percentage of women who are aware of danger signs of pneumonia by signs by selected background characteristics and availability of health facility in the village, Uttaranchal, 2002-04

Background characteristic	Percentage of women aware of danger signs of pneumonia	Number of women	Danger signs of ARI								Number of women
			Difficulty in breathing	Chest in-drawing	Not able to drink or take a feeding	Excessive drowsy and difficulty in keeping awake	Pain in chest and productive cough	Conditions get worse than before	Wheezing/ whistling	Rapid breathing	
Age											
15- 24	58.4	1,395	56.1	91.1	21.1	13.5	29.0	22.2	33.1	15.7	814
25-34	61.7	2,105	55.5	91.4	16.6	13.2	29.5	19.7	33.8	20.4	1,299
35-44	61.1	307	56.7	94.5	20.4	12.4	39.2	18.9	27.6	16.1	188
Residence											
Rural	55.4	2,854	51.2	89.4	13.2	9.8	28.1	20.9	33.7	20.6	1,581
Urban	75.6	953	65.9	96.5	30.2	20.8	34.6	19.7	31.8	13.6	720
Mother's education											
Non-literate	57.1	1,690	49.4	92.8	16.8	13.8	31.4	17.0	31.6	16.6	966
0-9@ years	60.4	1,129	55.0	88.5	16.6	10.9	25.0	21.2	33.1	20.9	682
10 and above	66.0	984	66.0	93.1	23.2	15.0	33.7	25.2	35.4	18.4	650
Religion											
Hindu	56.8	3,209	55.7	90.7	17.8	12.3	27.4	21.3	33.1	19.2	1,823
Muslim	81.3	551	57.8	95.4	21.2	17.5	42.3	17.4	32.7	14.7	448
Other	(64.9)	47	(45.8)	(87.5)	(20.8)	(8.3)	(20.8)	(29.2)	(45.8)	(16.7)	30
Caste/tribe#											
Scheduled caste	49.6	579	49.1	87.6	10.2	6.3	27.4	19.9	31.3	18.9	287
Scheduled tribe	56.9	119	61.6	88.9	20.3	9.8	31.3	11.3	31.0	13.4	68
Other backward class	68.1	908	57.3	93.6	24.0	16.6	38.4	16.3	33.2	14.4	618
Other	60.9	2,101	57.0	91.7	17.8	13.6	26.4	23.7	33.6	20.7	1,279
Standard of living index											
Low	51.0	1,516	45.6	88.6	11.3	8.5	24.4	18.1	31.7	21.8	773
Medium	62.9	1,322	56.1	91.7	16.9	13.5	28.8	22.1	33.8	17.9	831
High	72.0	968	66.8	94.8	28.5	18.2	38.0	21.4	33.7	15.1	697
Availability of health facility [2] in the village											
Yes	55.6	666	52.1	87.6	10.6	7.6	31.2	18.4	28.8	16.0	370
No	55.3	2,187	50.9	89.9	14.0	10.5	27.1	21.7	35.1	22.0	1,210
Total	60.4	3,807	55.8	91.6	18.5	13.3	30.1	20.5	33.1	18.4	2,301

Note: Table based on women with living children born since 01.01.1999 for phase - I /01.01.2001 for phase - II. [1] Last two weeks prior to survey.

@ Literate mother with no years of schooling are included. # Total figure may not add to N due to do not know and missing cases.

[2] Includes sub-centre, primary health centre, Community health centre or referral hospital, government hospital, and government dispensary within the village.

Total includes 3 women with missing information on education who are not shown separately. ( ) Based on less than 50 unweighted cases

Table 5.13 TREATMENT OF PNEUMONIA

Percentage of women who sought treatment whose child suffered[1] from cough and cold and source of treatment, according to place of residence and availability of health facility in the village, Uttaranchal, 2002-04

Sought treatment/ source of treatment	Total	Residence		Availability of health fcaility[2] in the village	
		Rural	Urban	Yes	No
Percentage of women whose child suffered from cough, cold and difficulty in breathing	13.1	13.6	11.6	15.5	13.0
Number of women	3,807	2,854	953	666	2,187
Percentage of women sought treatment whose child suffered from cough and cold	78.8	78.3	80.4	81.1	77.3
Number of women	498	388	110	103	285
Source of treatment					
Government health facility					
Hospital/dispensary	10.5	8.5	17.2	9.0	8.3
CHC/ Rural hospital	0.9	1.1	0.0	0.0	1.6
Primary health centre	4.0	4.9	0.7	6.3	4.4
Sub centre	0.9	0.6	2.0	0.0	0.8
Private health facility					
NGO/Trust hospital/clinic	0.4	0.6	0.0	1.6	0.1
Private hospital clinic	71.5	71.9	70.2	72.1	71.8
ISM[3] facility	3.5	4.2	1.3	5.5	3.6
Home remedy	9.6	8.3	14.0	5.5	9.4
Other	1.3	1.7	0.0	0.0	2.4
Percent distribution of women who seek treatment by					
Doctor	88.4	88.6	87.9	89.9	88.1
ANM/Nurse/LHV	2.9	2.0	6.2	7.1	0.0
Relative/friends	3.5	4.2	1.3	1.5	5.3
Chemist/medical shop	3.3	3.3	3.4	1.5	4.1
ISM practitioner	0.5	0.3	1.3	0.0	0.4
Other	1.3	1.6	0.0	0.0	2.3
Total percent	100.0	100.0	100.0	100.0	100.0
Number of women	392	304	89	84	220

Note: Table based on women with living children born since 01.01.1999 for phase - I /01.01.2001 for phase - II.
[1] Last two weeks prior to survey. [2] Includes sub-centre, primary health centre, Community health centre or referral hospital, government hospital, and government dispensary within the village.
[3] Either government or private health facility of Indian System of Medicine

5.7.5 Awareness of Diarrhoea, ORS and Pneumonia and Incidence of Diarrhoea and Pneumonia by District

Table 5.14 presents the knowledge of diarrhoea management, knowledge of ORS and incidence of diarrhoea by district. Although knowledge of diarrhoea management is high in almost all districts but knowledge about ORS is low. Knowledge of ORS is also not common, and it is lowest in Uttarkashi (7.8 percent). Women in Rudraprayag, Dehradun, Almora, Nainital,

Hardwar, Udham Singh Nagar, Pithoragarh and Champawat also have relatively low levels of knowledge of ORS. The incidence of diarrhoea is 16 percent in the state as a whole and it varies from 7.7 percent in Rudraprayag to 31.9 percent in Champawat. Table 5.14 also shows differentials in the awareness of danger signs of pneumonia and incidence of pneumonia. In comparison to awareness about diarrhoea management, the awareness of danger signs of pneumonia is a bit lower. It is the lowest in Rudraprayag (35.3 percent) and highest in Udham Singh Nagar (89.9 percent). The incidence of ARI symptoms (11 percent) is comparatively lower than the incidence of diarrhoea (16 percent) in Uttaranchal. It is highest in Dehradun (26.2 percent) and Hardwar (21.7 percent) and lowest in Pauri Garhwal (2.3 percent), Tehri Garhwal (3 percent), Chamoli (3.6 percent) and Champawat (4.2 percent).

Table 5.14 KNOWLEDGE OF DIARRHOEA MANAGEMENT AND PNEUMONIA BY DISTRICT

Percentage of women by awareness of diarrhoea management, ORS, danger signs of pneumonia and whose child had suffered from diarrhoea and pneumonia during last two weeks prior to survey by district, Uttaranchal, 2002-04

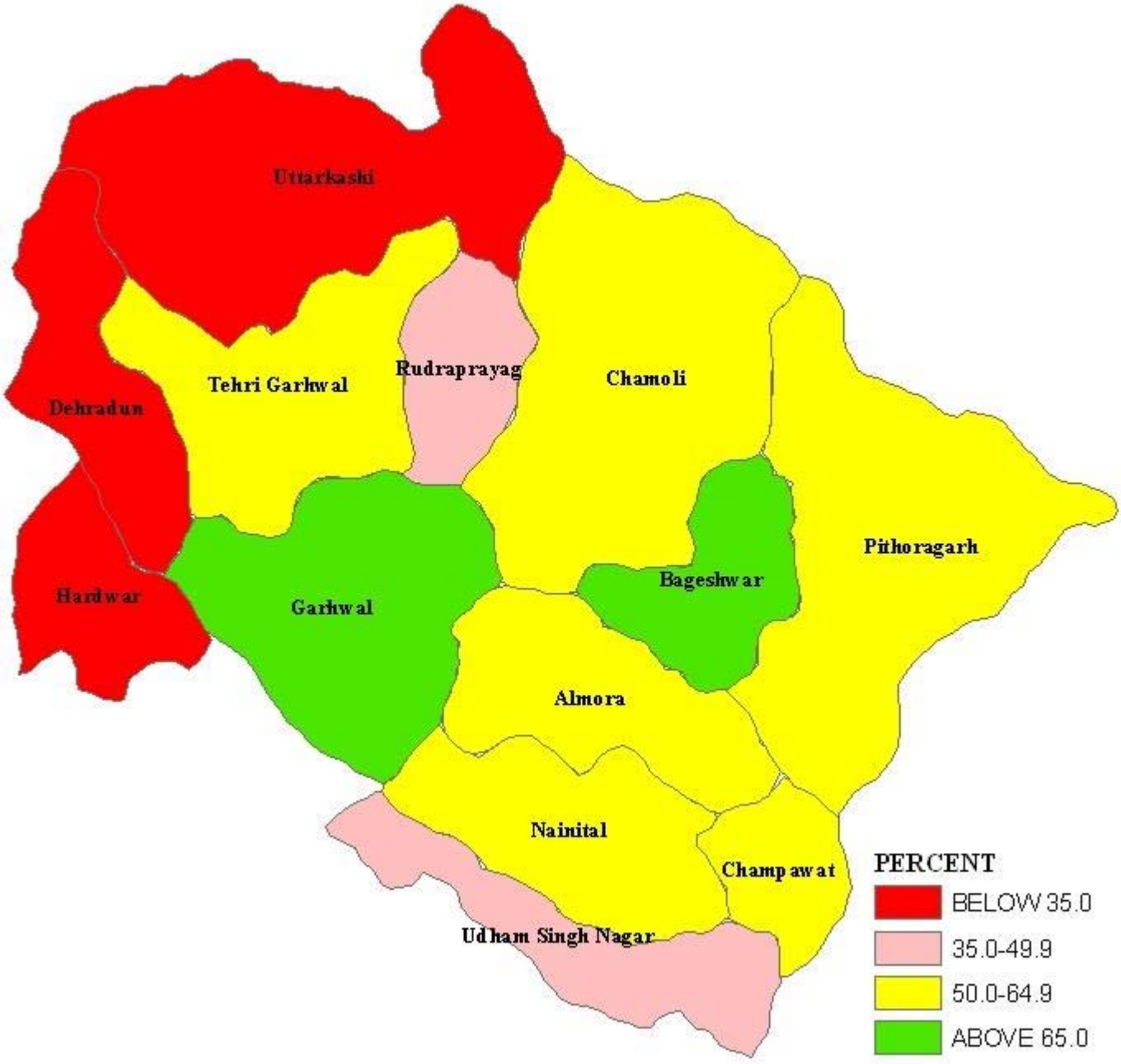
District	Percentage of women aware of		Percentage of women whose child suffered[1] from diarrhoea	Percentage of women aware of danger signs of pneumonia	Percentage of women whose child suffered[1] from pneumonia
	Diarrhoea Management	ORS			
Almora	68.9	16.4	18.2	41.8	10.9
Bageshwar	75.1	31.9	14.6	76.7	6.4
Chamoli	71.9	25.6	11.6	71.6	3.6
Champawat	63.7	20.5	31.9	68.1	4.2
Dehradun	53.5	15.6	14.0	40.3	26.2
Pauri Garhwal	75.1	25.8	15.1	63.3	2.3
Hardwar	54.4	19.1	18.6	60.4	21.7
Nainital	78.4	18.1	17.1	59.5	14.5
Pithoragarh	66.8	23.3	10.4	43.4	10.2
Rudraprayag	42.1	9.7	7.7	35.3	8.4
Tehri Garhwal	70.7	32.8	15.1	75.3	3.0
Udham Singh Nagar	76.0	20.4	20.3	89.9	11.0
Uttarkashi	65.4	7.8	9.8	43.8	12.3
Uttaranchal	65.9	20.0	16.0	58.7	11.0

Note: Table based on women with last and last but one living children born since 01.01.1999 /01.01.2001. [1] Last two weeks prior to survey.

Under the RCH programme, the government health facilities are strengthened to provide treatment of ARI. However, the percentage of women who visited a government health facility for treatment of their children sick with ARI symptoms was quite low.

Map-5

Percentage of Children (age 12-23 months) Who Have Received Full Vaccination.



CHAPTER VI

FAMILY PLANNING

The Reproductive and Child Health Programme has been implemented with a new philosophy and direction to meet the health care needs of women and children. It envisages the provision of couples to control their fertility and have sexual relations free from the fear of pregnancy. Provision of free contraceptive services to all the needy couples is one of the components of the RCH programme. In DLHS-RCH a separate section on family planning was canvassed to all the eligible women to assess the knowledge and practice of various family planning methods. The information on source of currently adopted contraceptive method, source of supply of the method and health problems related to contraceptive use were collected from current users. The current non-users were asked about the past status of contraceptive use, reason for not using contraceptives currently and future intention to adopt a family planning method.

An attempt was made to understand why male methods of family planning especially that of vasectomy was not in common use. The husbands of sampled eligible women were asked about the contraceptive method they would recommend to a couple who was not desirous of any additional children. They were also asked about the reasons for not preferring male methods and their knowledge about the no-scalpel vasectomy. This chapter presents the results of data on contraceptive practices collected from both the sampled women and their husbands.

6.1 Knowledge of Family Planning Methods

Lack of knowledge of various contraceptive choices can be a major barrier to promotion and use of contraceptives among couples. In DLHS-RCH information on knowledge of contraceptives was obtained by asking a question, “Which are the family planning methods you know?” to each sampled eligible women. The knowledge of no-scalpel vasectomy was also asked to the husbands of eligible women. If the respondent did not recognise the name of the family planning method, he was given a brief description on how the particular method was to be used. The DLHS-RCH assesses the knowledge of female sterilisation, male sterilisation including NSV, IUD, Pills, condom and traditional methods along similar lines.

The extent of knowledge of contraceptive methods among currently married women for specific methods and selected background characteristics are shown in Table 6.1 and Figure 6.1. Knowledge of any method including any modern contraceptive method is almost universal in the state of Uttaranchal. The knowledge of any method and any modern method do not vary at all by residence. The knowledge of modern spacing method among currently married women is around 89.2 percent and it is higher among women with an urban residence. There are large differentials in knowledge of all modern methods with respect to the aforesaid background characteristics. For instance, 52.5 percent of women from rural areas are aware about all modern methods compared to 66.1 percent of their urban counterparts.

Table 6.1 KNOWLEDGE OF CONTRACEPTIVE METHODS

Percentage of currently married women age 15-44 years who know any contraceptive method by specific method and selected background characteristics, Uttaranchal, 2002-04

Contraceptive methods	Total	Residence		Availability of health facility in the village[3]	
		Rural	Urban	No	Yes
Any method	97.7	97.7	97.7	97.7	97.6
Any modern method	97.6	97.6	97.6	97.7	97.4
Any modern spacing method[1]	89.2	87.4	94.1	86.8	89.2
All modern methods[2]	56.3	52.5	66.1	51.6	55.5
Female sterilization	94.8	95.3	93.4	95.4	95.2
Tubectomy	72.6	72.0	74.1	72.4	71.0
Laparoscopy	19.3	17.5	24.1	17.7	17.1
Male sterilization	78.2	77.5	80.3	77.2	78.3
Vasectomy	30.8	31.3	29.3	31.5	30.6
No-scalpel vasectomy	21.0	17.5	30.2	15.8	22.9
IUD/Loop	71.9	67.2	84.6	65.7	72.0
Pills	84.4	82.6	89.5	81.8	85.0
Daily	52.8	51.6	56.1	51.1	53.3
Weekly	34.7	30.9	44.7	30.0	33.8
Condom/Nirodh	75.7	73.1	82.8	72.2	76.0
Sponge (today)	6.0	4.3	10.5	3.7	6.1
InjecTables	18.3	15.1	26.6	14.1	18.6
Norplant	1.8	1.3	3.2	1.2	1.6
Contraceptive herbs	12.3	12.5	11.8	12.2	13.6
Any traditional method	36.4	37.2	34.4	36.2	40.4
Any other Indian system of medicinal contraceptives	0.8	0.8	1.0	0.7	1.0
Number of women	9,641	7,003	2,638	5,344	1,659

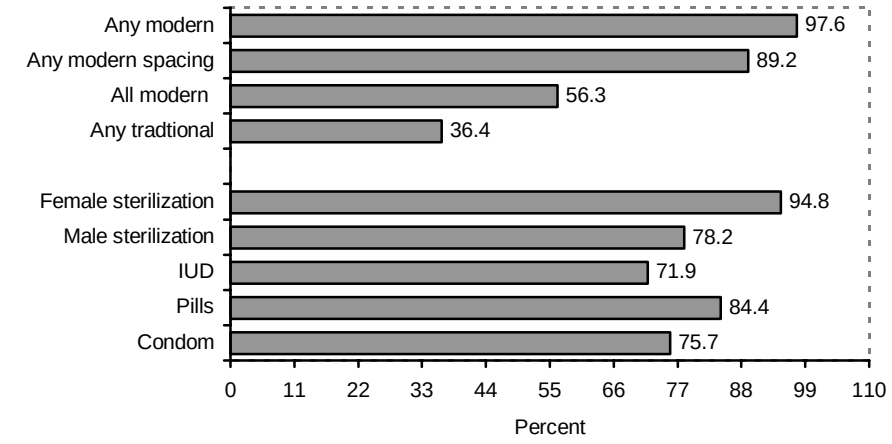
Note: [1] Include IUD, Pills and condom. [2] Include Female sterilization, Male sterilization, IUD, Pills and condom
[3] Includes sub-centre, primary health centre, community health centre or referral hospital, government hospital, and government dispensary within the village.

Female sterilisation is the most widely known method of all contraceptive methods in Uttaranchal followed by Pills. Overall, 94.8 percent of currently married women are aware of female sterilization and 78.2 percent knew about male sterilization. There is a very small rural - urban difference in the knowledge of female sterilization and male sterilization. About 80.3 percent of urban women know about male sterilization as compared to 77.5 percent of rural women. There are differentials in spacing methods such as IUD/Loop, Pill and condom users with respect to the background characteristics. The best-known spacing methods are Pills (84.4 percent) and condoms (75.7 percent) respectively. About 71.9 percent of women know about the IUD/Loop. There is a large differential in knowledge of IUD/Loop by residence, as only 67.2 percent of the rural women know about them compared to 84.6 percent of urban women. The modern spacing methods, Pill and condom are known by 82.6 and 73.1 percent of rural women respectively while the corresponding figures in urban areas are 89.5 and 82.8 percent respectively of eligible women respondents. The knowledge of these spacing methods remains low as compared to knowledge of sterilization.

In Uttaranchal, about 36.4 percent of the women are aware of a traditional method and only 0.8 percent are aware of other contraceptives of the Indian System of Medicine. It is also

observed that women from villages with a health facility are slightly more aware about modern spacing methods.

Figure 6.1
Knowledge of Family Planning Method



Uttaranchal, DLHS-RCH, 2002-04

Table 6.2 KNOWLEDGE OF CONTRACEPTIVE METHODS BY DISTRICTS

Percentage of currently married women age 15-44 years who know any contraceptive method by specific method and district, Uttaranchal, 2002-04

Districts	Any method	Any modern[1] method	Any modern spacing[2] method	All modern[3] methods	Male steriliz-ation	Female steriliz-ation	IUD	Pill	Condom /Nirodh	Any traditio-nal method
Almora	99.9	99.9	93.8	58.7	89.5	99.5	75.8	89.4	78.2	45.3
Bageshwar	100.0	100.0	97.2	79.4	92.4	100.0	84.9	96.0	93.7	56.9
Chamoli	100.0	100.0	95.3	75.1	94.0	100.0	80.0	93.5	90.7	52.8
Champawat	100.0	100.0	96.0	63.3	84.8	99.9	72.8	91.6	90.4	72.0
Dehradun	89.9	89.6	74.5	28.1	50.3	76.4	51.2	64.3	54.2	9.3
Hardwar	92.5	92.3	76.3	28.8	48.1	84.9	46.0	70.2	48.6	14.4
Nainital	100.0	100.0	96.5	60.7	73.3	100.0	89.9	93.9	83.4	15.6
Pithoragarh	100.0	100.0	85.5	53.5	85.6	100.0	71.4	79.5	75.1	42.5
Pauri Garhwal	100.0	100.0	98.2	80.9	96.9	100.0	86.0	96.3	93.2	58.0
Rudraprayag	99.6	99.6	80.7	37.1	90.9	99.6	52.7	68.7	64.2	22.8
Tehri Garhwal	99.9	99.9	95.8	79.6	96.7	99.9	84.9	93.8	91.0	41.7
Udham Singh Nagar	99.8	99.8	97.9	83.5	93.9	99.8	93.4	97.2	91.7	69.4
Uttarkashi	100.0	100.0	81.2	28.3	82.8	100.0	45.5	72.5	64.7	30.7
Uttaranchal	97.7	97.6	89.2	56.3	78.2	94.8	71.9	84.4	75.7	36.4

Note: [1] Includes Female sterilization, Male sterilization, IUD, Pills and Condom. [2] Includes IUD, Pills and Condom. [3] Includes Female sterilization & Male sterilization & IUD & Pills and Condom.

6.1.1 Knowledge of Family Planning Methods by Districts

Table 6.2 shows the knowledge of contraceptive methods by districts in Uttaranchal. In all districts at least 90 percent of the women know about contraceptives including modern methods. A large differential is noticed in the knowledge of all modern methods by districts. The awareness ranges from 28.1 percent women in Dehradun to 83.5 percent in Udham Singh Nagar district. There is not much variation in the knowledge of female sterilization, except for Dehradun (76.4 percent) and Hardwar (84.9 percent) whereas in the remaining districts it is above 99 percent. Knowledge about IUD/Loop varies between 45.5 percent in Uttarkashi to 93.4 percent in Udham Singh Nagar. Knowledge about Pills varies between 64.3 percent in Dehradun to 97.2 percent in Udham Singh Nagar and that of condom varies between 48.6 percent in Hardwar to 93.7 percent in Bageshwar. As for any traditional method, awareness is lowest (9.3 percent) in Dehradun and the highest in Champawat district (72 percent).

6.1.2 Knowledge of No-Scalpel Vasectomy (NSV)

Knowledge of no-scalpel vasectomy among the husbands of currently married women in the state of Uttaranchal is shown in Table 6.3. More than half (52.4 percent) of the husbands know about No-scalpel vasectomy. In rural areas, 48.2 percent of husbands know about NSV compared to 63.3 percent in urban areas. For women residing in villages with a health facility, 54 percent of their husbands are aware of No-scalpel vasectomy compared to 46.4 percent for those living in villages without health facilities. Among the husbands who know about NSV, 72.3 percent reported that NSV is simpler than a conventional family planning method; about 49.4 percent feel that NSV does not lead to any complication and 43.8 percent reported that NSV does not affect a man's sexual performance. About 49.4 percent of the husbands in villages with a health facility reported that NSV does not affect sexual performance compared to 42.4 percent of husbands in villages without a health facility.

Table 6.3 NO-SCALPEL VASECTOMY (NSV)

Husbands knowledge of NSV by residence and availability of health facility in the village, Uttaranchal, 2002-04

Knowledge of NSV	Total	Residence		Availability of health facility in the village[1]	
		Rural	Urban	No	Yes
Percentage of husband who had knowledge about NSV	52.4	48.2	63.3	46.4	54.0
Number of husbands	5,417	3,928	1,489	2,997	931
Who know that NSV is simpler than conventional vasectomy	72.3	72.3	72.2	70.4	77.6
Who feel that NSV does not lead to any complication	49.4	51.7	44.6	49.4	58.1
Who feel that NSV does not affect man's sexual performance	43.8	44.3	42.9	42.4	49.4
Number of husbands	2,837	1,894	943	1,391	503

Note: [1] Includes sub-centre, primary health centre, community health centre or referral hospital, government hospital, and government dispensary within the village.

6.1.3 Knowledge of No-Scalpel Vasectomy (NSV) by Districts

No-scalpel vasectomy awareness by districts in Uttaranchal is provided in Table 6.4. The districts in which at least 50 percent of the husbands know about NSV are Bageshwar (65.8 percent), Tehri Garhwal (64.1 percent), Nainital (62.7 percent), Pauri Garhwal (62.3 percent), Chamoli (61.9 percent), Almora (59.3 percent), Rudraprayag (58.5 percent) and Champawat (52.8 percent). Only 40.4 percent of the husbands in Hardwar district know about the no-scalpel vasectomy. That NSV does not lead to any complications was reported by 63.8 percent of the husbands in Rudraprayag district, followed by 60.8 percent in Uttarkashi and 56.3 percent in Chamoli, and only by 41.6 percent in Dehradun. The husbands who reported that the NSV does not affect a man's sexual performance were highest (53.5 percent) in Rudraprayag district and the lowest in Nainital (33.7 percent).

Table 6.4 NO-SCALPEL VASECTOMY BY DISTRICT

Husband's knowledge of NSV by district, Uttaranchal, 2002-04

Districts	Knowledge about NSV	NSV is simpler than conventional method	Who reported NSV does not lead to any complication	Who reported NSV does not affect man's sexual performance
Almora	59.3	78.3	54.1	47.0
Bageshwar	65.8	71.3	51.0	43.2
Chamoli	61.9	72.2	56.3	47.1
Champawat	52.8	70.2	42.7	40.4
Dehradun	46.2	69.7	41.6	50.1
Hardwar	40.4	77.5	53.4	47.3
Nainital	62.7	67.0	46.2	33.7
Pithoragarh	49.9	72.1	49.5	45.3
Pauri Garhwal	62.3	75.7	55.1	43.5
Rudraprayag	58.5	81.8	63.8	53.5
Tehri Garhwal	64.1	71.7	55.3	48.0
Udham Singh Nagar	49.8	64.2	42.9	37.2
Uttarkashi	41.2	79.1	60.8	47.9
Uttaranchal	52.4	72.3	49.4	43.8

6.2 Current use of Family Planning Methods

Table 6.5 and Figure 6.2 provide information on the current use of family planning methods for currently married women in Uttaranchal. At the time of DLHS-RCH, 48.7 percent of currently married women were using some method of contraception, almost 20 percentage points up from Round I. Current contraceptive use is slightly higher in urban areas (56.4 percent) than in rural areas (45.8 percent). Use of modern method is reported by 44.2 percent of the women, the breakdown of which is 26.8 percent for permanent methods and 17.2 percent for spacing methods. Among the users of sterilization methods, most prefer female sterilization (25.1 percent), which invalidates the use of male sterilization (1.7 percent).

Table 6.5 CONTRACEPTIVE PREVALENCE RATE

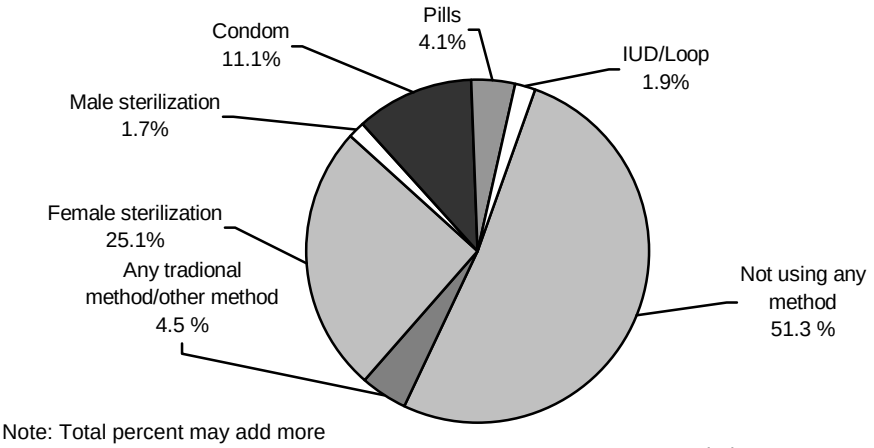
Percentage of currently married women age 15-44 years currently using any contraceptive method by selected background characteristics, Uttaranchal, 2002-04

Method	Any method	Any modern[1] method	Any modern spacing method[2]	Any steriliza-tion	Male steriliza-tion	Female steriliza-tion	IUD/ Loop	Pill	Condom / Nirodh	Any traditio-nal method[3]	Rhythm/ periodic abstinence	Withdr-awal	Number of women
Residence													
Rural	45.8	41.7	12.3	29.3	2.1	27.2	1.3	3.6	7.4	4.0	2.9	0.8	7,003
Urban	56.4	50.7	30.1	20.2	0.8	19.4	3.6	5.4	21.1	5.2	3.4	0.9	2,638
Education													
Non-literate	45.0	40.6	9.5	31.0	1.8	29.1	1.1	2.7	5.7	4.4	3.4	0.6	4,229
0-9@ years	49.6	45.8	14.5	31.1	2.4	28.7	1.7	4.4	8.4	3.5	2.4	0.7	2,955
10 years & above	53.8	48.4	33.6	14.5	0.8	13.7	3.7	6.1	23.8	5.2	3.1	1.4	2,453
Religion													
Hindu	50.5	46.0	16.0	29.9	2.0	27.9	1.9	4.0	10.1	4.3	3.0	0.8	8,371
Muslim	31.7	27.8	23.8	3.3	0.1	3.2	2.0	4.0	17.7	4.0	2.8	0.9	1,069
Sikh	61.7	53.1	31.1	22.0	0.0	22.0	3.4	9.5	18.3	8.5	7.0	1.5	160
Other	(74.4)	(67.4)	(30.2)	(37.2)	(2.3)	(34.9)	(0.0)	(7.0)	(23.3)	(7.0)	(23.3)	(4.7)	42
Caste/tribe#													
Scheduled caste	43.3	39.4	10.1	29.3	1.9	27.4	1.5	2.6	6.1	3.8	2.4	0.4	1,267
Scheduled tribe	48.8	44.5	15.3	29.2	0.8	28.4	0.9	4.0	10.4	4.3	2.6	0.0	301
Other backward class	44.7	38.6	19.3	18.9	0.6	18.3	2.3	3.8	13.2	5.7	4.4	0.6	2,097
Other	51.5	47.3	17.9	29.4	2.2	27.2	2.0	4.6	11.3	4.0	2.7	1.1	5,719
Standard of living index													
Low	41.1	37.1	6.1	30.9	1.7	29.2	0.8	1.9	3.5	4.0	3.1	0.5	3,485
Medium	45.0	40.7	14.7	25.8	2.0	23.8	1.2	4.7	8.8	4.1	2.8	0.8	3,153
High	61.3	56.1	32.6	23.2	1.5	21.7	4.0	6.1	22.5	5.0	3.1	1.2	3,003
Availability of health facility in the village[4]													
No	44.2	40.3	11.5	28.7	1.9	26.8	1.3	3.5	6.7	3.9	2.9	0.7	5,344
Yes	50.6	46.2	15.1	31.1	2.7	28.4	1.5	4.0	9.6	4.4	2.8	1.2	1,659
Total	48.7	44.2	17.2	26.8	1.7	25.1	1.9	4.1	11.1	4.3	3.0	0.8	9,641

[1] Include Female sterilization, Male sterilization, IUD, Pills and Condom. [2] Include IUD, Pills and Condom. [3] Include Rhythm/Periodic abstinence, Withdrawal and Other traditional method. @ Literate women with no years of schooling are also included. #Total figure may not add to N due to don't know and missing cases. [4] Includes sub-centre, primary health centre, community health centre or referral hospital, government hospital, and government dispensary within the village. ( ) Based on less than 50 unweighted cases

The use of traditional methods is reported by only 4.3 percent of the women of which 1 percent is using withdrawal and 3 percent follow the rhythm or periodic abstinence practice. The rural-urban differential is visible in the case of use of condoms, where 21.1 percent of the urban women are using this means of contraception compared to just 7.4 percent of the rural women.

Figure 6.2
Practice of Family Planning Methods



Note: Total percent may add more than 100.0 due to rounding

Uttaranchal, DLHS-RCH, 2002-04

Current use of contraception is higher among other caste women (51.5 percent) than among women from scheduled castes (43.3 percent), scheduled tribes (48.8 percent) and other backward classes (44.7 percent). The current use is also higher among women who have 10 or more years of schooling (53.8 percent) than among the women who have 0-9 years of schooling (49.6 percent) and those who are non-literate (45 percent). Similarly, current contraceptive use varies positively with respect to the standard of living of the women, increasing the prevalence rate from 41 percent to 61 percent for women from the lowest to the highest standard of living households. The availability of the health facility in the village is an important factor in motivating eligible women to use contraceptives. About 50.6 percent of the women living in villages with a health facility are currently using contraception and this is higher than the women from villages deprived of a health facility (44.2 percent). The current use of the traditional methods is also higher among women with a higher education level and those with a high standard of living.

6.2.1 Current Use of Family Planning Methods by Districts

Table 6.6 presents a picture of current contraceptive use in the districts of Uttaranchal. The contraceptive use is a couple concept as family planning methods can be used either by women or by their husbands. In most of the districts, the current use of contraception exceeds 50 percent of eligible women except for the districts of Hardwar, Dehradun and Almora (see Map-6). The state figure of use of current spacing methods 17.2 percent and it ranges from 6.3 percent in

Uttarkashi district to 25.2 percent in Udham Singh Nagar. The variation in contraceptive prevalence at district level is basically due to the variation in the use of spacing methods while both modern and traditional contraceptive uses do not show much variation across districts.

Table 6.6 CONTRACEPTIVE PREVALENCE RATES BY DISTRICTS

Percentage of currently married women age 15-44 years currently using any contraceptive method by districts, Uttaranchal, 2002-04

Districts	Any method	Any modern Method[1]	Any modern spacing method[2]	Male steriliz-ation	Female steriliz-ation	IUD	Pill	Condom / Nirodh	Any traditio-nal method[3]
Almora	43.6	40.9	13.6	3.3	23.6	1.2	2.9	9.5	2.8
Bageshwar	53.3	48.6	20.9	5.1	22.1	1.7	7.0	12.3	4.8
Chamoli	57.0	54.2	8.9	2.6	42.5	1.7	1.8	5.5	2.8
Champawat	52.8	44.4	11.9	1.6	30.7	1.0	2.1	8.8	8.4
Dehradun	42.0	40.4	19.9	0.7	19.8	1.8	4.6	13.5	1.6
Garhwal	54.7	49.5	18.9	2.1	28.4	2.0	4.4	12.6	5.2
Hardwar	39.9	36.4	19.6	0.1	16.3	3.1	5.2	11.2	3.3
Nainital	51.6	47.2	20.6	2.7	24.0	1.9	6.1	12.5	3.6
Pithoragarh	56.1	51.3	12.8	3.0	35.5	1.7	3.0	8.1	4.8
Rudraprayag	54.1	50.8	7.0	2.6	40.9	0.5	2.5	3.9	3.2
Tehri Garhwal	50.5	45.7	15.3	0.6	29.8	2.0	4.9	8.4	4.8
Udham Singh Nagar	54.9	46.0	25.2	0.5	20.0	2.6	4.8	17.8	8.9
Uttarkashi	51.1	47.1	6.3	5.1	35.7	0.2	1.9	4.2	4.0
Uttaranchal	48.7	44.2	17.2	1.7	25.1	1.9	4.1	11.1	4.3

Note: [1] Include Female sterilization, Male sterilization, IUD, Pills and Condom. [2] Include IUD, Pills and Condom. [3] Include Rhythm /Periodic abstinence, Withdrawal and Other traditional method.

The use of female sterilization among the eligible women in Uttaranchal exceeds one-third in the districts of Chamoli (42.5 percent), Rudraprayag (40.9 percent), Uttarkashi (35.7 percent) and Pithoragarh (35.5 percent). The use of oral Pills exceeds 5 percent in the districts of Bageshwar, Hardwar and Nainital. The districts in which the use of condom is more than 10 percent are Udham Singh Nagar, Dehradun, Pauri Garhwal, Nainital, Bageshwar and Hardwar.

6.2.2 Current Use and Ever Use of Family Planning Methods by Women

Table 6.7 provides information on current contraceptive use and ever use of contraception by age and number of surviving children, living sons and daughters. The current use of any method of contraception among currently married women in the 15-19 years age group is 7.8 percent and this attains a peak of 69.7 percent in the age group 35-39 years. A similar age pattern of contraceptive use is also observed both in case of modern and traditional methods. The use of traditional methods is 6.7 percent for the women aged 35-39 years and 5.5 percent for the women aged 40-44 years and it is least (1.5 percent) for the women in the age group 15-19 years. The use of modern methods ranges from 6.2 percent for women in the age group 15-19 years to 63 percent for women in the age group 35-39 years.

Table 6.7 USE OF CONTRACEPTION BY WOMEN

Percentage of currently married women in 15-44 years by current use and ever use of contraception according to selected demographic characteristics, Uttaranchal, 2002-04

Demographic Characteristic	Percentage of women/husbands using				Percentage of women/husbands by contraceptive status		Number of women
	Any modern method[1]	Any traditional method[2]	Any method	Not using any method	Ever used	Never used	
Age-group							
15-19	6.2	1.5	7.8	92.2	8.7	91.3	383
20-24	15.0	2.6	17.6	82.4	22.9	77.1	2,042
25-29	41.9	3.3	45.2	54.8	50.3	49.5	2,235
30-34	57.3	5.0	62.3	37.7	66.1	33.9	1,955
35-39	63.0	6.7	69.7	30.3	72.1	27.8	1,688
40-44	60.6	5.5	67.1	32.9	71.2	28.8	1,338
Surviving children							
0	2.6	0.9	3.5	96.5	5.1	94.9	1,132
1	22.4	2.7	25.1	74.9	31.4	68.6	1,495
2	52.4	5.3	57.7	42.3	61.9	38.1	2,326
3 or more	57.1	5.2	62.6	37.4	66.6	33.3	4,689
Surviving sons							
0	13.8	2.2	16.0	84.0	20.1	79.9	2,373
1	44.9	5.3	50.1	49.9	54.5	45.4	3,279
2 or more	61.7	4.8	66.8	33.2	70.8	29.2	3,989
Surviving daughters							
0	31.8	2.7	34.8	65.2	38.0	61.9	3,178
1	51.9	4.7	56.7	43.3	61.5	38.4	3,214
2 or more	48.7	5.6	54.3	45.7	58.5	41.4	3,250
All women	44.2	4.3	48.7	51.3	52.8	47.2	9,641

Note: [1] Include Female sterilization, Male sterilization, IUD, Pills and Condom.
[2] Include Rhythm/Periodic abstinence, Withdrawal and Other traditional method.

It is crucial to understand the association between the number of living children and contraceptive use. The contraceptive use is highest among the women who have three or more surviving children invariably of methods in Uttaranchal. The use of any method of contraception is 66.8 percent for the women who have two or more sons and is marginally higher than the women who have two or more daughters (54.3 percent). The same trend can be observed in the case of use of any modern method which is 61.7 percent for the women who have two or more surviving sons and it is higher than the women who have two or more daughters (48.7 percent).

6.2.3 Current Use and Ever Use of Family Planning Methods as Reported by Husbands

Information pertaining to current use of family planning methods among the husbands of currently married women in Uttaranchal by age and number of surviving children, sons and daughters are given in Table 6.8**.** The current use of any method of contraception among the husbands (aged below 25 years) of currently married women is 16.5 percent and it gradually picks up with the age of husband, to a peak of 72.1 percent in the age group 45+ years. Similar age patterns of contraceptive use are observed both in the case of modern and traditional methods. Among the husbands in the age group 45 years and above, the use of traditional methods is 7 percent and it is least (1.1 percent) among the husbands in the younger age group of

below 25 years. The use of modern methods ranges from 15.4 percent for husbands below 25 years of age to 66.4 percent for the husbands in the age group 35-44 years.

Table 6.8 USE OF CONTRACEPTION BY MEN

Percentage of husband of currently married women by current use and ever use of contraception by selected demographic variables, Uttaranchal, 2002-04

Demographic Characteristics	Percentage of husbands/women using				Number of men
	Any modern method[1]	Any traditional method[2]	Any method	Not using any method	
Age-group					
<25	15.4	1.1	16.5	83.5	376
25-34	43.6	3.9	47.6	52.4	1,992
35-44	66.4	4.8	71.6	28.4	2,069
45+	65.1	7.0	72.1	27.9	980
Surviving children					
0	5.8	1.1	6.9	93.1	552
1	35.1	2.6	37.7	62.3	752
2	62.4	5.1	67.5	32.5	1,302
3 or more	65.2	5.6	71.0	29.0	2,811
Surviving sons					
0	23.6	2.3	25.9	74.1	1,227
1	55.3	4.8	60.1	39.9	1,779
2 or more	69.1	5.7	75.0	25.0	2,411
Surviving daughters					
0	40.9	3.3	44.3	55.7	1,663
1	62.7	4.0	66.8	33.2	1,863
2 or more	57.7	6.4	64.2	35.8	1,891
All men	54.3	4.6	59.0	41.0	5,417

Note: [1] Include Female sterilization, Male sterilization, IUD, Pills and Condom.
[2] Include Rhythm/Periodic abstinence, Withdrawal and Other traditional method.

6.3 Reasons for Not Using Male Methods

The DLHS-RCH asked husbands of currently married women about the contraceptive methods that he or his wife was using currently. The husbands who were not using male methods were further asked the reasons for it. Table 6.9 provides information about reasons for not using male contraceptive methods in Uttaranchal. Among all the husbands interviewed, 55.5 percent reported use of female methods. Reporting of female methods is higher in rural areas (61.9 percent) than in urban areas (40.7 percent). The reasons cited for not preferring the male methods are fear of weakness (55.6 percent), greater popularity of female methods (25.9 percent), lack of sexual pleasure (2.7 percent), fear of operation (2.4 percent) and fear of method failure (2 percent). Only 0.5 percent reported fear of impotency as one of the reasons for not using male methods. However, there is not much rural-urban differential in the reasons for not using male methods, except in the case of fear of weakness. The expression for fear of weakness is higher in rural areas (59 percent) than in urban areas (44 percent). Popularity of female methods as a reason for not using male methods of contraception is more in urban areas (35.3 percent) than in rural areas (23.2 percent).

Table 6.9 REASONS FOR NOT USING MALE METHODS

Percentage of husbands with their choice of family planning methods and reasons for not accepting male methods according to residence, Uttaranchal, 2002-04

Female method users and reason for not accepting male methods	Total	Residence	
		Rural	Urban
Percentage of husband who have reported female methods	55.5	61.9	40.7
Number of men	3,196	2,222	974
Reasons for not accepting male methods*			
Fear of impotency	0.5	0.3	1.2
Lack of sexual pleasure	2.7	2.5	3.3
Fear of method failure	2.0	1.4	4.3
Fear of operation	2.4	2.6	1.8
Fear of weakness	55.6	59.0	44.0
Female methods are more popular	25.9	23.2	35.3
Other	12.5	12.5	12.6
Number of men	1,773	1,377	397

Note: * Percentages may add to more than 100.0 because multiple responses could be recorded.

6.4 Source of Contraceptive Methods

To assess the various sources of contraceptive methods, DLHS-RCH collected information on source of obtaining methods. Table 6.10 and Figure 6.3 show the percent distribution of current users of modern contraceptives by source of contraceptives. Family planning methods and services in Uttaranchal are provided primarily through a network of government hospitals. The services are also provided by private hospitals and clinics, as well as non-governmental organisations (NGOs). Modern spacing methods like IUD, Pill and condom are available through both the government and private sectors. Government/municipal hospitals are the main source for female sterilization (82.3 percent) followed by community health centres or primary health centres (6.7 percent), private hospital (4.9 percent) and family planning camps or RCH camp (3.5 percent). For male sterilization as well, the aforesaid places except private hospital are the main sources. Among the IUD users, 40.9 percent reported the source as government/municipal hospital, 26.5 percent from private hospital, 12.3 percent from private doctor and 11 percent from the community health centres or primary health centres. It is found that the chemist is the main source for Pills (75.7 percent) and condom (85.8 percent).

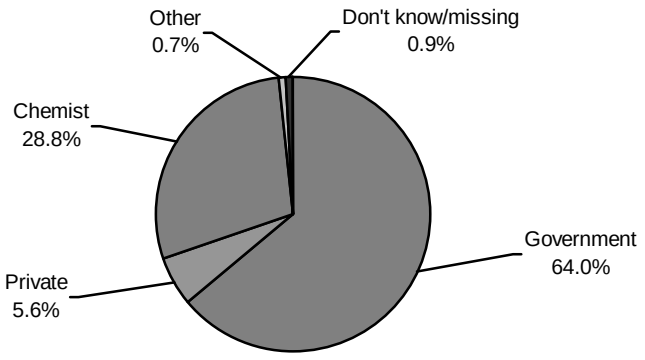
Table 6.10 SOURCE OF MODERN CONTRACEPTIVE METHODS

Percent distribution of current users of modern contraceptive methods by method and source of supply, Uttaranchal, 2002-04

Source	Contraceptive method					
	Female sterilization	Male sterilization	IUD/ Loop	Pills	Condom / Nirodh	All modern methods[1]
Government medical centre	89.0	93.9	50.8	22.9	10.2	67.5
Government/Municipal hospital	82.3	92.6	40.9	11.4	5.4	54.8
CHC/PHC	6.7	2.3	11.0	1.3	1.5	4.9
Sub-centre	0.5	0.4	0.6	4.2	0.8	0.9
Government doctor	0.0	0.0	1.9	1.1	0.1	0.2
Government nurse/ ANM	0.2	0.0	0.1	0.9	1.4	0.6
Family planning/RCH camp	3.5	4.1	0.0	0.0	0.0	2.2
Out reach/MCP clinic in village	0.0	0.0	0.0	1.1	0.1	0.1
Mobile clinic	0.0	0.0	0.0	0.3	1.1	0.3
Private medical centre	10.5	0.8	47.7	5.6	2.2	11.6
Private hospital	4.9	0.1	26.5	1.3	0.6	4.2
Private doctor	0.4	0.0	12.3	1.3	0.2	0.9
Private nurse	0.2	0.0	6.7	0.5	0.1	0.5
Chemist	NA	NA	NA	75.7	85.8	28.8
Other	0.5	0.4	0.0	0.5	1.3	0.7
Do not know	0.6	0.1	0.0	0.5	1.6	0.8
Missing	0.1	0.0	0.0	0.0	0.1	0.1
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of users	2,418	168	186	397	1,074	4,243

Note: [1]Includes female sterilization, male sterilization, IUD, Pills or condom. CHC: Community health centre, PHC: Primary health centre. NA – Not Applicable.

Figure 6.3
Source of Family Planning Among Current Users of Modern Contraceptive Methods



Note: Total percent may add more than 100.0 due to rounding

Uttaranchal, DLHS-RCH, 2002-04

6.5 Problems with Current Use of Contraceptive Methods

Women who were using a modern contraceptive method were asked if they had experienced any problems related with the current methods they are using. Table 6.11 shows the percentage of current contraceptive users who reported specific health problems, treatment seeking behaviour and their satisfaction about the method. The analysis of the method specific problems reveals that 12.1 percent of the sterilized women have problem with the contraceptive methods in use. The most common problems experienced by sterilized women are body ache or backache (77.1 percent), weakness or inability to work (39.5 percent), dizziness (27.8 percent), cramps (15.3 percent), irregular periods (10.2 percent), excessive bleeding (6.3 percent), white discharge (6.2 percent) and nausea or vomiting (4.6 percent). With regard to the modern spacing methods, 6.8 percent and 8.7 percent of women had problems in using Pills and IUD respectively. The most common problems of Pill users were dizziness (59.3 percent), body ache or backache (33.3 percent), weakness or inability to work (22.2 percent), irregular periods (11.1 percent), white discharge, nausea or vomiting and excessive bleeding (7.4 percent each); but this result should be examined with caution due to less number of cases.

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Table 6.11 HEALTH PROBLEMS WITH CURRENT USE OF CONTRACEPTION

Percentage of women informed about side effects, had side effects with the method by use of method, Uttaranchal, 2002-04

	Type of method		
Health problems/side effect	Female sterilizations	IUD/loop	Pill
Women who were informed about all the available methods	26.3	NA	NA
Women who were informed about the side effects before adoption of the method	33.3	31.6	23.6
Women who had side effect/health problem due to use of contraceptive method	12.1	8.7	6.8
Number of current users	2,418	186	397
Type of health problems/side effects[1]			
Weakness/inability to work	39.5	*	(22.2)
Body ache/ backache	77.1	*	(33.3)
Cramps	15.3	*	(3.7)
Weight gain	3.1	*	(3.7)
Dizziness	27.8	*	(59.3)
Nausea/vomiting	4.6	*	(7.4)
Breast tenderness	2.1	*	(0.0)
Irregular periods	10.2	*	(11.1)
Excessive bleeding	6.3	*	(7.4)
Spotting	1.6	*	(0.0)
White discharge	6.2	*	(7.4)
Other	2.6	*	(0.0)
Number of users with side effects	292	16	27

Note: [1] Percentages may add to more than 100.0 because multiple problems could be recorded.
* Percentage not shown: based on very few cases. ( ) Based on less than 50 unweighted cases.
NA: Not Applicable.

6.6 Treatment for Health Problems with Current Use of Contraception

The study of respondents who sought treatment for contraceptive related health problems reveals that 44.7 percent of the sterilized women sought treatment. Regarding the satisfaction about the method, 94.1 percent of the sterilized women reported satisfaction with sterilization. In the case of spacing methods, 91.7 percent of women using Pills and 96.4 percent of women using IUD were satisfied with the respective methods.

Among the women who had sought treatment for contraceptive use related problems, majority of them have taken treatment from government health facilities. For female sterilization related health problems, 44.8 percent had taken treatment from government hospitals/dispensaries, 33.1 percent from private hospitals/clinics, 9.9 percent from Indian System of Medicine health facilities and 8.2 percent got treatment from chemist/medical shop.

Table 6.12 FOLLOW-UP VISIT AND SOUGHT TREATMENT FOR HEALTH PROBLEMS WITH CURRENT USE OF CONTRACEPTION

Percentage of women who had follow-up visit, satisfied with current method and sought treatment with side effects with the method by use of method, Uttaranchal, 2002-04

	Type of method		
Health problems/side effect	Female sterilizations	IUD/loop	Pill
Women who had follow up visit by health worker after adoption of method	21.4	5.6	5.6
Women who are satisfied with method of current use	94.1	96.4	91.7
Number of current users	2,418	186	397
Women who sought treatment for the health problem	44.7	*	(6.0)
Number of women with side effects	292	16	27
Source of treatments			
Government health facility			
Government hospital/dispensary	44.8	*	*
CHC/Rural hospital	2.6	*	*
PHC	4.6	*	*
Sub-centre	1.5	*	*
Out reach/MCP clinic in village	0.5	*	*
Private health facility			
NGO/trust hospital clinic	0.6	*	*
Private hospital/clinic	33.1	*	*
ISM health facility[1]	9.9	*	*
Chemist/Medical shop	8.2	*	*
Home remedy	1.2	*	*
Other	2.5	*	*
Number of women with side effects	131	5	6

Note: [1] Either government or Private. * Percentage not shown: based on very few cases. ( ) Based on less than 50 unweighted cases.

6.7 Advice to Non-Users to Use Contraception

Information about non-users who were advised by the ANM/health worker to adopt contraceptives and their future intention to use by preferred method according to their background characteristics are presented in Table 6.13. In DLHS-RCH, currently married women who were not using any method of contraception were asked about advice given by ANM/health worker for adoption of any contraceptive method. It is evident that 4.5 percent of the women were advised by ANM/health worker to adopt any family planning method in Uttaranchal. Among rural women, 4.2 percent were advised by ANM/health worker to adopt any method and it is higher among the urban women (5.9 percent) who were advised so.

Table 6.13 ADVICE ON CONTRACEPTIVE USE

Percentage of current non-users* who were advised by the ANM/health worker to use contraception by suggested method according to place of residence and availability of health facility in the village, Uttaranchal, 2002-04

		Residence		Availability of health facility in the village[1]	
Advise/future intension to use	Total	Rural	Urban	No	Yes
Percentage of current non-users advised by ANM/health worker to use of contraceptive method	4.5	4.2	5.9	3.5	6.6
Number of non-users	4,841	3,734	1,107	2,932	802
Percent distribution of women who were advised by method					
Female sterilization	36.9	47.9	10.5	44.6	54.2
Male sterilization	9.9	7.6	15.4	9.2	4.6
IUD/loop	19.5	16.7	26.3	20.5	9.4
Pill	17.8	17.4	18.8	11.8	28.3
Condom/Nirodh	14.9	9.8	27.0	13.0	3.5
Other	1.0	0.6	2.0	0.9	0.0
Total percent	100.0	100.0	100.0	100.0	100.0
Number of non-users	220	155	65	102	53

Note: * Exclude women in menopause or those who have undergone hysterectomy.
[1] Includes sub-centre, primary health centre, community health centre or referral hospital, government hospital, and government dispensary within the village.

The contraceptive methods recommended by ANM/health workers are dominated by female sterilization (36.9 percent) and IUD/Loop (19.5 percent). Only 17.8 percent were advised to adopt Pills and 14.9 percent to adopt Condom/Nirodh as spacing methods. Male sterilization has been advised to 9.9 percent. For all the methods, more urban women were advised than rural women except in case of female sterilization where much more rural women (47.9 percent) were advised to adopt it than urban women (10.5 percent).

6.7.1 Future Intentions

Among the non-users, 19.8 percent of women have expressed their intention to use any method of contraception in the future. The intention to use any method of contraception is lower in rural areas (19.6 percent) than in urban areas (20.7 percent).

Among the women who intended to use permanent methods of contraception, 58.9 percent preferred female sterilization whereas only 0.7 percent of the women preferred male sterilization. In case of temporary methods, the methods preferred by women are oral Pills (20.3 percent), condoms (10.7 percent), IUD/Copper-T/Loop (4 percent) and other methods (2.7 percent) respectively.

About 35.3 percent of the husbands intended to use contraception in the future, wherein 35.8 percent belong to rural areas and 33.9 percent to urban areas. Method wise choice in intention to use contraception is dominated by female sterilization being reported by 54.3 percent, followed by condoms (23.4 percent), oral Pills (9.6 percent), male sterilization (4.7 percent) and other methods (4.5 percent)

Table 6.14 FUTURE INTENTION TO USE

Percentage of current non-users* who were intended to use contraception in future by preferred method according to place of residence, Uttaranchal, 2002-04

	Women			Husbands		
Future intention to use/method	Total	Rural	Urban	Total	Rural	Urban
Percentage of respondents who intend to use contraceptive in future	19.8	19.6	20.7	35.3	35.8	33.9
Number of non-users	4,841	3,734	1,107	2,207	1,692	515
Percent distribution of non-user who were preferred to use family methods by preferred method						
Female sterilization	58.9	61.8	49.5	54.3	60.6	32.4
Male sterilization	0.7	0.9	0.2	4.7	5.0	3.7
IUD/copper-T/loop	4.0	4.2	3.5	2.8	2.4	4.0
Oral Pills	20.3	21.0	18.1	9.6	10.9	5.3
Condom/Nirodh	10.7	6.7	23.4	23.4	17.2	44.8
Rhythm/periodic abstinence	0.4	0.4	0.5	0.5	0.0	2.3
Withdrawal	1.0	0.7	1.7	0.2	0.2	0.2
Other	2.7	2.6	2.9	4.5	3.7	7.4
Missing	1.3	1.7	0.2	0.0	0.0	0.0
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of non-users	957	728	228	777	604	173

Note: * Exclude women who are in menopause or those who have undergone hysterectomy.

6.7.2 Future Intention to Use Among Women by Number of Living Children

Currently married women who were not using any contraceptive method at the time of survey were asked about their intentions to use a method in the future. Those women who intended to use contraceptives in the future were further asked about preferred methods. This type of information aids the managers and programmers to identify the potential groups of future users and to provide the type of contraceptives that are likely to be in demand. Table 6.15 provides the information on intention to use contraception in future according to number of living children and residence background in Uttaranchal. Among the current non-users, around 6.7 percent of the women intended to use contraception within the next twelve months. Only 5.2 percent of women wanted to use contraceptives within one to two years whereas 7.9 percent reported their intention to use contraceptives after two years. About 38.3 percent are not sure of their intention

to use, where as 41.9 percent reported no intention to use. The intention of using contraception is higher among the women who have two or more living children compared to the women who have either one or no living children. Around 52.3 percent of the women who have no living children reported that they are yet to decide about the use of contraceptives.

Table 6.15 FUTURE USE OF CONTRACEPTION BY NUMBER OF LIVING CHILDREN

Percent distribution of currently married women* who were not currently using any contraceptive method by intention to use in the future, according to number of living children and residence, Uttaranchal, 2002-04

Intention to use in the future	Number of living children					Total
	0	1	2	3	4+	
			Total			
Intends to use in next 12 months	0.4	2.7	8.5	12.0	12.6	6.7
One to two years	0.5	4.2	7.2	7.2	8.2	5.2
More than two years	5.9	9.6	8.4	8.4	7.1	7.9
Does not intend to use	41.0	35.2	41.0	43.0	51.0	41.9
Not yet decided	52.3	48.3	34.7	29.4	21.0	38.3
Missing	0.0	0.0	0.2	0.0	0.0	0.0
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	1,083	1,105	962	758	933	4,841
			Rural			
Intends to use in next 12 months	0.3	1.9	8.3	11.6	12.9	6.5
One to two years	0.1	3.1	8.1	5.1	9.0	4.9
More than two years	6.6	8.6	8.6	9.1	8.2	8.2
Does not intend to use	38.3	34.3	37.4	41.1	47.1	39.4
Not yet decided	54.7	52.1	37.3	33.1	22.8	41.1
Missing	0.0	0.0	0.2	0.0	0.0	0.0
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	843	849	729	585	728	3,734
			Urban			
Intends to use in next 12 months	0.5	5.1	9.1	13.5	11.7	7.5
One to two years	1.8	7.8	4.2	14.4	5.5	6.4
More than two years	3.3	13.1	7.8	6.2	2.9	6.9
Does not intend to use	50.4	38.2	52.3	49.2	65.1	50.5
Not yet decided	44.1	35.8	26.6	16.7	14.7	28.8
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	241	256	232	173	205	1,107

Note: * Exclude women who are in menopause or those who have undergone hysterectomy.

6.8 Reasons for Discontinuation and Non-Use of Contraception

Currently married non-pregnant women who were not using any contraceptive method at the time of survey were categorised as past users and never users according to their contraceptive experience. In DLHS-RCH, women who had discontinued contraceptive use were asked about the main reason for discontinuation. The survey also asked women who had never used contraceptives about the main reason for not doing so. Table 6.16 shows the main reason for not using contraceptives among both the past never users and current non users. Among the past users, around 49.2 percent of the women mentioned that they discontinued the use of

contraceptives because they had wanted to have a child. The other prominent reasons were body ache/backache (10.5 percent), method failed/became pregnant (8.5 percent), weakness/inability to work (7.9 percent), method was inconvenient (6.2 percent), dizziness (3.8 percent), breast tenderness (3 percent) and irregular periods (2.3 percent). About 54.4 percent urban women have reported 'wanted child' as the reason for discontinuation as compared to 46 percent of rural women. Also, 13.7 percent of urban women reported body ache/backache as a reason for discontinuing the use of contraceptives as compared to 8.5 percent of rural women.

Table 6.16 REASONS FOR DISCONTINUATION OF CONTRACEPTION

Percent distribution of women who were past users (current non-users) by reason for discontinuation of the contraceptive method according to place of residence, Uttaranchal, 2002-04

Reasons	Total	Place of residence	
		Rural	Urban
Reason for discontinuation			
Wanted child	49.2	46.0	54.4
Method failed/became pregnant	8.5	8.7	8.2
Supply not available	1.2	2.0	0.0
Difficult to get method	1.5	2.5	0.0
Weakness/inability to work	7.9	9.0	6.2
Body ache/ Backache	10.5	8.5	13.7
Cramps	0.1	0.2	0.0
Weight gain	0.6	0.1	1.5
Dizziness	3.8	5.6	1.0
Nausea/vomiting	0.3	0.5	0.0
Breast tenderness	3.0	2.3	4.0
Irregular periods	2.3	1.8	3.2
Excessive bleeding	0.8	1.2	0.0
Spotting	1.7	2.2	0.8
White discharge	0.8	0.6	1.0
Lack of pleasure	0.9	1.1	0.6
Method was inconvenient	6.2	6.7	5.5
Other	0.6	1.0	0.0
Total percent	100.0	100.0	100.0
Number of past users	397	243	154

6.8.1 Reasons for Not Using Contraceptive Methods

DLHS asked women and their husbands who are currently not using any contraception the main reasons why they were not currently using a method. The main reasons reported for not using contraceptives were health does not permit (16.3 percent), lack of knowledge about family planning methods (8.2 percent), against the religion (6.9 percent), opposed to family planning (5.5 percent), costs too much (4.6 percent), difficult to become pregnant (4.2 percent) and afraid of sterilization (3.6 percent). About 43.3 percent of the women reported other reasons for not using contraception. As far as rural-urban differentials are concerned, about 15.8 percent of the urban women said that they were not currently using any contraceptives as it was against their religion as compared to just 4.1 percent of the rural women who said so.

Table 6.17 REASON FOR NOT USING CONTRACEPTIVE METHOD

Percentage of current non-users who were currently not using contraceptive method by reason according to place of residence, Uttaranchal, 2002-04

Reason	Women			Husband*		
	Total	Rural	Urban	Total	Rural	Urban
Lack of Knowledge about FP method	8.2	8.8	6.4	6.1	5.8	7.3
Against the Religion	6.9	4.1	15.8	6.7	5.4	11.6
Opposed to family planning	5.5	6.6	2.1	2.9	3.0	2.8
Not like existing method	2.9	1.9	6.1	5.0	4.6	6.3
Afraid of sterilization	3.6	3.9	2.7	4.8	3.2	10.7
Can not work after sterilization	0.8	0.9	0.3	1.3	0.7	3.2
Worry about side effects	1.6	1.7	1.5	3.0	3.1	2.8
Costs too much	4.6	5.4	2.3	3.7	3.4	5.1
Health does not permit	16.3	16.0	17.4	14.5	14.4	14.8
Hard/inconvenient to get method	1.4	1.6	1.0	1.0	0.5	3.1
Inconvenient to use method	0.3	0.4	0.2	1.0	1.1	0.3
Difficult to become pregnant	4.2	3.7	5.7	7.8	8.5	5.3
Wife is pregnant[1]	-	-	-	2.6	2.9	1.7
Other	43.3	44.8	38.5	39.5	43.4	25.1
Missing	0.2	0.3	0.0	0.0	0.0	0.0
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of current non-users	2,595	1,976	619	968	760	208

Note: [1] Not applicable for women. * Excluding not decided cases on timing of next child.

6.9 Unmet Need for Family Planning Services

Unmet need for family planning is one of the indicators to assess the effectiveness of the family planning programme. Policy makers and family planning programme planners use this to know the demand for family planning services/supplies. Unmet need is defined in this report separately for limiting and spacing. Unmet need for spacing includes the proportion of currently married women who are neither in menopause nor had hysterectomy nor are currently pregnant and who want more children after two years or later and are currently not using any family planning method. The women who are not sure about whether and when to have next child are also included in unmet need for spacing. The women who are not sure about the timing of the next child are also included in the unmet need for spacing. Unmet need for limiting includes the proportion of currently married women who are neither in menopause nor had hysterectomy nor are currently pregnant and do not want any more children but are currently not using any family planning method. Total unmet need refers to the totality of unmet need for limiting and spacing. Table 6.18 provides the information about unmet need for limiting and spacing in Uttaranchal by background characteristics.

The unmet need is highest for women aged 20-24 years (32.8 percent), though mainly for spacing (24.3 percent) rather than for limiting (8.4 percent). Unmet need is also relatively high for women below 20 years (21 percent) for both spacing and limiting. Among the women aged 25-29 years, 27.9 percent have unmet need, mostly for limiting. Similarly, as the women's age increases, unmet need is mostly for limiting. The rural women have higher unmet need (28.1 percent) than the urban women (23.5 percent). The unmet need for family planning is higher among the non-literate women (32.1 percent) than among the women with 0-9 years of schooling (23.5 percent) and those with 10 or more years of schooling (21.9 percent). Hindu women have

lesser unmet need for family planning (25.5 percent) compared to Muslim women (40.9 percent) or Sikh women (8.4 percent). Unmet need for family planning is higher for scheduled caste women (30.7 percent) followed by scheduled tribe women (30.3 percent), other backward class women (29.6 percent) and women belonging to other castes (24.7 percent).

Table 6.18 UNMET NEED FOR FAMILY PLANNING SERVICES

Percentage of currently married women with unmet need for family planning services by selected background characteristics, Uttaranchal, 2002-04

Background Characteristic	Unmet need for FP			Number of women
	Spacing[1]	Limiting[2]	Total	
Age				
15-19	19.9	1.2	21.0	383
20-24	24.3	8.4	32.8	2,042
25-29	8.7	19.2	27.9	2,235
30-34	5.3	19.7	25.0	1,955
35-39	3.2	19.4	22.6	1,688
40-44	1.2	24.6	25.9	1,338
Residence				
Rural	10.4	17.7	28.1	7,003
Urban	8.0	15.4	23.5	2,638
Education				
Non-literate	9.8	22.3	32.1	4,229
0-9 @ years	10.2	13.3	23.5	2,955
10 years and above	9.1	12.8	21.9	2,453
Religion				
Hindu	9.2	16.3	25.5	8,371
Muslim	15.3	25.6	40.9	1,069
Sikh	1.4	6.9	8.4	160
Others	(9.3)	(2.3)	(11.6)	42
Caste/tribe#				
Scheduled caste	11.4	19.3	30.7	1,267
Scheduled tribe	7.5	22.8	30.3	301
Other backward class	11.1	18.5	29.6	2,097
Others	9.0	15.6	24.7	5,719
Number of living children				
0	10.1	0.4	10.6	1,132
1	28.4	4.4	32.8	1,495
2	7.9	18.9	26.8	2,326
3	5.8	20.8	26.6	2,248
4+	3.7	27.4	31.1	2,440
Standard of living Index				
Low	10.3	19.6	29.9	3,485
Medium	13.2	15.7	28.9	3,153
High	5.6	15.7	21.3	3,003
All women	9.8	17.1	26.9	9,641

Note: [1] Unmet need for spacing includes the proportion of currently married women who are neither in menopause or had hysterectomy nor are currently pregnant and who want more children after two years or later and are currently not using any family planning method. The women who are not sure about whether and when to have next child are also included in unmet need for spacing.

[2] Unmet need for limiting includes the proportion of currently married women who are neither in menopause or had hysterectomy nor are currently pregnant and do not want any more children but are currently not using any family planning method.

Total unmet need refers to unmet for limiting and spacing.

@ Literate women with no years of schooling are also included. # The total figure may not add to N due to do not know and missing cases. ( ) Based on less than 50 unweighted cases.

Women in low standard of living households have higher (29.9 percent) unmet need than the women of medium (28.9 percent) and high standard of living households (21.3 percent). Unmet need is also higher for the women with one living child (32.8 percent) than for women with either no children (10.6 percent) or two or more children (26.8 percent). Among the women with no children or one child the unmet need is mainly for spacing, where as for women with two children or more unmet need is mainly for limiting.

6.9.1 Unmet Need for Family Planning Services by Districts

Table 6.19 provides the information about unmet need for limiting, spacing and total by district. The unmet need for family planning services for the state of Uttaranchal is 26.9 percent and it ranges from 17.8 percent in Chamoli to 35.5 percent in Hardwar. In 4 out of the 13 districts, unmet need for family planning is more than the state average. Unmet need for limiting was found the lowest in Uttarkashi (10.5 percent) and the highest in Hardwar (23.4 percent). Similarly, unmet need for spacing was lowest in Bageshwar and Chamoli (5.2 percent each) and the highest in Nainital (13.8 percent). It may also be observed that in all the districts of Uttaranchal unmet need for limiting was more than that for spacing.

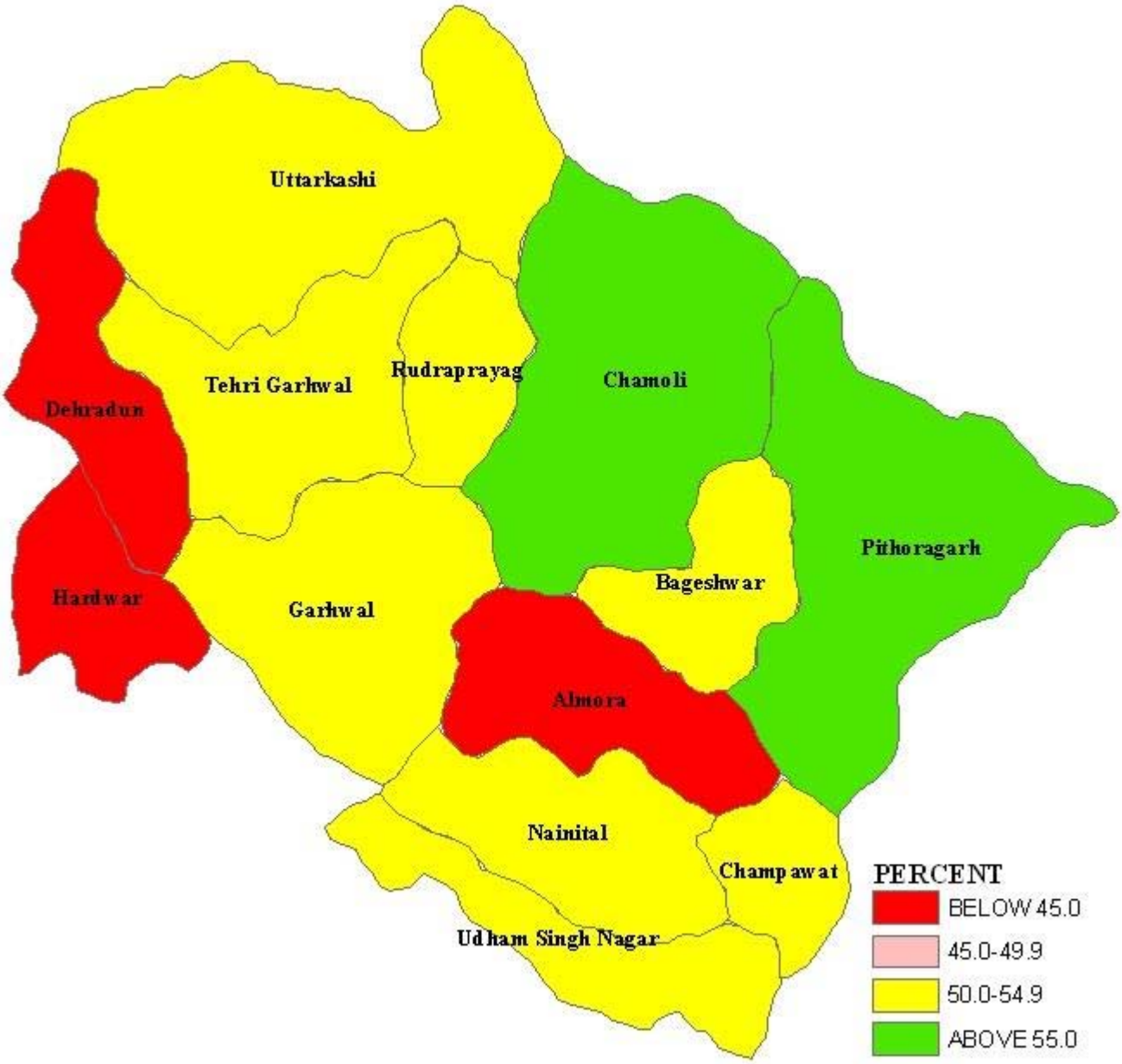
Table 6.19 UNMET NEED BY DISTRICTS

Percentage of currently married women with unmet need by district, Uttaranchal, 2002-04

Districts	Unmet need for		
	Spacing	Limiting	Total
Almora	12.3	20.1	32.4
Bageshwar	5.2	18.4	23.6
Chamoli	5.2	12.5	17.8
Champawat	9.3	11.6	20.9
Dehradun	12.7	22.0	34.8
Garhwal	6.7	13.2	19.9
Hardwar	12.1	23.4	35.5
Nainital	13.8	14.7	28.5
Pithoragarh	8.2	12.9	21.1
Rudraprayag	9.6	12.9	22.5
Tehri Garhwal	6.8	13.5	20.3
Udham Singh Nagar	6.5	15.5	22.1
Uttarkashi	8.5	10.5	18.9
Uttaranchal	9.8	17.1	26.9

Map-6

Current Use of Any Family Planning Method, Uttaranchal



CHAPTER VII

ACCESSIBILITY AND PERCEPTION ABOUT GOVERNMENT HEALTH FACILITIES

The government health facilities at all the levels provide various RCH services. Auxiliary Nurse Midwife (ANM), family planning worker or male health worker play a key role in delivering the services to the community. Health workers are expected to make regular visits to all the households in their assigned area. During these contacts, the health workers are supposed to monitor various aspects of the health of women and children, provide information related to health and family planning, counsel and motivate women to adopt appropriate health and family planning practices and deliver other selected services. These contacts are also important as they enhance the creditability of services and establish necessary rapport with the clients. In order to assess the extent of utilisation of government health facilities by all eligible women and to find out whether ANM/health workers reached the households for providing RCH services, a separate section in the women's questionnaire was canvassed to all the eligible women. This chapter deals with the accessibility and the opinion of women about the services provided by the government health workers. The quality of care offered by the government health programme as perceived by currently married women is also presented.

7.1 Home Visit by Health Workers

Table 7.1 shows the percentage of currently married women visited by health workers at home during the three months prior to the survey. Around 11 percent of the women in Uttaranchal reported that health workers visited them at their residence at least once in the three months preceding the survey. Younger women reported more home visits than older women. About 14.7 percent of women in the age group 15-24 years reported at least one home visit compared to only 4.5 percent of women in the age group 35 years and older. The percentage of women in Uttaranchal receiving home visits is higher in rural areas (12 percent) than in urban areas (8.5 percent). Women with 0-9 years of schooling (11.9 percent) and women with a medium standard of living (13 percent) seemed more likely to report home visits. More Muslim women (14.9 percent) reported home visits than Hindu women (10.5 percent) and Sikh women (11.8 percent). There was not much variation by caste/tribe. Home visits were less common for women residing in villages without a health facility.

Women who reported a home visit during the three months preceding the survey were asked who visited their household during the past three months and whether they were satisfied with the kind of services/advice received and the time spent by these health workers. Among women who received services at home, 80.3 percent received services from ANM/LHV, 25.5 percent from male health worker and 2.2 percent from a doctor. There were less rural-urban differentials by visit of households by health worker. About 79.1 percent of women who received services at home were satisfied with the time spent with them and 91.4 percent of women were satisfied with the services or advice given to them.

Table 7.1 HOME VISIT BY HEALTH WORKER

Percentage of women who had home visit by a doctor, ANM/LHV, or male health worker in the 3 months preceding the survey, among women who had home visit, satisfied with time spent by health workers and with services provided by selected background characteristics, Uttaranchal, 2002-04

Background characteristic	Percentage with home visit	Number of women	Home visit by[1]			Percentage of women satisfied with		Number of women
			Doctor	ANM / LHV	Male health worker	Amount of time	Services/ advices	
Age								
15-24	14.7	2,425	1.8	76.1	29.2	74.3	89.6	356
25-34	13.6	4,190	1.6	82.1	24.6	81.2	92.5	571
35-44	4.5	3,026	6.1	83.4	19.3	82.7	91.4	136
Residence								
Rural	12.0	7,003	1.9	77.8	25.3	81.3	93.1	839
Urban	8.5	2,638	3.5	89.7	26.1	71.1	84.8	225
Education								
Non-literate	10.8	4,229	1.9	82.5	24.1	78.8	90.6	458
0-9 years@	11.9	2,955	3.2	77.5	24.9	78.6	93.8	352
10 and above	10.3	2,453	1.3	80.2	28.7	80.4	89.3	254
Religion								
Hindu	10.5	8,371	2.7	79.3	25.6	80.4	92.1	881
Muslim	14.9	1,069	0.1	92.2	18.3	70.5	87.4	160
Sikh	11.8	160	*	*	*	*	*	19
Other	(7.0)	42	*	*	*	*	*	3
Caste/tribe[#]								
Scheduled caste	11.3	1,267	5.6	87.0	19.8	75.4	90.7	143
Scheduled tribe	14.2	301	2.7	90.4	11.0	61.6	80.8	43
Other backward class	12.5	2,097	3.8	76.5	28.1	76.1	89.2	262
Other	10.7	5,719	0.9	80.7	25.7	80.4	92.0	609
Do not know	2.5	256	*	*	*	*	*	6
Standard of living index								
Low	12.5	3,485	1.8	73.2	28.9	78.8	92.3	435
Medium	13.0	3,153	1.3	82.6	25.1	79.1	91.8	409
High	7.3	3,003	4.8	89.9	19.2	79.9	88.6	219
Availability of health facility[2] in the village								
No	11.0	1,657	6.0	91.5	11.5	82.5	91.3	183
Yes	12.3	5,345	0.7	73.9	29.1	81.0	93.7	656
Total	11.0	9,641	2.2	80.3	25.5	79.1	91.4	1,063

Note: Total includes 3 women with missing information on education were not shown separately. [1] Percentage may add to more than 100.0 due to multiple responses. @ Literate women with no years of schooling are also included. [#] Total number may not add to N due to do not know and missing cases. [2] Includes sub-centre, primary health centre, Community health centre or referral hospital, government hospital, and government dispensary within the village. *Percentage not shown: based on very few cases. ( ) Based on less than 50 unweighted cases. * Percentage not shown: based on very few cases.

The proportion of women who were satisfied with the amount of time spent and advices provided by health workers varied across various background characteristics. As compared to older women younger women were less likely to report about satisfaction with amount of time spent by the health workers during home visits. About 74.3 percent of women in the age group 15-24 years reported satisfaction with the time spent by health workers as compared to 82.7 percent of women aged 35 years and older. About 89.6 percent of women in the age group 15-24 years reported satisfaction with services as compared to 92.5 percent of

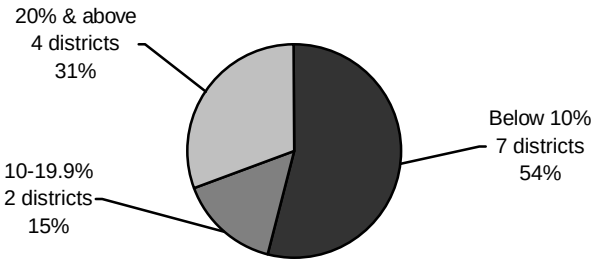
women in the age group 25-34 years and 91.4 percent of women aged 35 years and older. Urban women (71.1 percent) were less likely than rural women (81.3 percent) to report that they were satisfied with the time spent by health workers during home visits and with the services/advices received. Women who were non-literate, Muslim women, schedule caste women and women with a low standard of living are less likely to report satisfaction with the amount of time spent by health workers during home visits. Women residing in villages with availability of health facility are slightly less satisfied with the time spent than women from those villages where health facilities are not available.

7.2 Home Visit by Health Workers by Districts

In 7 out of the 13 districts in Uttaranchal namely, Almora, Pithoragarh, Nainital, Rudraprayag, Uttarkashi, Hardwar and Dehradun, health workers visited less than 10 percent of the women at home (Table 7.2 and Figure 7.1). In the districts of Chamoli and Pauri Garhwal, health workers visited less than 10 percent of the women. There are only four districts in which about one-fifth or more women received home visits (Bageshwar, Tehri Garhwal, Udham Singh Nagar and Champawat) with the highest being in Champawat district, where health workers approached 33.3 percent of the women. Among women who were visited by health workers at home, more than two-thirds of them were approached by ANM/LHV in almost all the districts. Women being approached by male health worker at home are highest in Tehri Garhwal district (44.3 percent), and the percentage of women visited by doctor at home was below 10 percent in almost all the districts.

In almost all the districts, more than three-quarters of the women reported satisfaction with the time that the health workers had spent with them. On the other hand, in almost all the districts, more than 85 percent women reported satisfaction with the services/advices given to them the by health workers.

Figure 7.1
Distribution of Districts by Percentage of Home Visits by Health Worker



Uttaranchal, DLHS-RCH, 2002-04

Table 7.2 HOME VISIT BY HEALTH WORKER BY DISTRICT

Percentage of women who had home visit by a doctor, ANM/LHV, or male health worker in the 3 months preceding the survey, among women who had home visit, satisfied with time spent by health workers and with services provided by district, Uttaranchal, 2002-04

District	Percentage with home visit	Home visit by[1]			Percentage of women satisfied with	
		Doctor	ANM / LHV	Male health worker	Time spent	Services
Almora	1.4	(0.0)	(100.0)	(0.0)	(78.4)	(79.8)
Bageshwar	20.5	1.0	64.1	36.3	77.8	96.3
Chamoli	11.4	0.0	85.9	26.5	73.9	95.0
Champawat	33.3	0.6	75.7	29.7	73.3	85.1
Dehradun	7.6	3.8	95.2	5.3	85.4	88.8
Hardwar	2.3	(43.4)	(62.5)	(2.8)	(79.8)	(80.3)
Nainital	1.5	(9.6)	(90.4)	(0.0)	(67.2)	(90.3)
Pithoragarh	1.4	(0.0)	(71.4)	(28.6)	(79.6)	(79.6)
Pauri Garhwal	14.0	0.0	68.1	35.3	58.8	89.5
Rudraprayag	1.5	(0.0)	(100.0)	(0.0)	(88.0)	(97.4)
Tehri Garhwal	25.8	0.0	76.3	44.3	82.2	92.7
Udham Singh Nagar	28.0	0.6	84.7	21.5	82.2	92.3
Uttarkashi	1.8	(0.0)	(100.0)	(0.0)	(100.0)	(100.0)
Uttaranchal	11.0	2.2	80.2	25.5	79.1	91.4

Note: [1] Percentage adds to more than 100.0 due to multiple responses. ( ) Based on less number of cases.

7.3 Matters Discussed during Home visits or Visits to Health Facilities

Women who were visited at home by a family planning worker as well as those who visited government health facility or other health facility during the three months preceding the survey were asked about the different topics discussed with the workers during any of these visits. Table 7.3 shows the percentage of women who discussed family planning or any health related matters with the health workers during home visits or visits to a health facility during the past three months. There are 775 pregnant woman or women with children born during the reference period and other women include 217 current users and 71 current non-users who were visited by health workers at home.

The main focus of discussion during home visits was immunization (11.8 percent). In addition, discussions were also made on family planning (8.9 percent), disease prevention (8.4 percent) and childcare (3.4 percent). Discussions about family planning were mentioned more often by current users of contraception (16.8 percent) and by current non- users (28.1 percent) than by pregnant women or women with children born after the reference period (4.9 percent). As expected, pregnant women or women with child born after reference period were much more likely than other women to report that they discussed childcare, delivery care, antenatal care and postpartum care. A higher proportion of current contraceptive users and current non-users discussed disease prevention, treatment of health problems, sanitation/cleanliness and supplementary feeding during home visit by health workers in the three months preceding the survey.

Table 7.3 MATTER DISCUSSED DURING CONTACT WITH A HEALTH WORKER

Percentage of women who were visited by health worker in the three months preceding the survey, and percentage of women who visited health facility, and the percentage of women[1] who discussed specific topics with the health worker, Uttaranchal, 2002-04

Topic discussed	Pregnant women or women with children after reference period[2]	Other women		Total
		Current contraceptive users	Current nonusers	
During home visit				
Family planning	4.9	16.8	28.1	8.9
Breastfeeding	0.1	0.3	1.0	0.2
Supplementary feeding	0.1	1.1	1.0	0.4
Immunization	12.7	5.7	21.3	11.8
Nutrition	1.0	0.6	11.3	1.6
Diseases prevention	5.5	19.6	5.9	8.4
Treatment of health problem	0.6	4.5	2.4	1.5
Antenatal care	1.0	0.3	0.0	0.8
Delivery care	1.4	0.7	0.0	1.2
Postpartum care	0.6	0.0	0.0	0.4
Childcare	3.9	2.7	0.0	3.4
Sanitation / cleanliness	0.2	7.8	0.0	1.7
Oral rehyderation	1.0	1.3	0.0	1.0
Other	77.3	60.0	59.7	72.6
Number of women	775	217	71	771
During visit to health facility				
Family planning	8.0	8.1	10.7	8.3
Breastfeeding	0.3	1.5	0.2	0.6
Supplementary feeding	2.1	0.8	0.0	1.6
Immunization	40.1	1.5	3.2	27.2
Nutrition	0.7	1.1	2.0	0.9
Diseases prevention	13.7	61.1	44.0	28.2
Treatment of health problem	10.1	33.9	35.4	18.3
Antenatal care	12.6	2.1	0.4	8.9
Delivery care	3.6	0.8	0.7	2.6
Postpartum care	2.0	1.5	0.0	1.7
Childcare	12.9	3.5	0.0	9.4
Sanitation / cleanliness	2.4	2.9	0.0	2.3
Oral rehyderation	0.1	0.8	1.4	0.4
Other	15.2	9.2	6.9	12.9
Number of women	456	171	63	690

Note: Percentage add to more than 100.0 due to multiple responses.
[1] Women who visited private health facility are not included.
[2] Reference period for phase I, January 1st 1999 and for phase II, January 1st .2001

The topics discussed most often during visits to health facilities by women were disease prevention (28.2 percent), immunization (27.2 percent), treatment of health problems (18.3 percent), childcare (9.4 percent), antenatal care (8.9 percent) and family planning (8.3 percent). About 12.9 percent women reported that they discussed other health related matters during the visit. During visit to health facility, about 40.1 percent of the pregnant women or women with children born during reference period discussed immunization, 13.7 percent discussed about disease prevention, 12.9 percent discussed childcare, 12.6 percent discussed antenatal care and 10.1 percent discussed treatment of health problems. A few pregnant women or women with children born after reference period also discussed about family planning, delivery care, sanitation/cleanliness, supplementary feeding and postpartum care

during their visit to the health facility. A higher proportion of current users and non-users discussed treatment of health problems, disease prevention and family planning than pregnant women or women with children after reference period during visits to the health facility in the three months prior to the survey.

7.4 Visit to Health Facility

Table 7.4 presents the percentage of currently married women who needed to visit health facility and visited the health facility by residence and availability of health facility in the village. Around 60 percent of women needed to visit health facility but did not visit in comparison with just 17.5 percent of women who needed to visit health facility and visited in the three months prior to the survey. The proportion of women who needed to visit health facility and visited was higher in urban areas (23.4 percent) than in rural areas (15.3 percent). Among those who visited a health facility, 34.1 percent of women reported that they had visited a private hospital (34.1 percent each in rural and urban areas).

Table 7.4 VISIT TO HEALTH FACILITY

Percentage of women who need to visit health facility and visited, and percent distribution of women visited health facility by type of health facility and according to place of residence and availability of health facilities in the village, Uttaranchal, 2002-04

		Residence		Availability of health facility[1] in the village	
Health facility	Total	Rural	Urban	No	Yes
Percentage of women who needed to visit health facility and not visited	60.0	62.5	53.2	64.3	56.9
Percentage of women who needed to visit health facility and visited	17.5	15.3	23.4	14.0	19.7
Number of women	9,641	7,003	2,638	5,345	1,657
Government health facility					
Hospital / CHC / FRU /RH	24.3	22.2	27.8	21.6	23.6
Dispensary	3.0	2.8	3.3	2.4	3.7
Primary health center	6.9	9.2	2.7	10.5	6.4
Sub-center	4.1	5.9	0.8	6.8	4.0
Private health facility					
Hospital	34.1	34.1	34.1	33.9	34.5
Dispensary	24.3	21.8	28.7	20.7	24.2
ISM[2] hospital/dispensary	1.2	1.1	1.6	1.4	0.3
Other	2.1	2.7	1.0	2.4	3.3
Total percent	100.0	100.0	100.0	100.0	100.0
Number of women	1,688	1,072	617	746	326

Note: CHC: Community health center, FRU: First referral unit, RH: Referral Hospital

[1] Includes sub-center, primary health center, Community health center or referral hospital, government hospital, and government dispensary within the village

[2] Either government or private health facility of Indian System of Medicine

Table includes 3 missing cases in availability of health facility in the village

About 38 percent of the women visited a government health facility, of which 24.3 percent visited a government health facility such as hospital/CHC/FRU/RH, 6.9 percent visited primary health centre, 4.1 percent visited sub-centres and 3 percent visited a government dispensary. Only 1.2 percent of the women reported that they visited Indian system of medicine hospital/ dispensary (either government or private). There is no significant difference in visit to any health facility according to availability of health facility in the village in the three months prior to the survey.

7.5 Visit to Health Facility by Districts

Table 7.5 presents the percentage of currently married women who needed to visit health facility and visited the health facility by districts. About 82 percent of currently married women in Rudraprayag and 78.9 percent in Nainital needed to visit a health facility, but they did not visit. In 4 out of 13 districts i.e. Pauri Garhwal, Udham Singh Nagar, Chamoli and Champawat, more than 25 percent of the women visited health facility for their health problems In Rudraprayag, only 8.7 percent of women visited health facility when needed. Among those who visited health facility, more than half the women visited government health facilities in 5 districts (Rudraprayag, Pithoragarh, Chamoli, Tehri Garhwal and Pauri Garhwal) and in 7 districts (Udham Singh Nagar, Hardwar, Dehradun, Nainital, Champawat, Uttarkashi and Almora) more than half the women visited private health facilities in the three months prior to the survey.

Table 7.5 VISIT TO HEALTH FACILITY BY DISTRICT

Percentage of women who needed to visit health facility, but not visited and percentage of women who visited health facility by type of health facility and by district, Uttaranchal, 2002-04

Districts	Percentage of women who need to visit health facility, but not visited	Percentage of women who need to visit health facility and visited	Percentage of women who visited to	
			Government health facility	Private health facility
Almora	61.0	12.3	49.4	50.6
Bageshwar	51.3	22.2	47.9	49.7
Chamoli	55.4	27.7	56.3	39.8
Champawat	43.0	26.5	40.7	57.6
Dehradun	62.8	12.8	35.6	63.9
Hardwar	59.5	12.7	24.6	73.0
Nainital	78.9	8.9	40.9	59.1
Pithoragarh	67.0	9.0	64.2	35.8
Pauri Garhwal	47.2	30.1	52.6	41.3
Rudraprayag	82.0	8.7	69.7	21.2
Tehri Garhwal	65.9	19.6	53.0	43.4
Udham Singh Nagar	42.4	29.2	21.9	78.1
Uttarkashi	71.8	11.3	46.8	52.5
Uttaranchal	60.0	17.5	38.8	59.0

7.6 Client's Perception of Quality of Government Health Services

Utilization of services is an essential indicator reflecting the quality of services. Better quality of services would have a higher utilization rate, which is very important from the policy point of view. Unless clients are satisfied with the services provided by the government, efforts made by the government will be wasted. In order to assess the utilization of government health facilities, a question was asked whether they had visited any health facility for their health problems during the three months prior to the survey. Those who visited the government health facility were asked their perceptions about the quality of services (personal manner like courtesy, respect, sensitivity, and friendliness of the physician and staff, technical skills and quality like thoroughness, carefulness and competence and waiting time for receiving the services) and the same is presented in Table 7.6. Women in general perceived that the quality of services, personal manner as well technical skills and quality of physician, ANM/nurse and other staff was good. Majority of the respondents perceived that personal manner and technical skills of the physicians, nurses and other staff were good. About 25.4 percent women had pointed out the problem of long waiting time for getting services of the government health facility. Some women (13.3 percent) also reported that the availability of medical, surgical and diagnostic equipment was poor and not up to mark.

Table 7.6 QUALITY OF GOVERNMENT HEALTH FACILITY

Percentage of women who visited government health facility and rated quality and availability of services during most recent visit to a government health facility in the three months proceeding the survey, Uttaranchal, 2002-04.

Quality indicator	Poor	Good	Excellent
The convenience of the health facility location	7.2	91.9	0.9
Length[1] of time spend towards waiting	25.4	69.6	1.2
Personal manner[2] of the physician[5]	3.7	91.9	4.4
The technical skills and quality[3] of the physician[5]	4.8	92.3	2.9
Personal manner[2] of nurse	6.1	91.5	2.5
The technical skills and quality[3] of nurse	7.1	91.1	1.8
Personal manner of other staff[5]	5.4	92.5	2.1
The technical skills and quality of other[4] staff	6.1	91.6	2.2
The explanation of what was done to her	6.6	91.5	2.0
Medical, surgical and diagnostic equipment	13.3	84.4	2.3
General comfort	11.1	87.1	1.1

Note: [1] Poor indicate long waiting time, good indicate average waiting time, and excellent indicate short waiting time. [2] Courtesy, respect, sensitivity, friendliness. [3]Thoroughness, carefulness, competence [4] Including paramedical staff. [5]Includes hospital/community health centre/ first referral unit/ referral hospital, dispensary, and primacy health centre last visit made by women.

7.7 Reason for not visiting Government Health Centre

Women who visited the private health centre were asked the main reason for not visiting the government health centre and the results are presented in Table 7.7. About 24.6 percent of the currently married women reported 'doctor/ health workers do not examine properly' as the reason for not visiting the government health centre for their health problems, this reason is reported more by urban women (34.1 percent) than by rural women (18.6 percent) and by women from those villages where health facilities are available (21.2 percent). About 21.7 percent reported that they did not feel necessity to visit the government health centre due to poor quality of services (20.2 percent in rural areas and 24 percent in urban areas). Other

reasons for not visiting government health centres were: inconvenient location of the centre (19.7 percent), medicine rarely/not given or of bad quality (12.2 percent), time is not suited (8 percent), heavy rush (4.5 percent), non-availability or rare availability of doctors/ health workers (3.3 percent).

Table 7.7 REASON FOR NOT PREFERRING GOVERNMENT HEALTH FACILITY

Percent distribution of women who visited private health facility by reason for not visiting government health facility and according to residence and availability of health facilities in the village, Uttaranchal, 2002-04

Reason	Total	Residence		Availability of health facility[1] in the village	
		Rural	Urban	No	Yes
Not conveniently located	19.7	27.2	8.0	29.0	23.1
Time is not suited	8.0	7.5	8.9	7.8	6.8
Poor quality of services	21.7	20.2	24.0	18.1	24.6
Heavy rush	4.5	2.4	7.8	2.0	3.1
Non/rare-availability of doctors/health workers	3.3	3.8	2.4	3.7	4.1
Doctors/health workers do not examine properly	24.6	18.6	34.1	17.3	21.2
Medicine not/rarely given or of bad quality	12.2	13.2	10.6	14.8	9.6
Doctors/paramedical staff does not behave properly	.2	0.2	0.0	0.0	0.8
Services are charged	2.1	2.5	1.4	2.2	3.2
Referred by government doctor	1.1	1.4	0.7	2.1	0.0
Other	2.7	3.1	2.0	2.9	3.4
Total percent	100.0	100.0	100.0	100.0	100.0
Number of women	997	608	389	417	191

Note: [1] Includes sub-centre, primary health centre, Community health centre or referral hospital, government hospital, and government dispensary within the village.

7.8 Family Planning Information and Advice Received

Women who are currently not using any contraceptive method were asked whether they were ever advised by ANM or family planning health workers to adopt family planning method and method advised during any of the contacts. Only 4.5 percent of the current non-users said that they were advised to adopt a method of family planning by an ANM or family planning health worker (Table 7.8). The most frequently discussed methods were female sterilization (36.9 percent) and IUD (19.5 percent). About 17.8 percent women received advice to adopt pills and 14.9 percent for condoms as a contraceptive method. Only 9.9 percent women were advised to adopt male sterilization. In case of female sterilization, about 47.9 percent of rural women were advised to adopt it as compared to just 10.5 percent of urban women.

7.9 Availability of Pills and Condom

To explore difficulties faced in the procurement of condoms and pills, current users of these methods were asked whether they had been able to get their supply whenever needed. The results are presented in Table 7.9. Only 5.3 percent of condom users and 5.9 percent of pill users reported that they had a problem in getting these methods. A higher proportion of rural women than urban women had problems in getting a supply of condoms and pills.

Table 7.8 ADVISE TO ADOPT FAMILY PLANNING METHOD

Percentage of current non-users who reported ever advised to adopt family planning method by method of family planning by ANM/health worker, according to residence, Uttaranchal, 2002-04

Advice/method	Total	Rural	Urban
Percentage of non-users who were advised to adopt family planning method	4.5	4.2	5.9
Number of women	4,841	3,734	1,107
Method			
Female sterilization	36.9	47.9	10.5
Male sterilization	9.9	7.6	15.4
IUD	19.5	16.7	26.3
Pills	17.8	17.4	18.8
Condom	14.9	9.8	27.0
Other	1.0	0.6	2.0
Total percent	100.0	100.0	100.0
Number of women	220	155	65

Note: Total includes 14 cases missing on advice to adopt family planning method.

Table 7.9 AVAILABILITY OF REGULAR SUPPLY OF CONDOMS/PILLS

Percentage of current condom or pill users who ever had a problem getting a supply of condoms/pills by residence, Uttaranchal, 2002-04

Method/residence	Percentage who had a problem getting supply	Number of users
Condom		
Rural	7.7	254
Urban	1.0	143
Total	5.3	397
Pills		
Rural	7.1	517
Urban	4.9	556
Total	5.9	1,074

Note: Total includes 1 case missing on condom using and 1 case missing on pills using.

7.10 Quality of Care of Family Planning Services

Several aspects of quality of care of family planning services were also investigated. Current users of sterilization were asked whether the person at the centre where sterilization had been performed had informed her about alternative methods of family planning; and further it was asked whether she was told by an ANM or health worker about the possible side effects of the modern method at the time she accepted the method and whether she received any follow-up care after accepting the method. Tables 7.10 and 7.11 present the results of this investigation.

Around 26.4 percent of sterilized women reported that an ANM or health worker informed them about alternative methods that they could use (Table 7.10) before adopting

sterilization. Around 25.2 percent of sterilized women received such information by an ANM or health worker in the government health facilities compared to around 19.1 percent of women who were sterilized in private health facilities and 56.8 percent of women received this information in the family planning or RCH camp or out-reach/ MCH clinic in villages at the time of accepting the sterilization.

Table 7.10 INFORMATION OF OTHER MODERN METHOD BEFORE STERILIZATION

Percentage of current users of sterilization who were informed about other modern method by the source where they get sterilized, according to the source of sterilization and residence, Uttaranchal, 2002-04

Source of sterilization	Total	Rural	Urban	Number of users
Government health facility	25.2	25.7	23.0	2,330
Family planning or RCH camp/ village session	56.8	57.1	46.0	92
Private health facility	19.1	22.8	14.0	133
Total	26.4	27.3	23.0	2,586

Note: Total includes 1 and 13 women who said that they sterilized at mobile clinic and other place and 17 women of who do not know including missing information of place/source of sterilization, are not shown separately.

Table 7.11 INFORMATION ON SIDE EFFECT AND FOLLOW-UP FOR CURRENT METHOD

Percentage of current users of modern contraceptive methods who were told about side effects or other problems of current method by a health worker or ANM/Nurse at the time of accepting the method and percentage who received follow-up services after accepting the method by current method and according to place of residence, Uttaranchal, 2002-04

Information/follow-up	Total	Rural	Urban
Told about side effects			
Sterilization	32.9	33.0	32.8
Other modern method	17.4	19.6	14.9
Any modern method	26.9	29.0	22.2
Received follow-up			
Sterilization	20.6	21.8	15.7
Other modern method	2.9	4.4	1.4
Any modern method	13.7	16.6	7.2

Another important facet of informed contraceptive choice is being fully informed about any side effects and any other problems associated with the method. In Uttaranchal, only 26.9 percent of users of any modern method were informed about possible side effects or health problems associated with their current method. About 33 percent of acceptors of sterilization in rural areas and 32.8 percent in urban areas reported that they were informed about side effects. Among users of modern method other than sterilization, 19.6 percent of rural users and 14.9 percent of urban users were informed about side effects. It is clear from the result that ANM or health workers in Uttaranchal are not providing sufficient information to couples who need to make an informed choice about contraceptive methods. The situation with respect to follow-up services is also not encouraging. Follow-up services among

sterilization users are higher than among users of modern methods. About 21.8 percent of sterilization users in rural areas and about 15.7 percent in urban areas reported that they received follow-up services by ANM or health worker. Only 2.9 percent of the users of other modern method received follow-up services. In all, only 16.6 percent of the users of any modern method in rural areas and only 7.2 percent in urban areas received follow-up services.

7.11 Quality of Care Indicators for Contraceptive Users by District

Table 7.12 shows inter-district variations in the percentage of users of sterilization who were told about alternative methods before adopting sterilization and about side effects or other problems related to the current method or users of modern contraceptive methods and the percentage of users who received follow-up services.

Table 7.12 QUALITY OF CARE INDICATORS FOR CONTRACEPTIVE USERS BY DISTRICT

Among currently married women who are current users of modern contraceptive methods, quality of care indicators related to the use of their current contraceptive method by district, Uttaranchal, 2002-04

District	Percentage informed about other methods before getting sterilization[1]	Percentage told about side effects or other problems with method[2]		Percentage who received follow –up[2]		Percentage non-user told ever had advised to adopt contraceptive method
		Sterilizat-ion	Other modern method	Sterilizat-ion	Other modern method	
Almora	6.7	13.1	3.7	4.4	0.0	2.0
Bageshwar	48.1	48.9	27.8	24.9	6.0	4.1
Chamoli	40.8	50.1	31.0	28.3	4.8	4.5
Champawat	28.1	33.4	22.2	26.5	0.8	3.5
Dehradun	18.0	26.3	16.8	22.4	2.0	7.2
Hardwar	22.9	29.8	12.2	22.1	2.3	3.8
Nainital	18.2	12.0	4.0	13.9	1.7	3.9
Pithoragarh	25.4	28.7	4.7	16.6	3.0	3.8
Pauri Garhwal	44.2	53.3	29.1	20.7	0.5	3.8
Rudraprayag	13.5	28.4	9.2	16.8	4.4	2.1
Tehri Garhwal	35.8	42.3	42.3	27.4	4.1	4.2
Udham Singh Nagar	38.1	44.1	24.4	32.8	6.8	8.7
Uttarkashi	6.1	16.5	3.3	4.2	0.0	0.2
Uttaranchal	26.4	32.9	17.4	20.6	2.9	4.5

Note: [1] At the time of accepting the current method.
[2] By a health worker or ANM/Nurse after accepting the current method.

The percentage of sterilization-users who were told about alternate method is lowest in Uttarkashi (6.1 percent) but it is highest in Bageshwar (48.1 percent). There are also large inter-district variations in the percentage of sterilization-users and users of modern contraceptive methods who were told about the possible side effects. In case of sterilization, the proportion varied from a low of 12 percent in Nainital to a high of 53.3 percent in Pauri Garhwal. For other modern contraceptive methods, the percentage of acceptors who were told about the side effects of the method varies from 3.3 percent in Uttarkashi to 42.3 percent in Tehri Garhwal. Follow-up services are slightly better for acceptors of sterilization than for other modern methods in all the districts of Uttaranchal. Table 7.12 also shows district wise

variation in the percentage of current non-users who were advised to adopt contraceptive methods, which varies from a low of 0.2 percent in Uttarkashi to a high of 8.7 percent in Udham Singh Nagar.

Overall, the quality of care for family planning and health services is far from satisfactory in many of the districts of Uttaranchal; almost all districts need to work much more to improve their health and family planning services, particularly services that are provided by the government sector.

7.12 Quality of Care of Maternal Health Care

Information on few other aspects of quality of care in terms of maternal care was also collected. Women with last live/still births during three years preceding the survey were asked whether the Doctor/ANM/health worker advised them to go to a health facility for delivery when they were pregnant and whether they received any follow-up care after delivering the baby within 2 weeks of delivery and at least one visit of follow-up care within six weeks of delivery. The same information is presented in Table 7.13.

Table 7.13 ADVISED TO HAVE DELIVERY AT HEALTH FACILITY AND FOLLOW-UP SERVICES FOR POSTPARTUM CHECK-UP

Percentage of women* who were advised to have delivery at health facility by doctor/ health worker and percentage who receive follow-up services within 2 weeks and within 6 weeks of delivery by ANM, according to residence, Uttaranchal, 2002-04

Advise/follow-up service	Total	Rural	Urban
Percentage of women who were advised to have delivery at health facility	12.7	9.4	22.5
Percentage of women who were visited within 2 weeks of delivery	5.5	5.9	4.0
Percentage of women who were visited at least once within 6 weeks of delivery	6.2	6.9	4.2
Number of women	3,869	2,924	973

Note: * Women who had live birth/still birth after 1.1.1999/2001

Note: Total includes 4 missing cases on advised to have delivery at health facility and 2 cases on visited at least once within 6 weeks of delivery who were not shown separately.

Only 12.7 percent of the women with last live/still births during three years preceding the survey reported that they were advised by doctor or health worker to have delivery at a health facility. Women from urban areas (22.5 percent) were more likely than those in rural areas (9.4 percent) to be advised to deliver their child at a health facility.

In terms of district wise variation, the percentage varies from as low of 6.4 percent in Champawat to a high of 19.1 percent in Pauri Garhwal (Table 7.14). In 3 of the 13 districts, less than 10 percent of the women were advised to deliver their child in a health facility.

Table 7.14 QUALITY OF CARE INDICATORS FOR MATERNAL CARE

Among currently married women* who are given last live/still birth three years preceding the survey, quality of care indicators related to delivery care by district, Uttaranchal, 2002-04

District	Percentage of women		
	Advised to have delivery at health facility by doctor/ health worker	Visited within 2 weeks of delivery by ANM	Visited at least one within 6 weeks of delivery by ANM
Almora	11.0	0.8	0.8
Bageshwar	14.6	6.9	6.9
Chamoli	12.9	3.3	3.8
Champawat	6.4	5.2	8.1
Dehradun	14.7	9.3	9.6
Hardwar	14.6	7.0	7.8
Nainital	11.8	8.5	8.5
Pithoragarh	13.1	5.4	5.4
Pauri Garhwal	19.1	4.6	4.2
Rudraprayag	7.1	3.0	3.8
Tehri Garhwal	11.6	4.4	6.7
Udham Singh Nagar	13.5	5.0	7.7
Uttarkashi	9.2	3.4	3.4
Uttaranchal	12.7	5.5	6.2

Note: * Women who had live birth/still birth after 1.1.1999/2001

About 5.5 percent of the women reported that they were visited by an ANM within two weeks of delivery; such visit was only 4 percent in urban areas and 5.9 percent in rural areas. Only 6.9 percent of the women in rural areas and 4.2 percent in urban areas received at least one follow-up service within six weeks of delivery. Not more than 10 percent of the women received postpartum check-up within 2 weeks of delivery in any district of Uttaranchal, and the proportion of women who had at least one postpartum check-up within six weeks of delivery varied from a low of 0.8 percent in Almora district to a high of 9.6 percent in Dehradun (Table 7.14).

CHAPTER – VIII

REPRODUCTIVE HEALTH PROBLEMS AND AWARENESS OF RTIs/STIs AND HIV/AIDS

One of the important components of the Reproductive and Child Health Programme is to have a healthy sexual life without any fear of contracting disease. With this approach, the RCH programme places a lot of emphasis on promoting and encouraging healthy sexual behaviour among couples through various Information, Education and Communication (IEC) activities. Health workers are also expected to educate women and men about Reproductive Tract Infections (RTIs) and Sexually Transmitted Infections (STIs) and motivate those people with RTI/STI problems to seek medical help. The DLHS-RCH has made an attempt to collect information on awareness and prevalence of RTI/STI. Apart from this, information on knowledge of HIV/AIDS, source of information and ways of avoiding AIDS were also collected.

8.1 Awareness of RTI/STI

An attempt was made to assess whether couples were aware of RTI/STI. Currently married women and their husbands were asked about their awareness of RTI/STI and if they were aware, they were further questioned about the source of information and mode of transmission of the disease.

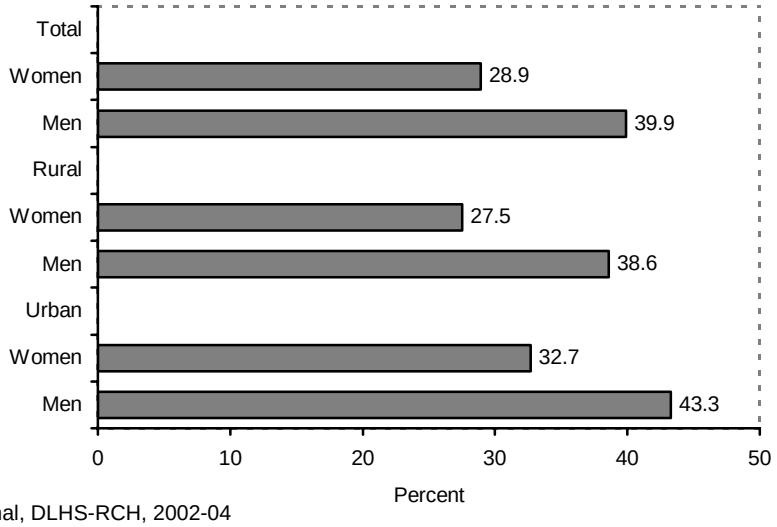
Table 8.1 shows the percentage of women aware of RTI/STI by background characteristics. About 28.9 percent of the women in Uttaranchal were aware of RTI/STI. The proportion of women who were aware of RTI/STI is higher in urban areas (32.7 percent) than in rural areas (27.5 percent) as shown in Figure 8.1. Awareness of RTI/STI is lower among younger women, non-literate women, women from Muslim religion, scheduled caste women and women from households with a low standard of living. Awareness of RTI/STI increases from 18.3 percent among non-literate women to 47.8 percent among women who have completed 10 or more years of schooling. The standard of living index shows a positive relationship with awareness of RTI/STI, ranging from 20.9 percent among women with a low standard of living to 38.5 percent among women with a high standard of living.

Those women who had heard of RTI/STI were further asked about the source of information of RTI/STI, which is also presented in Table 8.1. About 52.3 percent of the women reported that they received information of RTI/STI from television and 48.2 percent from friends or relatives. Other sources of information of RTI/STI as reported by women were newspaper or books or magazines (32.4 percent), radio (13.4 percent), slogans or posters or pamphlets or wall hoardings (11.6 percent) and community meetings (10.3 percent). Only 9.3 percent of women received this information from doctors and 7 percent from health workers, and about 4.6 percent of the women reported that they had heard of RTI/STI from other sources.

Table 8.2 shows the percentage of husbands of currently married women who heard of RTI/STI by specific source of information according to some selected background characteristics. In Uttaranchal, the percentage of men who heard of RTI/STI is higher than that of women (Figure 8.1). Almost 40 percent of the men had heard of RTI/STI. Men from urban

areas and men aged 25-34 years were relatively more aware of RTI/STI. Men who are non-literate and those belonging to scheduled castes are less likely to report awareness of RTI/STI. The level of awareness of RTI/STI increases with an increase in education level and standard of living. Only 17.9 percent of non-literate men were aware of RTI/STI as compared to 55.6 percent of men who had completed 10 or more years of schooling. About 29.8 percent of men from households with a low standard of living were aware of RTI/STI as compared to 50.5 percent of men with a high standard of living.

Figure 8.1
Awarness of RTI/STI by Sex According to Residence



Uttaranchal, DLHS-RCH, 2002-04

The television is the most prominent source of information about RTI/STI for men in Uttaranchal. About 63.2 percent of men who knew about RTI/STI received information from television. Other important sources of information about RTI/STI are newspapers or books or magazines (43.3 percent), radio (34.5 percent), slogans or posters or pamphlets or wall hoardings (28.3 percent) and relatives or friends (19.7 percent). About 13.7 percent of the men received this information from a doctor, 11 percent from community meetings, 7.1 percent from health workers and 1.6 percent mentioned that they had received information about RTI/STI from school teachers. About 3.3 percent of the men reported that they had heard of RTI/STI from other sources. The television is the most important source of information of RTI/STI in all the groups. The 'television' is a bigger source of information of RTI/STI for men who are from urban areas than for those who come from rural areas. The differences in the knowledge of RTI/STI from television as a source of information by educational level and standard of living are quite visible. About 40.7 percent of non-literate men had heard of RTI/STI from television, which increased to 71 percent for men who have completed 10 or more years of schooling. Men from urban areas, non-literate men, Muslim men, men from other backward classes, men with a low standard of living and younger men are more prone to receive information from relatives or friends.

Table 8.1 SOURCE OF KNOWLEDGE ABOUT RTI/STI AMONG WOMEN

Percentage of currently married women age 15 - 44 who have heard about RTI/STI and among women who have heard about RTI/STI, percentage who received information from specific sources by selected background characteristics, Uttaranchal, 2002-04.

Background Characteristic	Percentage who have heard about RTI/STI	Number of Women	Among those who have heard about RTI/STI, percentage who received information from ;										Number of women who have heard about RTI/STI
			Radio	Television	Newspaper/ Books/ Magazines	Slogan/ Pamphlets/ Posters/ Wall Hoardings	Doctor	Health worker	School teacher	Community Meeting	Relative/ Friends	Others	
Age group (years)													
15-19	20.3	383	15.8	33.2	15.5	5.1	6.0	4.0	1.0	14.8	61.0	11.8	78
20-24	30.4	2,042	14.7	54.0	32.0	11.1	8.5	5.1	0.5	8.8	46.3	5.0	621
25-29	31.9	2,235	14.0	59.8	38.4	13.5	11.0	7.7	0.7	8.8	43.0	2.3	713
30-34	27.7	1,955	11.8	47.9	29.3	11.6	7.6	7.4	0.2	9.8	50.4	5.7	541
35-39	29.4	1,688	12.1	47.8	29.9	10.4	11.1	7.4	1.3	11.6	53.5	3.8	497
40-44	25.1	1,338	13.3	51.4	33.3	12.3	7.7	8.2	1.0	13.7	48.2	6.2	336
Residence													
Rural	27.5	7,003	13.7	46.0	26.0	9.7	8.6	7.3	0.3	12.5	52.0	5.7	1,925
Urban	32.7	2,638	12.7	66.3	46.9	16.1	10.9	6.1	1.5	5.2	39.7	2.0	862
Education													
Non-literate	18.3	4,229	4.2	27.5	9.6	1.0	5.8	6.0	0.3	14.4	62.7	6.4	775
0-9@ years	28.3	2,955	11.0	46.3	24.3	6.6	7.6	5.9	0.8	11.5	56.7	6.6	837
10 and above	47.8	2,453	21.0	73.0	53.3	22.3	12.7	8.3	0.9	6.7	32.6	1.9	1,174
Religion													
Hindu	28.9	8,371	14.5	53.0	33.7	12.5	9.3	7.1	0.7	10.7	46.6	4.3	2,419
Muslim	25.4	1,069	3.9	43.8	21.7	3.6	7.0	4.3	0.0	2.6	63.9	8.0	272
Sikh	44.6	160	10.0	62.5	27.3	11.8	15.6	10.4	2.5	18.3	50.1	1.7	71
Other	(67.4)	42	(17.2)	(58.6)	(51.7)	(24.1)	(13.8)	(10.3)	(0.0)	(27.6)	(31.0)	(0.0)	25
Caste/tribe#													
Scheduled caste	19.1	1,267	8.2	46.1	26.2	7.7	8.8	6.7	1.2	15.7	49.0	4.7	241
Scheduled tribe	21.0	301	13.6	43.4	30.0	5.0	7.5	0.7	0.0	17.5	59.0	6.7	63
Other backward class	26.2	2,097	4.9	46.3	29.0	5.9	7.6	6.7	0.4	8.3	53.7	6.4	550
Other	32.5	5,719	16.3	54.6	33.0	14.3	10.0	7.5	0.8	10.1	46.3	4.0	1,858
Standard of living index													
Low	20.9	3,485	11.2	23.6	11.7	6.0	6.6	6.7	0.2	15.9	65.0	7.1	728
Medium	28.6	3,153	14.0	52.1	26.1	9.3	7.8	6.7	0.4	11.9	50.7	4.7	903
High	38.5	3,003	14.3	70.5	50.4	17.0	12.2	7.3	1.2	5.4	35.6	2.8	1,155
Total	28.9	9,641	13.4	52.3	32.4	11.6	9.3	7.0	0.7	10.3	48.2	4.6	2,787

Note: Total includes 3 cases of missing information on education are not shown separately. #Total figure may not add to N due to do not know and missing cases. @ Literate women with no year of schooling are also included. ( ) Based on less than 50 unweighted cases

Table 8.2 SOURCE OF KNOWLEDGE ABOUT RTI/STI AMONG MEN

Percentage of husband of eligible women who have heard about RTI/STI and among men who have heard about RTI/STI, percentage who received information from specific sources by selected background characteristics, Uttaranchal, 2002-04.

Background characteristic	Percentage who have heard about RTI/STI	Number of men	Among those who have heard about RTI/STI, percentage who received information from ;										Number of men who have heard about RTI/STI
			Radio	Televi-sion	Newspaper / Books/ Magazines	Slogan/ Pamphlets/ Posters/ Wall Hoardings	Doctor	Health worker	School teacher	Commun -ity Meeting	Relative/ Friends	Others	
Age group (years)													
< 25	41.3	376	26.1	67.3	36.2	19.0	14.5	5.1	0.7	11.8	31.8	2.7	156
25-34	44.6	1,992	34.4	63.0	45.4	30.6	12.6	6.8	1.7	11.1	18.7	2.5	888
35-44	37.6	2,069	36.4	62.4	43.9	29.1	13.7	8.5	1.5	12.0	18.8	3.8	778
45+	34.6	980	34.3	63.9	39.3	24.6	16.4	5.4	1.9	7.9	18.8	4.9	339
Residence													
Rural	38.6	3,928	38.9	59.2	37.5	27.1	12.7	7.4	1.2	10.8	19.0	3.5	1,515
Urban	43.3	1,489	24.3	72.8	56.9	31.2	16.2	6.2	2.5	11.4	21.4	2.8	645
Education													
Non-literate	17.9	986	18.1	40.7	3.8	9.1	14.1	7.1	1.2	29.0	34.1	5.0	176
0-9@ years	32.3	2,062	28.1	53.8	25.8	23.2	13.3	5.8	1.5	12.1	21.7	4.2	666
10 and above	55.6	2,369	40.0	71.0	57.4	33.5	13.9	7.7	1.7	8.0	16.8	2.7	1,317
Religion													
Hindu	39.8	4,752	37.2	64.4	46.1	28.9	12.8	7.3	1.5	9.9	18.9	3.2	1,889
Muslim	39.3	564	13.8	56.4	19.9	23.0	21.3	6.6	2.7	20.3	28.7	4.9	222
Sikh	48.3	74	(17.4)	(52.2)	(47.8)	(34.8)	(21.7)	(4.3)	(0.0)	(4.3)	8.7	(0.0)	36
Other	(51.9)	27	*	*	*	*	*	*	*	*	*	*	14
Caste/tribe#													
Scheduled caste	27.9	756	32.1	47.7	34.3	27.2	15.1	6.4	0.4	19.2	25.8	2.2	211
Scheduled tribe	34.2	197	39.2	72.4	32.4	20.9	20.2	3.3	0.0	3.7	20.2	0.0	67
Other backward class	38.5	1,241	29.7	59.7	32.2	23.7	16.8	8.9	3.1	15.2	26.5	4.3	478
Other	43.5	3,089	37.2	66.3	49.6	31.3	12.2	6.5	1.4	8.4	15.9	3.5	1,343
Standard of living index													
Low	29.8	2,015	37.3	44.2	27.0	19.3	12.2	4.7	0.5	11.1	22.0	5.0	600
Medium	41.2	1,707	37.6	63.8	35.4	28.5	14.3	8.6	1.8	11.3	18.4	2.5	704
High	50.5	1,695	30.0	76.1	61.2	34.5	14.3	7.5	2.2	10.6	19.2	2.8	856
Total	39.9	5,417	34.5	63.2	43.3	28.3	13.7	7.1	1.6	11.0	19.7	3.3	2,160

Note: #Total figure may not add to N due to do not know and missing cases. @ Literate men with no year of schooling are also included. # Total figure may not add to N due to do not and missing cases. ( ) Based on less than 50 unweighted cases.* Percentage not shown - based on very few cases.

8.1.1 Knowledge of Mode of Transmission of RTI/STI

Women who were aware of RTI/STI were asked about the mode of transmission. This is presented in Table 8.3. Among women who reported knowledge of RTI/STI, 40.3 percent of them did not know anything further about the mode of transmission of this disease. This proportion is relatively higher among rural women, young women, non-literate women, and women from Muslim religion, women from scheduled-tribes and women coming from households with low standard of living. About 44.8 percent of rural women do not know about the mode of transmission of RTI/STI compared to 30.1 percent of urban women. Lack of personal hygiene was mentioned by 35.8 percent of women and heterosexual intercourse by 24.8 percent of women as mode of transmission of RTI/STI. Only 7.4 percent of women reported homosexual intercourse and 2.6 percent reported other modes of transmission of RTI/STI.

Table 8.3 SOURCE OF KNOWLEDGE ABOUT MODE OF TRANSMISSION OF RTI/STI AMONG WOMEN

Percentage of currently married women age 15-44 who have heard of RTI/STI, knowledge of mode of transmission by selected background characteristics, Uttaranchal, 2002-04

Background characteristic	Percentage by knowledge of mode of transmission					Number of women who have heard of RTI/STI
	Homosexual intercourse	Heterosexual intercourse	Lack of personnel hygiene	Other	Do not know	
Age						
15-19	0.3	17.1	30.6	0.2	55.1	78
20-24	7.4	25.2	38.5	2.7	37.3	621
25-29	9.5	25.6	38.5	2.3	38.4	713
30-34	7.5	27.3	33.0	2.9	37.5	541
35-39	6.8	23.5	34.5	2.5	43.2	497
40-44	5.4	22.1	32.6	3.4	46.5	336
Residence						
Rural	5.5	22.4	33.4	1.7	44.8	1,925
Urban	11.7	30.1	41.0	4.7	30.1	862
Education						
Non-literate	2.9	11.9	25.4	2.6	60.9	775
0-9@ years	7.0	21.5	32.0	3.3	43.4	837
10 years and above	10.7	35.6	45.4	2.1	24.4	1,174
Religion						
Hindu	7.9	25.3	36.0	2.3	38.8	2,419
Muslim	4.0	19.6	35.6	5.8	50.7	272
Sikh	3.2	26.4	31.9	0.0	43.8	71
Other	(6.9)	(34.5)	(27.6)	(3.4)	(51.7)	25
Caste/tribe#						
Scheduled caste	6.2	19.2	27.1	2.5	55.6	241
Scheduled tribe	21.1	21.0	10.5	1.6	56.1	63
Other backward class	7.5	21.7	38.2	4.3	41.9	550
Other	6.7	26.5	37.4	2.0	37.2	1,858
Standard of living index						
Low	1.5	13.2	30.6	2.7	55.9	728
Medium	5.4	24.5	33.3	1.8	42.9	903
High	12.7	32.3	41.0	3.1	28.4	1,155
Total	7.4	24.8	35.8	2.6	40.3	2,787

Note: Total includes 1 case of missing information on education are not shown separately. @ Literate women with no year of schooling are also included. # Total figure may not add to N due to do not and missing cases. ( ) Based on less than 50 unweighted cases.

Table 8.4 presents the knowledge of mode of transmission of RTI/STI among men. Among men who had heard of RTI/STI, 24.5 percent of them mentioned that they did not know any thing about the mode of transmission of this disease. The percentage of men who did not know about the mode of transmission is higher among younger men, non-literate men, Muslim men, men from scheduled castes and men from households with a low standard of living. Among the men who knew the modes of transmission of RTI/STI, 61.1 percent mentioned heterosexual intercourse, 20.3 percent reported lack of personal hygiene, 11.6 percent mentioned homosexual intercourse and 7.3 percent reported other modes of transmission.

Table 8.4 SOURCE OF KNOWLEDGE ABOUT MODE OF TRANSMISSION OF RTI/STI AMONG MEN

Percentage of husbands of currently married women who have heard of RTI/STI, knowledge of mode of transmission by selected background characteristics, Uttaranchal, 2002-04

Background characteristic	Percentage by knowledge of mode of transmission					Number of men who have heard of RTI/STI
	Homosexual intercourse	Heterosexual intercourse	Lack of personnel hygiene	Other	Do not know	
Age						
<25	19.3	51.9	16.1	6.0	32.9	156
25-34	9.9	62.4	20.3	6.7	24.1	888
35-44	12.6	61.9	21.6	8.6	21.5	778
45+	10.4	60.0	19.4	6.4	28.3	339
Residence						
Rural	9.5	60.9	17.7	7.4	26.8	1,515
Urban	16.6	61.5	26.6	7.0	18.8	645
Education						
Non-literate	5.1	37.1	7.9	12.9	46.8	176
0-9@ years	7.1	51.8	12.5	8.5	35.0	666
10 years and above	14.8	69.0	26.0	5.9	16.1	1,317
Religion						
Hindu	12.2	62.7	21.6	6.1	23.6	1,889
Muslim	8.7	49.9	10.2	16.7	30.0	222
Sikh	(0.0)	(60.9)	(17.4)	(17.4)	(26.1)	36
Caste/tribe#						
Scheduled caste	12.7	50.5	17.4	4.3	32.7	211
Scheduled tribe	15.3	47.0	11.4	6.8	31.4	67
Other backward class	11.6	54.1	16.7	11.0	29.2	478
Other	11.5	66.0	23.2	6.6	20.8	1,343
Standard of living index						
Low	4.8	51.4	11.4	4.4	38.6	600
Medium	8.9	64.0	20.4	8.3	24.4	704
High	18.6	65.5	26.5	8.5	14.5	856
Total	11.6	61.1	20.3	7.3	24.5	2,160

Note: Total includes 14 men with other category in religion are not shown separately. @ Literate men with no years of schooling are also included. # Total figure may not add to N due to do not and missing cases. ( ) Based on less than 50 unweighted cases

8.2 Prevalence of RTI/STI

In DLHS-RCH, information was collected on the common symptoms of reproductive tract infections and sexually transmitted infections from women and their husbands, and information on menstruation related problems in the three months immediately preceding the survey.

The prevalence of reproductive tract infections and sexually transmitted infections is judged by their symptoms. All the respondents were told about symptoms of RTI/STI, and were asked whether they had any of them. In case of the presence of at least one symptom, they were further asked whether they sought treatment for such problems, and if they had sought treatment, details regarding the source of treatment were also recorded. The topic of RTI/STI is quite sensitive. The culture of silence prevents people from discussing such topics in front of others. In spite of intensive training of the investigators, the respondent might have hesitated in reporting the symptoms of RTI/STI. What gets reported in the survey though may not have given the exact prevalence, but may have given the lower limit for it.

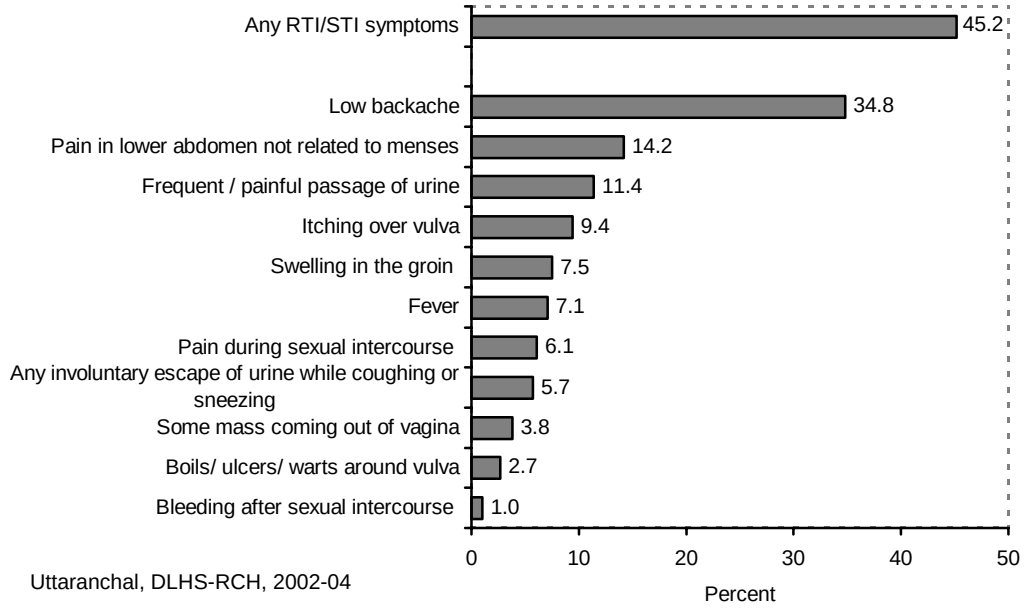
Table 8.5 and Figure 8.2 show that almost half of the currently married women (45.2 percent) reported at least one reproductive health problem. The main problems reported by women were 'low backache' (34.8 percent), 'pain in lower abdomen' (14.2 percent), 'frequent / painful passage of urine' (11.4 percent), 'itching over vulva' (9.4 percent), 'swelling in the groin' (7.5 percent) and 'fever' (7.1 percent). Other symptoms of reproductive health problems reported by women were 'painful sexual intercourse (6.1 percent), 'involuntary escape of urine while coughing or sneezing' (5.7 percent), 'some mass coming out of vagina' (3.8 percent) and 'boils/ ulcers/ warts around vulva' (2.7 percent). Very few women reported 'bleeding after sexual intercourse' and 'swelling / lump in breast'. The prevalence of most of the reproductive health problems is more among rural than urban women.

Table 8.5 SYMPTOMS OF RTI/STI AMONG WOMEN

Percentage of currently married women age 15-44 who reported any symptoms RTI/STI and specific symptoms during three months prior to survey, according to residence, Uttaranchal, 2002-04

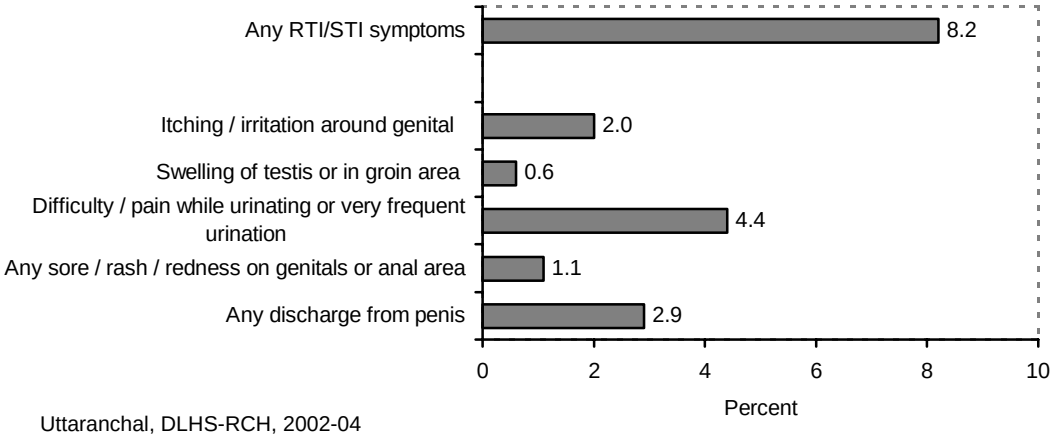
Symptoms	Total	Residence	
		Rural	Urban
Percentage of women reported any RTI/STI symptoms	45.2	47.6	38.6
Symptoms			
Itching over vulva	9.4	10.1	7.7
Boils/ ulcers/ warts around vulva	2.7	2.7	2.5
Pain in lower abdomen not related to menses	14.2	15.1	11.8
Low backache	34.8	37.1	28.7
Pain during sexual intercourse	6.1	5.7	7.1
Bleeding after sexual intercourse	1.0	0.9	1.4
Swelling in the groin	7.5	7.2	8.4
Frequent / painful passage of urine	11.4	12.0	9.8
Fever	7.1	7.7	5.4
Some mass coming out of vagina	3.8	4.2	2.8
Any involuntary escape of urine while coughing or sneezing	5.7	5.7	5.6
Swelling / lump in breast	0.9	0.9	0.9
Number of women	9,641	7,003	2,638

Figure 8.2
Symptomps of RTI/STI among Women



Uttaranchal, DLHS-RCH, 2002-04

Figure 8.3
Symptomps of RTI/STI among Husbands



Uttaranchal, DLHS-RCH, 2002-04

Table 8.6 and Figure 8.3 show the prevalence of reproductive health problems among husbands of currently married women. The prevalence of RTI/STI among men was judged by the reporting of symptoms. About 8.2 percent of men reported experiencing at least one symptom of reproductive health problem in the last three months preceding the survey. The prevalence of reproductive health problems is higher among rural men (8.8 percent) than among urban men (6.7 percent). The problems of reproductive health experienced by men are 'difficulty / pain while urinating or very frequent urination (4.4 percent), 'discharge from penis' (2.9 percent), 'itching / irritation around genitals' (2 percent), 'sore / rash / redness on genitals or anal area' (1.1 percent) and 'swelling of testes or in groin area' (0.6 percent).

Table 8.6 SYMPTOMS OF RTI/STI AMONG MEN

Percentage of husbands of currently married women who reported any symptoms RTI/STI and specific symptoms during three months prior to survey and sought treatment for RTI/STI by source of treatment, according to residence, Uttaranchal, 2002-04

Symptoms and treatment	Total	Residence	
		Rural	Urban
Percentage of men reported any RTI/STI symptoms	8.2	8.8	6.7
Symptoms			
Any discharge from penis	2.9	3.3	1.7
Any sore / rash / redness on genitals or anal area	1.1	1.2	0.8
Difficulty / pain while urinating or very frequent urination	4.4	4.8	3.2
Swelling of testis or in groin area	0.6	0.6	0.6
Itching / irritation around genital	2.0	2.2	1.5
Number of men	5,417	3,928	1,489
Percentage of men sought treatment for any RTI/STI[1]	40.2	37.2	50.8
Percentage sought treatment at health facility[2]			
Government health facility[3]	26.8	25.2	30.9
Primary health centre	1.0	1.4	0.0
Sub centre	8.9	4.1	21.1
Private health facility[4]	50.3	56.5	34.4
ISM[5] facility	8.2	3.5	20.3
Chemist/ medical shop	8.6	9.4	6.7
Other	8.1	5.2	15.6
Percentage obtained treatment from[2]			
Doctor	82.8	79.9	90.1
Traditional healer	2.3	3.2	0.0
Relative/friends	2.6	0.3	8.5
ISM practitioner	1.7	1.4	2.3
Home remedy	5.1	7.2	0.0
Chemist medical shop	6.3	7.7	2.7
Other	2.3	1.3	4.9
Number of men	179	129	51

Note: [1] Based on men with any symptoms of RTI/STI. [2] Percentage may add to more than 100.0 due to multiple responses. [3] Includes Government municipal hospital, dispensary, UHC/ UHP /UWFC, CHC/ rural hospital, Primary health centre, sub-centre. [4] Includes private hospital/ clinic, non-governmental / trust hospital/clinic. [5] Either government or private hospital/clinic of Indian system of medicine.

Among men who reported reproductive health problems, 40.2 percent of them sought treatment, which comprises of 50.8 percent of urban men and 37.2 percent of rural men. Among them only 26.8 percent visited a government health facility, including a primary health centre (1 percent) and sub-centre (8.9 percent) whereas 50.3 percent visited a private health facility. About 8.2 percent of men were treated by the Indian system of medicine, 8.6 percent obtained treatment from a chemist or medical shop and about 8.1 percent of the men reported that they were treated at other sources. A relatively higher proportion of men from urban areas utilised the government health facility, sub centre and Indian system of medicine facility. On the other hand, utilisation of the private health facility and chemist or medical shop for treatment is much higher among rural men than among urban men. A large proportion of men saw a doctor (82.8 percent), 90.1 percent in urban areas and 79.9 percent in rural areas. About 6.3 percent of the men went to a chemist male health worker and 5.1 percent of the men used home remedies. About 2.6 percent of the men were seen by relatives or friends, 2.3 percent by a traditional healer and 1.7 percent by an ISM practitioner. Another 2.3 percent of the men obtained treatment from other sources. The percentage of men who obtained treatment from traditional healers, chemists and home remedies is somewhat higher in rural areas than in urban areas.

The DLHS-RCH also collected information from currently married women on symptoms of RTIs, that is, on abnormal vaginal discharge, texture, colour and odour of discharge in the three months immediately preceding the survey. The prevalence of reproductive health problems among currently married women is estimated from women's experiences. Table 8.7 shows the asymptotic prevalence of vaginal discharge related problems among currently married women in Uttaranchal during the three months preceding the survey according to residence. About 30.6 percent of the women reported problems related to vaginal discharge. The prevalence of vaginal discharge problem is relatively higher among rural women (33 percent) than among urban women (24.5 percent).

Among the women who had reported symptoms of vaginal discharge, 27.5 percent went for treatment, a higher percentage (40.2 percent) from urban areas compared to their rural counterparts (24 percent). A considerable proportion (56 percent) visited private health facilities followed by government health facility (31.1 percent). About 6 percent sought home remedy, 5.9 percent went to an ISM, 2.9 percent went to the Primary Health Centre and 4.7 percent of the women visited other places for treatment. The proportion of women who visited a private health facility is higher in urban areas (57.9 percent) than in rural areas (55.1 percent) and the proportion of women who visited a government health facility is marginally higher in rural areas (31.7 percent) than in urban areas (29.9 percent). A significantly high proportion (77.8 percent) of the women in the state of Uttaranchal obtained treatment from doctors for their problems. Around 10 percent women were treated by ANM/Nurse/Midwife/LHV and 8.7 percent by other health professionals.

Table 8.7 ABNORMAL VAGINAL DISCHARGE

Percentage of currently married women age 15-44 who reported had any abnormal vaginal discharge during three months prior to survey and percentage who sought treatment and source of treatment according to residence, Uttaranchal, 2002-04

Symptoms and treatment	Total	Residence	
		Rural	Urban
Percentage of women reported abnormal vaginal discharge	30.6	33.0	24.5
Number of women	9,641	7,003	2,638
Percentage of women sought treatment for vaginal discharge[1]	27.5	24.0	40.2
Number of women	2,954	2,308	646
Percentage sought treatment at health facility [2]			
Government health facility[3]	31.1	31.7	29.9
Primary health centre	2.9	3.9	0.7
Sub centre	0.7	1.0	0.0
Private health facility[4]	56.0	55.1	57.9
ISM[5] facility	5.9	5.2	7.4
Home remedy	6.0	5.9	6.1
Other	4.7	5.9	2.0
Percent distribution of women who obtained treatment from [2]			
Doctor	77.8	79.9	73.4
ANM/nurse/midwife/LHV	10.0	8.3	13.5
Other health professionals[6]	8.7	8.3	9.8
Other	3.4	3.5	3.2
Total percent	100.0	100.0	100.0
Number of women	814	554	260

Note:[1] Based on women who reported having vaginal discharge. [2] Based on women who sought treatment for vaginal discharge. [3] Includes Government municipal hospital, dispensary, UHC/ UHP /UWFC, CHC/ rural hospital, Primary health centre, sub-centre and out reach/ MCP clinic in village. [4] Includes private hospital/ clinic, non-governmental / trust hospital/clinic, chemist/ medical shop. [5] Either government or private hospital/clinic of Indian system of medicine, [6] Includes *dai* (trained or untrained), relative or friends and chemist/ medical shop.

8.3 Menstruation Related Problems

Table 8.8 shows the percentage of women who had menstruation problems and who sought treatment during the three months preceding the survey. Table 8.8 shows that around 14.2 percent women in Uttaranchal had menstruation problems and the figures are 12.3 percent and 18.9 percent in the rural and urban areas respectively. The main symptoms of menstrual problems that were reported by the women in Uttaranchal were painful periods (49.3 percent), scanty bleeding (23.7 percent) and delayed periods (18.5 percent).

Table 8.8 MENSTRUATION RELATED PROBLEMS

Percentage of currently married women age 15-44 who had any menstruation related problem during three months prior to survey and percentage who sought treatment and source of treatment according to residence, Uttaranchal, 2002-04

Symptoms and treatment	Total	Residence	
		Rural	Urban
Percentage of women with any menstruation related problem	14.2	12.3	18.9
Symptoms[1]			
No period	2.0	2.3	1.7
Painful period	49.3	53.9	41.9
Frequent or short period	11.7	13.2	9.3
Delayed period	18.5	16.6	21.5
Prolonged bleeding	8.5	8.4	8.5
Excessive bleeding	11.0	11.4	10.3
Continuous bleeding	3.6	3.7	3.3
Scanty bleeding	23.7	18.7	31.9
Inter-menstrual bleeding	4.5	4.0	5.2
Number of Women	7,528	5,367	2,161
Percentage of women sought treatment who had any menstruation related problems	31.9	26.7	40.3
Percentage sought treatment at health facility[6]			
Government health facility[2]	34.0	36.2	31.5
Primary health centre	3.4	4.3	2.5
Sub centre	0.6	1.1	0.0
Private health facility[3]	53.2	49.2	57.5
ISM[4] facility	11.1	10.1	12.3
Other	2.8	3.2	2.5
Percentage of women obtained treatment from[6]			
Doctor	82.2	85.2	78.9
ANM/nurse/midwife/LHV	11.8	8.8	15.1
Other health professionals[5]	4.0	4.9	3.0
Other	2.7	2.4	3.1
Number of women who are currently menstruating	1,021	662	408

Note:[1] Based on women who reported any menstruated related problems. [2] Includes Government municipal hospital, dispensary, UHC/ UHP /UWFC, CHC/ rural hospital, Primary health centre, sub-centre and out reach/ MCP clinic in village. [3] Includes private hospital/ clinic, non-governmental / trust hospital/clinic, chemist/ medical shop. [4] Either government or private hospital/clinic of Indian system of medicine, [6] Includes *dai* (trained or untrained), relative or friends and chemist/ medical shop. [6] Multiple responses

The prevalence of painful periods is more among rural women as compared to scanty bleeding and delayed periods which were prevalent more among urban women. Among the women who had menstrual problems, about 31.9 percent sought treatment in the state and the figures for urban and rural areas are 40.3 percent and 26.7 percent respectively. The private health facility and government health facility are the main sources of treatment for menstrual problems. Around 53.2 percent of women sought treatment at a private health facility and 34 percent sought treatment at a government health facility. About 11.1 percent of the women sought treatment at

an ISM facility. Most of the women went to a doctor for treatment (82.2 percent). The figures for urban and rural areas are 78.9 and 85.2 percent respectively.

8.4 Prevalence of RTIs/STIs by District

Table 8.9 presents the prevalence of RTIs/STIs among currently married women and their husbands by districts. The percentage of women who reported any symptoms of RTIs/STIs is lowest in Hardwar (37.6 percent) and highest in Bageshwar (54.5 percent). The problems related to abnormal vaginal discharge ranges from 10.4 percent in Dehradun to 44.7 percent in Champawat. In comparison to women, fewer men from all districts of Uttaranchal reported symptoms of RTIs/STIs. Men from Champawat, Pauri Garhwal, Tehri Garhwal and Pithoragarh (3 - 5 percent) reported the lowest prevalence of symptoms of RTIs/STIs and men from Hardwar (13.2 percent) reported the highest prevalence.

The percentage of women who have sought treatment for RTIs (abnormal vaginal discharge) ranges from 14 percent in Tehri Garhwal to 45.7 percent in Dehradun and for men who have sought treatment; it ranges from 28.8 percent in Rudraprayag to 61.1 percent in Uttarkashi.

Table 8.9 REPRODUCTIVE HEALTH CARE INDICATORS BY DISTRICT

Percentage of currently married women and their husbands who reported reproductive health problems and percentage who sought treatment for the problems by district, Uttaranchal, 2002-04

	Percentage of women			Percentage of men	
District	With any symptoms of RTI/STI	Reported any abnormal vaginal discharge	Sought treatment for abnormal vaginal discharge	With any symptoms of RTI/STI	Sought treatment for RTI/STI problems
Almora	39.8	27.2	34.4	9.1	50.0
Bageshwar	54.5	43.4	25.1	5.5	(42.2)
Chamoli	47.4	38.4	19.3	5.2	(35.6)
Champawat	48.5	44.7	23.9	3.1	(37.4)
Dehradun	45.4	10.4	45.7	12.0	34.1
Hardwar	37.6	13.9	44.4	13.2	50.7
Nainital	46.1	42.4	25.6	8.5	31.6
Pithoragarh	53.0	34.2	22.1	4.8	(35.9)
Pauri Garhwal	40.2	30.8	27.3	3.5	(32.2)
Rudraprayag	53.3	40.1	21.3	5.8	28.8
Tehri Garhwal	41.1	30.1	14.0	4.4	(36.7)
Udham Singh Nagar	45.6	34.5	39.9	6.8	29.1
Uttarkashi	46.4	39.7	15.8	7.4	61.1
Uttaranchal	46.1	33.2	25.4	7.0	40.3

Note: ( ) Based on less number of cases

8.5 HIV/AIDS

Acquired Immune Deficiency Syndrome (AIDS) is an illness caused by the Human Immune Virus (HIV), which weakens the immune system and leads to death through secondary infection such as tuberculosis or pneumonia. The virus is generally transmitted through sexual contact,

through the placenta of HIV-infected women to their children or through contact with contaminated needles (injections) or blood. Prevalence of HIV and AIDS has been on the rise for more than a decade in India and has reached alarming proportions in recent years. To prevent HIV transmission, the government has been making various efforts.

DLHS-RCH has collected information on the general state of awareness of HIV/AIDS, its transmission, its prevention and common misconceptions about HIV/AIDS. All the currently married women in the age group 15-44 years and their husbands were first asked if they had ever heard of an illness called HIV/AIDS. Respondents who had heard of HIV/AIDS were further asked about their source of information, mode of transmission and correct knowledge of HIV/AIDS transfusion.

8.5.1 Knowledge of HIV/AIDS

Table 8.10 shows the percentage of women who had heard about HIV/AIDS by some selected background characteristics. About 48 percent of currently married women in Uttaranchal have heard of HIV/AIDS, which is higher than RCH Round – I. In Round-I only 22.8 percent of currently married women were aware of HIV/AIDS.

Knowledge of HIV/AIDS is much lower among rural women, non-literate women, Muslim women, women from scheduled castes, women from households with a low standard of living and younger women. About 71.4 percent of urban women had heard about HIV/AIDS compared to only 39 percent of rural women. Knowledge of HIV/AIDS steadily increased with increase in educational level and household standard of living. Only about one-fifth of the non-literate women (20.4 percent) had heard of HIV/AIDS as against 91.5 percent of women who had completed 10 or more years of schooling. Similarly, a little more than one-fifth of the women (21.4 percent) with a low standard of living had heard of HIV/AIDS as against 78.8 percent of women with a high standard of living. Young women below the age of 20 years have the least knowledge of HIV/AIDS as compared to women from other age groups. Muslim women (37.4 percent) were less aware of HIV/AIDS compared to Hindu women (48.5 percent) and Sikh women (75.3 percent). Women from ‘other caste’ category were more knowledgeable about HIV/AIDS (54.2 percent) than women belonging to other backward classes (42 percent), scheduled-tribes (38 percent) and scheduled castes (31.2 percent).

The government has been using mass media such as television, radio and newspapers extensively to increase awareness among the general public about HIV/AIDS and its prevention. Table 8.10 shows the percentage of currently married women who were aware of HIV/AIDS from different sources. The most prominent source of information about HIV/AIDS is television. About 91.6 percent of women reported that television was their source of information about HIV/AIDS, followed by newspapers, books or magazines (28.4 percent), radio (25.7 percent), slogans or pamphlets or posters or wall hoardings (22.9 percent) and relatives or friends (17 percent). About 7.6 percent of the women reported that a doctor had informed them about HIV/AIDS and 5.3 percent of the women received information of HIV/AIDS from a health worker. A comparatively high proportion of rural women received information about HIV/AIDS from the radio, health worker, community meetings and relatives or friends.

Table 8.10 SOURCE OF KNOWLEDGE ABOUT HIV/AIDS AMONG WOMEN

Percentage of currently married women age 15 - 44 who have heard about HIV/AIDS and among women who have heard about HIV/AIDS, percentage who received information from specific sources by selected background characteristics, Uttaranchal, 2002-04.

Background characteristic	Percentage who have heard about HIV/AIDS	Number of Women	Among those who have heard about HIV/AIDS, percentage who received information from.										Number of women who have heard about HIV/AIDS
			Radio	Televi-sion	Newspaper / Books/ Magazines	Slogan/ Pamphlets/ Posters/ Wall Hoardings	Doctor	Health worker	School teacher	Commun ity Meeting	Relative/ Friends	Others	
Age group (years)													
15-19	37.1	383	26.5	87.9	15.8	20.2	1.7	2.1	1.6	2.5	18.2	1.2	142
20-24	51.7	2,042	30.0	91.1	23.9	22.5	6.4	3.6	1.0	4.2	18.1	1.0	1,057
25-29	53.4	2,235	24.5	90.7	30.8	23.5	9.4	6.6	1.4	5.2	16.4	0.7	1,193
30-34	46.6	1,955	25.6	91.9	30.2	22.5	7.0	4.5	0.4	2.8	15.2	0.6	911
35-39	43.5	1,688	25.0	89.5	27.6	22.9	9.5	7.9	1.8	4.8	20.2	0.7	734
40-44	43.1	1,338	21.0	97.0	33.2	23.5	6.2	4.6	1.6	3.9	14.6	0.6	577
Residence													
Rural	39.0	7,003	30.4	86.9	23.1	19.2	7.1	6.2	0.8	5.5	18.1	0.9	2,730
Urban	71.4	2,638	18.8	98.4	36.1	28.1	8.4	4.2	1.8	2.2	15.3	0.4	1,883
Education													
Non-literate	20.4	4,229	13.7	87.2	1.5	1.9	4.3	5.3	0.1	4.0	15.6	0.5	862
0-9@ years	50.9	2,955	23.5	88.4	13.3	13.5	5.0	3.7	0.7	4.9	18.6	1.0	1,504
10 and above	91.5	2,453	31.8	95.4	48.9	37.2	10.6	6.5	2.0	3.7	16.4	0.7	2,245
Religion													
Hindu	48.5	8,371	26.9	91.2	29.1	23.7	7.8	5.5	1.3	4.3	17.4	0.8	4,061
Muslim	37.4	1,069	14.8	93.6	14.4	12.2	4.7	3.3	0.2	0.5	14.4	0.2	400
Sikh	75.3	160	15.5	94.0	41.3	26.2	12.1	7.3	1.1	9.0	10.8	1.1	121
Other	(74.4)	42	(40.6)	(96.9)	(53.1)	(40.6)	(6.3)	(3.1)	(3.1)	(15.6)	(28.1)	(0.0)	32
Caste/tribe#													
Scheduled caste	31.2	1,267	17.1	90.4	12.9	11.2	3.9	4.5	0.8	4.5	17.5	0.1	395
Scheduled tribe	38.0	301	24.1	90.8	23.6	13.1	9.2	0.4	0.4	7.6	18.8	0.0	115
Other backward class	42.0	2,097	16.8	93.8	16.6	16.5	5.2	5.0	0.6	1.4	17.4	1.0	881
Other	54.2	5,719	29.8	90.9	33.8	26.7	8.9	5.9	1.5	4.8	17.2	0.8	3,097
Standard of living index													
Low	21.4	3,485	31.7	72.4	12.6	13.5	4.4	8.1	1.4	6.3	22.6	0.8	746
Medium	47.6	3,153	26.8	90.7	16.8	17.2	5.1	4.4	0.6	5.6	19.3	0.9	1,501
High	78.8	3,003	23.1	98.1	40.7	29.4	10.3	5.1	1.6	2.6	13.7	0.6	2,367
Total	48.0	9,641	25.7	91.6	28.4	22.9	7.6	5.3	1.2	4.2	17.0	0.7	4,614

Note: Total includes 3 cases of missing information on education are not shown separately. @ Literate women with no year of schooling are also included. # Total figure may not add to N due to do not know and missing cases. ( ) Based on less than 50 unweighted cases.

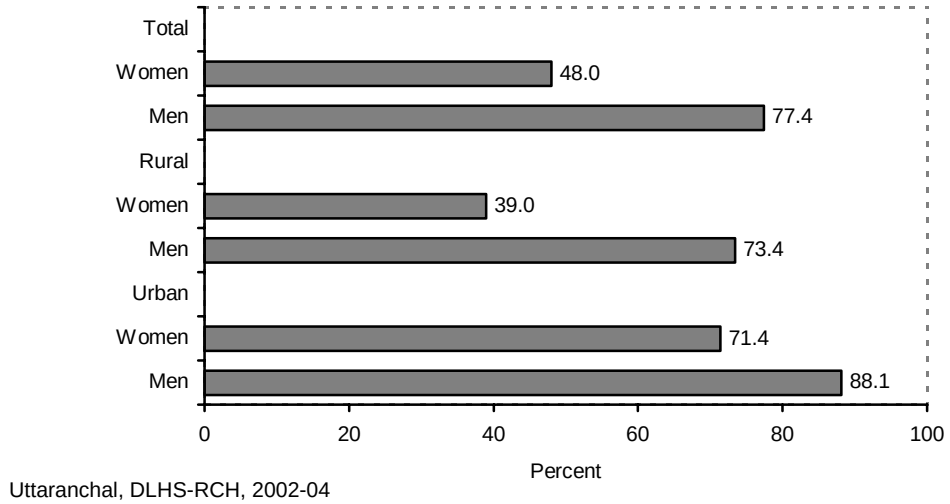
Table 8.11 SOURCE OF KNOWLEDGE ABOUT HIV/AIDS AMONG MEN

Percentage of husbands of currently married women who have heard about RTI/STI and among men who have heard about RTI/STI, percentage who received information from specific sources by selected background characteristics, Uttaranchal, 2002-04.

Background Characteristic	Percentage who have heard about HIV/AIDS	Number of men	Among those who have heard about HIV/AIDS, percentage who received information from.										Number of men who have heard about HIV/AIDS
			Radio	Televi-sion	Newspaper / Books/ Magazines	Slogan/ Pamphlets/ Posters/ Wall Hoardings	Doctor	Health worker	School teacher	Commun -ity Meeting	Relative/ Friends	Others	
Age group (years)													
< 25	81.4	376	43.3	80.9	37.4	33.5	16.1	2.9	0.4	4.6	25.0	2.4	306
25-34	83.8	1,992	41.0	80.9	48.2	40.7	15.7	7.2	1.7	9.3	19.2	2.2	1,669
35-44	75.0	2,069	47.8	79.0	47.7	40.4	15.6	8.4	1.4	7.5	14.2	0.8	1,551
45+	68.2	980	38.7	83.2	43.9	36.7	16.8	5.0	1.8	7.3	15.4	2.4	668
Residence													
Rural	73.4	3,928	48.3	74.6	41.6	36.6	14.9	7.5	1.6	7.8	16.8	1.4	2,883
Urban	88.1	1,489	32.4	93.5	57.5	45.6	17.8	5.8	1.4	8.3	18.0	2.5	1,312
Education													
Non-literate	36.9	986	29.8	63.1	7.3	5.6	8.5	2.7	0.0	17.2	23.0	2.4	364
0-9@ years	75.1	2,062	37.7	72.1	29.4	31.9	12.9	5.6	0.6	9.3	18.6	1.2	1,548
10 and above	96.4	2,369	49.3	89.0	64.4	49.9	19.0	8.6	2.4	5.6	15.3	2.0	2,283
Religion													
Hindu	78.2	4,752	44.8	80.1	49.0	41.1	16.6	7.2	1.7	7.8	16.8	1.9	3,714
Muslim	70.1	564	31.1	84.5	24.9	24.2	10.1	5.1	0.1	10.3	21.4	0.9	396
Sikh	80.5	74	22.3	78.6	28.5	39.1	11.5	4.9	0.0	6.1	14.4	0.0	60
Other	(92.6)	27	(57.1)	(89.3)	(64.3)	(32.1)	(3.6)	(3.6)	(3.6)	(7.1)	(3.6)	(0.0)	25
Caste/tribe#													
Scheduled caste	64.0	756	41.3	72.6	34.8	35.9	15.4	6.0	1.9	12.0	20.4	1.2	484
Scheduled tribe	77.8	197	43.9	89.0	35.5	23.7	14.4	5.8	0.8	2.5	9.5	0.0	153
Other backward class	73.5	1,241	34.7	79.4	33.8	28.5	16.3	7.1	1.3	10.6	18.7	2.5	913
Other	82.4	3,089	46.7	81.7	53.8	45.2	16.3	7.2	1.4	6.8	16.3	1.7	2,546
Standard of living index													
Low	61.2	2,015	50.0	57.2	31.5	30.3	12.1	5.7	0.3	9.5	18.5	0.9	1,233
Medium	80.6	1,707	42.7	84.4	39.7	35.7	15.6	7.8	1.3	6.7	16.0	2.1	1,376
High	93.6	1,695	38.6	95.3	64.2	49.7	18.9	7.2	2.7	7.8	17.1	2.1	1,586
Total	77.4	5,417	43.3	80.5	46.5	39.4	15.8	7.0	1.5	8.0	17.2	1.7	4,195

Note: @ Literate men with no year of schooling are also included. # Total figure may not add to N due to do not know and missing cases. ( ) Based on less than 50 unweighted cases.

Figure 8.4
Awarness of HIV/AIDS by Sex According to Residence



Uttaranchal, DLHS-RCH, 2002-04

Table 8.11 shows the percentage of husbands of currently married women who had heard about HIV/AIDS. In Uttaranchal, the proportion of men who had heard about HIV/AIDS is much higher than that of women. About 77.4 percent of men had heard of HIV/AIDS as compared to 48 percent of women (Figure 8.4).

About 88.1 percent of urban men had heard about HIV/AIDS as compared to only 73.4 percent of rural men. Knowledge of HIV/AIDS varies by men's age, and it is higher for the age group 25-34 years. Awareness of HIV/AIDS is much lower among non-literate men, Muslim men, men from scheduled castes and men who belong to households with a low standard of living. A similar trend is observed in the case of women. About 36.9 percent of non-literate men had heard of HIV/AIDS and it increased up to 75.1 percent for literate men and up to 96.4 percent of men who had completed 10 or more years of schooling. Awareness of HIV/AIDS is also positively related to standard of living.

Table 8.11 also shows the percentage of husbands of currently married women who were aware of HIV/AIDS by different sources. As reported by the men of Uttaranchal, the most prominent source of information of HIV/AIDS was television (80.5 percent) followed by newspapers, books or magazines (46.5 percent). Other important sources of information of HIV/AIDS are the radio (43.3 percent), slogans or pamphlets or posters or wall hoardings (39.4 percent) and relatives or friends (17.2 percent). About 15.8 percent of men reported that a doctor had informed them about HIV/AIDS and 7 percent men had received information of HIV/AIDS from a health worker.

About 8 percent reported that they were informed through community meetings and 1.5 percent received such information from a school teacher. Comparatively, a higher proportion of rural men received information about HIV/AIDS from the radio, health worker and school teacher than urban men. The information on awareness of HIV/AIDS through mass media such as television and newspapers or books or magazines was received more by older men (aged 45 and above), urban men, men with at least 10 years of schooling and men from households with a high standard of living. On the other hand, relatives or friends were the main source of information for young men below age 25, non-literate men, Muslim men, scheduled caste men and men from households with a low standard of living.

8.5.2 Knowledge of Mode of Transmission about HIV/AIDS

Women who were aware of HIV/AIDS were asked about the mode of transmission and this is presented in Table 8.12. Among women who reported awareness of HIV/AIDS, 21.6 percent of them did not know about the mode of transmission.

Table 8.12 SOURCE OF KNOWLEDGE ABOUT MODE OF TRANSMISSION OF HIV/AIDS AMONG WOMEN

Percentage currently married women age 15-44 who have heard of HIV/AIDS, knowledge of mode of transmission by selected background characteristics, Uttaranchal, 2002-04

Background characteristic	Percentage by knowledge of mode of transmission							Number of women who have heard of HIV/AIDS
	Homo sexual intercourse	Hetero sexual intercourse	Needles/ blade/ skin puncture	Mother to child	Transfusion of infected blood	Other	Do not know	
Age								
15-19	6.5	58.8	27.3	8.6	22.1	2.1	30.9	142
20-24	17.5	64.2	39.9	13.3	38.0	0.2	21.1	1,057
25-29	16.6	66.1	38.8	14.8	36.6	1.7	19.2	1,193
30-34	17.7	62.5	41.9	11.8	36.2	1.5	22.2	911
35-39	18.9	60.5	33.5	13.7	35.5	1.4	23.6	734
40-44	20.5	59.9	38.1	11.6	32.0	1.3	21.9	577
Residence								
Rural	14.6	64.5	33.8	11.4	31.8	1.2	22.2	2,730
Urban	21.9	61.0	45.0	15.6	41.3	1.2	20.8	1,883
Education								
Non-literate	13.4	46.9	18.1	5.1	15.0	1.2	39.5	862
0-9@ years	13.8	59.7	26.6	8.2	27.0	0.7	27.7	1,504
10 years and above	21.7	71.5	54.1	19.5	49.4	1.6	10.7	2,245
Religion								
Hindu	17.8	63.9	39.3	13.3	36.5	1.2	20.9	4,061
Muslim	17.5	52.8	27.4	8.8	23.0	2.0	28.2	400
Sikh	12.9	69.5	44.3	20.2	47.7	0.0	22.6	121
Other	(12.5)	(65.6)	(56.3)	19.1	(15.6)	(0.0)	(21.9)	32
Caste/tribe#								
Scheduled caste	13.9	56.9	24.1	6.9	21.2	0.2	30.8	395
Scheduled tribe	28.8	54.1	41.9	18.6	32.4	1.5	17.8	115
Other backward class	19.1	53.3	38.3	9.5	30.2	1.5	27.7	881
Other	16.7	67.6	40.3	14.8	39.4	1.2	19.0	3,097
Standard of living index								
Low	6.6	62.3	21.7	5.0	18.7	0.3	32.4	746
Medium	13.2	61.9	30.5	8.3	29.3	0.8	25.5	1,501
High	23.8	64.0	48.7	18.7	45.0	1.8	15.8	2,367
Total	17.6	63.1	38.4	13.1	35.7	1.2	21.6	4,614

Note: Total includes 3 cases of missing information on education are not shown separately. @ Literate women with no year of schooling are also included. # Total figure may not add to N due to do not and missing cases. ( ) Based on less than 50 unweighted cases.

The proportion of women not knowing about the mode of transmission of HIV/AIDS is higher among rural women, younger women, non-literate women, Muslim women, women from scheduled castes and women with a low standard of living. About 22.2 percent of the rural women do not know about the mode of transmission of HIV/AIDS compared to 20.8 percent of urban women.

Among women who reported different ways of transmission of HIV/AIDS, a large proportion (63.1 percent) mentioned heterosexual intercourse as a mode of transmission. All the socio-economic groups reported that heterosexual intercourse was the main mode of transmission of HIV/AIDS. Other modes reported by women were transmission through needles or blades or skin punctures (38.4 percent), transfusion of infected blood (35.7 percent), mother to child, if pregnancy occurs during a stage of HIV (13.1 percent); about 17.6 percent of the women mentioned that homosexual intercourse could also be a mode of transmission. Only 1.2 percent women stated that there were other ways of transmission of HIV/AIDS.

Table 8.13 SOURCE OF KNOWLEDGE ABOUT MODE OF TRANSMISSION OF HIV/AIDS AMONG MEN

Percentage of husbands of currently married women who have heard of HIV/AIDS, knowledge of mode of transmission by selected background characteristics, Uttaranchal, 2002-04

Background characteristic	Percentage by knowledge of mode of transmission							Number of men who have heard of HIV/AIDS
	Homosexual intercourse	Heterosexual intercourse	Needles/ blade/ skin puncture	Mother to child	Transfusion of infected blood	Other	Do not know	
Age								
<25	15.6	69.9	33.3	9.3	20.5	1.5	17.7	306
25-34	13.5	79.6	42.5	10.2	31.8	2.8	11.1	1,669
35-44	13.8	78.3	39.9	11.1	33.9	2.2	12.4	1,551
45+	13.8	73.0	33.6	7.7	24.0	3.3	16.4	668
Residence								
Rural	9.7	78.3	35.4	8.0	27.2	2.4	14.4	2,883
Urban	22.9	75.1	48.3	14.5	37.8	2.9	9.5	1,312
Education								
Non-literate	6.6	55.4	14.5	2.6	4.6	4.0	37.8	364
0-9@ years	10.4	72.9	25.5	5.0	15.8	3.2	18.0	1,548
10 years and above	17.3	83.8	52.9	14.7	44.7	1.9	5.5	2,283
Religion								
Hindu	14.6	77.5	40.4	10.6	31.6	2.4	12.6	3,714
Muslim	8.2	73.6	30.2	6.6	22.0	4.4	17.2	396
Sikh	2.7	90.5	40.8	2.6	19.9	0.0	1.7	60
Other	(3.6)	(89.3)	(39.3)	(10.7)	(42.9)	(0.0)	(10.7)	25
Caste/tribe#								
Scheduled caste	17.2	67.4	36.5	8.2	26.6	1.0	20.5	484
Scheduled tribe	14.4	73.1	28.6	6.4	17.1	0.0	17.7	153
Other backward class	13.5	74.6	31.2	6.5	22.2	3.1	15.4	913
Other	13.0	80.6	43.2	11.7	35.3	2.8	10.2	2,546
Standard of living index								
Low	6.4	73.0	24.1	5.1	16.5	1.3	21.4	1,233
Medium	9.2	79.2	37.0	7.6	27.5	2.4	12.5	1,376
High	23.5	79.0	53.5	16.1	44.1	3.6	6.6	1,586
Total	13.8	77.3	39.4	10.1	30.5	2.5	12.9	4,195

Note: @ Literate men with no year of schooling are also included. # Total figure may not add to N due to do not and missing cases.
( ) Based on less than 50 unweighted cases.

Table 8.13 presents the knowledge about mode of transmission of HIV/AIDS among men. About 12.9 percent of the men who had heard about HIV/AIDS mentioned that they do not know the mode of transmission. The percentage of men not knowing the mode of transmission is higher among younger men, rural men, non-literate men, Muslim men, men from scheduled-castes and men from households with a low standard of living. Among those who reported ways of transmission of HIV/AIDS, 77.3 percent mentioned heterosexual intercourse as a mode of transmission. All the groups reported that heterosexual intercourse was the main mode of transmission of HIV/AIDS. Other modes reported by men are transmission through needle or blade or skin puncture (39.4 percent), transfusion of infected blood (30.5 percent), mother to child, if pregnancy occurs during a stage of HIV (10.1 percent), and about 13.8 percent of men mentioned that homosexual intercourse could also be a mode of transmission of HIV/AIDS. Only 2.5 percent men stated that there were other ways of transmission of HIV/AIDS.

8.5.3 How to avoid HIV/AIDS

All the respondents, male and female, were asked about how to prevent HIV/AIDS. The percentage of women who said that HIV/AIDS could be avoided by various ways has been presented in Table 8.14 by some selected background characteristics.

Among women who reported about awareness of HIV/AIDS, about 24.9 percent of them did not know how to avoid being infected by HIV/AIDS. This percentage is higher among rural women than among urban women. The percentage of women who did not know of any way to avoid infection decreases with increasing levels of education and household standard of living. About 43.6 percent of non-literate women reported that they did not know of any way to avoid infection as compared to 13.7 percent of women who had completed ten or more years of schooling. Similarly, 33.2 percent of women with low a standard of living stated that they did not know of any way to avoid infection as compared to 19 percent of women with a high standard of living. The percentage of women who did not know ways to avoid infection is also higher among Muslim women, scheduled-caste women and younger women.

Among women who mentioned ways to avoid HIV/AIDS, a higher proportion of women (69 percent) said that “sex with only one partner” is the main way to avoid it. Other ways mentioned by women to prevent HIV/AIDS were ‘sterilizing needles and syringes before injecting’ (36.2 percent), ‘checking blood prior to transfusion’ (33.1 percent), ‘using condoms correctly during each sexual intercourse’ (28.8 percent) and 9.7 percent of the women reported that pregnancy should be avoided if couples were infected with HIV/AIDS. All the specific ways reported by women to avoid becoming infected with HIV/AIDS are proportionally higher in urban areas, among Sikh women, among women who belong to ‘other castes’ category, among women with a high level of education and among women with a high standard of living.

Table 8.15 shows the percentage of men who reported that HIV/AIDS could be avoided by some selected background characteristics. Among men who are aware of HIV/AIDS, 15.6 percent of them did not know of any method to avoid infection compared to 24.9 percent women in the state.

Table 8.14 KNOWLEDGE ABOUT AVOIDANCE OF HIV/AIDS AMONG WOMEN

Among currently married women age 15-44 who have heard about HIV/AIDS, the percentage of women reported HIV/AIDS can be avoided in specific ways by selected background characteristics, Uttaranchal, 2002-04

Background characteristic	Percentage reported HIV/AIDS can be avoided by:							
	Sex With Only one partner	Using condoms correctly during each sexual intercourse	Checking blood prior to transfusion	Sterilizing needles and syringes for injection	Avoiding pregnancy when having HIV/AIDS	Other	Do not know to avoid HIV/AIDS	Number of women
Age								
15-19	58.7	20.9	19.4	24.2	7.0	1.6	34.9	142
20-24	69.7	30.1	36.9	37.5	10.0	1.5	24.2	1,057
25-29	69.5	30.1	32.0	35.8	10.0	1.8	23.7	1,193
30-34	70.8	28.9	34.8	38.5	10.0	1.7	23.5	911
35-39	68.4	27.8	31.4	32.4	9.0	2.1	25.9	734
40-44	67.1	27.1	30.7	38.9	9.6	0.9	27.2	577
Residence								
Rural	68.5	26.4	28.8	32.0	7.2	1.6	25.4	2,730
Urban	69.7	32.3	39.2	42.3	13.2	1.7	24.1	1,883
Education								
Non-literate	52.1	12.8	12.3	16.7	3.0	0.7	43.6	862
0-9@ years	63.8	19.5	23.4	25.9	4.9	2.0	30.9	1,504
10 years and above	78.9	41.2	47.5	50.6	15.4	1.8	13.7	2,245
Religion								
Hindu	69.7	29.4	33.8	37.0	9.7	1.7	24.2	4,061
Muslim	63.0	20.3	19.2	26.7	6.9	0.2	31.0	400
Sikh	65.1	36.9	48.9	42.9	21.4	3.5	28.9	121
Other	(71.9)	(34.4)	(56.3)	(53.1)	(9.4)	(3.1)	(25.0)	32
Caste/tribe#								
Scheduled caste	60.2	18.8	19.0	23.5	5.6	0.9	36.9	395
Scheduled tribe	66.1	27.5	32.0	22.5	11.0	2.8	29.5	115
Other backward class	62.7	23.5	27.4	35.9	8.2	1.4	31.6	881
Other	72.2	32.1	36.6	38.9	10.9	1.8	21.0	3,097
Standard of living index								
Low	62.1	18.6	17.1	20.7	3.0	0.8	33.2	746
Medium	63.6	24.4	26.8	28.8	5.6	1.5	30.1	1,501
High	74.6	34.9	42.0	45.8	14.4	2.0	19.0	2,367
Total	69.0	28.8	33.1	36.2	9.7	1.6	24.9	4,614

Note: Total includes 3 cases missing information on education are not shown separately. @ Literate women with no year of schooling are also included. # Total figure may not add to N due to do not and missing cases. ( ) Based on less than 50 unweighted cases.

In Uttaranchal a higher proportion of men (70.3 percent) reported that 'sex with only one partner' is the way to avoid HIV/AIDS and this was the most commonly reported way to avoid HIV/AIDS in all the groups. Other ways mentioned by men to prevent HIV/AIDS are 'using condoms correctly during each sexual intercourse' (48.9 percent), 'sterilizing needles and syringes before injecting' (33.2 percent) and 'checking blood prior to transfusion' (29 percent). All the specific ways reported by men to avoid being infected with HIV/AIDS are proportionally higher in urban areas than in rural areas, among Hindu men, among men who belong to 'other caste' category, among men with a high level of education and among men with a high standard of living.

Table 8.15 KNOWLEDGE ABOUT AVOIDANCE OF HIV/AIDS AMONG MEN

Among husbands of currently married women who have heard about HIV/AIDS, the percentage of men reported HIV/AIDS can be avoided in specific ways by selected background characteristics, Uttaranchal, 2002-04

Background characteristic	Percentage reported HIV/AIDS can be avoided by: Sex with only one partner	Using condoms correctly during each sexual intercourse	Checking blood prior to transfusion	Sterilizing needles and syringes for injection	Avoiding pregnancy when having HIV/AIDS	Other	Do not know to avoid HIV/AIDS	Number of men
Age								
<25	65.3	52.8	19.2	26.6	6.1	3.8	21.1	306
25-34	71.3	52.9	31.2	36.4	8.1	4.6	14.1	1,669
35-44	70.0	47.6	31.6	35.2	8.5	4.3	15.1	1,551
45+	70.7	40.2	22.1	23.7	3.7	3.9	17.9	668
Residence								
Rural	67.3	47.9	26.0	31.0	6.0	4.8	17.6	2,883
Urban	76.9	51.2	35.5	38.1	10.4	3.3	11.2	1,312
Education								
Non-literate	43.0	21.2	4.7	9.1	0.9	6.9	45.8	364
0-9@ years	64.1	35.7	14.8	20.9	3.5	4.2	22.5	1,548
10 years and above	78.8	62.3	42.5	45.4	11.0	4.1	6.1	2,283
Religion								
Hindu	70.6	50.1	30.1	34.5	7.8	3.8	15.0	3,714
Muslim	67.5	35.6	19.8	23.2	4.8	8.7	23.8	396
Sikh	65.0	62.4	17.1	26.0	2.6	9.6	3.3	60
Other	(75.0)	(60.7)	(35.7)	(28.6)	(0.0)	(0.0)	(14.3)	25
Caste/tribe#								
Scheduled caste	63.3	43.2	21.8	27.8	5.4	4.5	22.9	484
Scheduled tribe	60.3	49.1	19.6	22.7	3.7	0.0	16.1	153
Other backward class	69.6	43.2	21.2	25.2	5.7	3.9	19.7	913
Other	72.4	52.4	33.5	37.8	8.6	4.7	12.4	2,546
Standard of living index								
Low	60.5	34.8	14.4	18.7	3.8	4.8	27.8	1,233
Medium	68.7	52.6	26.4	33.9	6.2	4.9	14.1	1,376
High	79.2	56.8	42.6	43.9	11.3	3.5	7.4	1,586
Total	70.3	48.9	29.0	33.2	7.4	4.4	15.6	4,195

Note: @ Literate men with no year of schooling are also included. # Total figure may not add to N due to do not and missing cases.
( ) Based on less than 50 unweighted cases.

8.5.4 Misconception about HIV/AIDS

People generally have misconceptions about the ways of transmission of HIV/AIDS, such as 'shaking hands with a person having AIDS', hugging and kissing them, sharing their clothes or sharing eating utensils, stepping on urine/stool, through insect bites, for example, being bitten by mosquitoes, fleas and bedbugs. All these questions were asked to the respondents who had heard of HIV/AIDS.

Table 8.16 shows the percentage of women with misconceptions about spreading HIV/AIDS through specific ways by selected background characteristics. About 11.6 percent women in report that being bitten by mosquitoes, fleas or bedbugs is a way of getting HIV/AIDS infection and this percentage is higher in urban areas (13.8 percent) than in rural areas (10.2

percent). Non-literate women, women from households with a high standard of living, Muslim women and women from scheduled tribes mentioned this method of transmission more often. Other misconceptions about the spreading of HIV/AIDS were 'sharing eating utensils' (11.1 percent), 'kissing' (10.3 percent), 'stepping on urine/stool' (10.1 percent), 'sharing clothes' (10.1 percent), 'hugging' (7.8 percent), and 'shaking hands' (6.7 percent). Most of these misconceptions are reported by a higher proportion of urban women, Muslim women, non-literate women and women with a high standard of living.

Table 8.16 MISCONCEPTION ABOUT TRANSMISSION OF HIV/AIDS AMONG WOMEN

Among currently married women age 15-44 who have heard about HIV/AIDS, the percentage of women having misconception about the transmission of HIV/AIDS by selected background characteristics, Uttaranchal, 2002-04

Background characteristic	Percentage having misconception about the transmission of HIV/AIDS							Number of women
	Shaking hands	Hugging	Kissing	Sharing clothes	Sharing eating utensils	Stepping on Urine / stool	Mosquito, flea, or bedbugs biting	
Residence								
Rural	6.6	7.3	9.6	9.3	10.3	9.3	10.2	2,730
Urban	6.8	8.5	11.2	11.3	12.3	11.3	13.8	1,883
Education								
Non-literate	10.8	11.8	12.1	13.5	13.1	12.8	14.1	862
0-9@ years	7.1	8.0	9.9	11.1	12.4	10.2	12.4	1,504
10 years and above	4.8	6.1	9.8	8.2	9.5	9.1	10.2	2,245
Religion								
Hindu	6.5	7.4	9.9	9.5	10.8	9.8	11.3	4,061
Muslim	9.2	11.4	12.7	16.5	14.6	14.2	14.7	400
Sikh	5.8	8.3	13.0	9.4	12.2	10.4	13.0	121
Other	(3.1)	(3.1)	(9.4)	(9.4)	(9.4)	(6.3)	(15.6)	32
Caste/tribe#								
Scheduled caste	8.6	10.3	14.5	12.4	15.1	13.4	16.9	395
Scheduled tribe	9.6	9.5	16.5	10.4	4.5	7.8	20.9	115
Other backward class	9.4	10.5	12.3	14.8	15.2	13.9	13.0	881
Other	5.7	6.8	8.8	8.8	9.5	8.9	9.9	3,097
Standard of living index								
Low	6.9	8.1	8.0	7.3	8.8	6.0	6.8	746
Medium	7.9	9.2	10.4	10.0	10.7	10.0	11.1	1,501
High	5.8	6.8	10.9	11.1	12.1	11.5	13.5	2,367
Total	6.7	7.8	10.3	10.1	11.1	10.1	11.6	4,614

Note: Total includes 3 cases missing information on education are not shown separately. @ Literate women with no year of schooling are also included. # Total figure may not add to N due to do not and missing cases. ( ) Based on less than 50 unweighted cases.

Table 8.17 presents the percentage of men with misconceptions about the spreading of HIV/AIDS through specific ways by selected background characteristics. Again, just like the women, men in most of the groups reported that HIV/AIDS is transmitted through the biting of mosquitoes, fleas or bedbugs. About 23.5 percent of the men felt so. The percentage who reported that HIV/AIDS could be transmitted through the biting of mosquitoes or fleas or bedbugs was much higher among urban men (25.1 percent) than among rural men (22.8 percent). Literate men who have completed nine years of schooling, men from households with a low standard of living, Muslim men, and scheduled caste men are of the impression that HIV/AIDS spreads when one is bitten by mosquitoes, fleas or bedbugs. Other misconceptions about the ways of spreading of HIV/AIDS are 'kissing' (19.4 percent), 'sharing eating utensils' (17.8

percent), 'sharing clothes' (17.7 percent), 'stepping on urine/stool' (14.3 percent), 'hugging' (14.1 percent), and 'shaking hands' (13.1 percent). All the misconceptions reported by men are relatively higher than those reported by women. The percentage of most of these misconceptions is also higher among scheduled caste men, Muslim men, non-literate men, men with a low standard of living and among men from rural areas.

Table 8.17 MISCONCEPTION ABOUT TRANSMISSION OF HIV/AIDS AMONG MEN

Among husbands currently married women who have heard about HIV/AIDS, the percentage of men having misconception about the transmission of HIV/AIDS by selected background characteristics, Uttaranchal, 2002-04

Background characteristic	Percentage having misconception about the transmission of HIV/AIDS							Number of men
	Shaking hands	Hugging	Kissing	Sharing clothes	Sharing eating utensils	Stepping on Urine / stool	Mosquito, flea, or bedbugs biting	
Residence								
Rural	14.5	15.3	20.3	19.0	18.7	15.1	22.8	2,883
Urban	10.1	11.4	17.4	14.8	15.7	12.4	25.1	1,312
Education								
Non-literate	25.4	26.4	32.1	32.5	32.4	26.7	8.7	364
0-9@ years	18.5	19.7	25.8	23.9	24.2	18.5	25.0	1,548
10 years and above	7.5	8.3	13.1	11.2	11.0	9.4	21.7	2,283
Religion								
Hindu	12.6	13.5	19.2	17.4	17.0	14.0	23.4	3,714
Muslim	19.2	20.6	22.8	23.4	25.8	17.4	26.3	396
Sikh	7.4	7.4	14.8	7.4	11.6	7.6	20.7	60
Other	(10.7)	(10.7)	(7.1)	(7.1)	(10.7)	(10.7)	(14.3)	25
Caste/tribe#								
Scheduled caste	22.2	22.3	27.7	26.4	25.7	19.8	30.8	484
Scheduled tribe	10.5	10.8	17.6	11.5	15.0	11.8	27.1	153
Other backward class	17.6	19.3	23.8	22.6	24.3	16.5	23.7	913
Other	9.9	10.8	16.1	14.4	14.0	12.3	21.8	2,546
Standard of living index								
Low	18.9	20.1	26.0	23.8	24.6	19.0	24.0	1,233
Medium	14.4	15.2	20.1	20.1	18.3	15.1	22.7	1,376
High	7.5	8.4	13.7	10.9	12.0	9.9	24.0	1,586
Total	13.1	14.1	19.4	17.7	17.8	14.3	23.5	4,195

Note: @ Literate men with no year of schooling are also included. # Total figure may not add to N due to do not and missing cases. ( ) Based on less than 50 unweighted cases.

8.5.5 Knowledge of Curability of HIV/AIDS

Table 8.18 shows the percentage distribution of currently married women and their husbands who have heard about HIV/AIDS by knowledge of curability of the same, according to some selected background characteristics. Around 27.8 percent women and 29.2 percent men have the notion that HIV/AIDS is curable, whereas 44.4 percent women and 51.3 percent men replied that the disease is not curable. About 27.8 percent women and 19.5 percent men do not have any idea regarding the curability of the disease. It can be safely asserted from the figures that both men and women of urban areas, having high level of education, belonging to Hindu religion and other castes and those from households of high standard of living are showing better performance as far as the knowledge of curability of HIV/AIDS is concerned.

Table 8.18 KNOWLEDGE OF CURABILITY ABOUT HIV/AIDS

Among currently married women and their husband, who have heard about HIV/AIDS, Percent distribution of respondents by knowledge of curability about HIV/AIDS, according to some selected background characteristics, Uttaranchal, 2002-04

Background characteristic	Percent distribution of women			Number of women	Percent distribution of men			Number of men
	Yes	No	Do not know		Yes	No	Do not know	
Residence								
Rural	25.2	44.4	30.4	2,730	26.2	50.9	22.9	2,883
Urban	31.5	44.4	24.0	1,883	35.9	52.0	12.0	1,312
Education								
Non-literate	23.0	32.1	44.9	862	31.7	25.3	42.8	364
0-9@ years	25.6	39.8	34.5	1,504	31.7	42.7	25.6	1,548
10 years and above	31.1	52.1	16.8	2,245	27.2	61.2	11.6	2,283
Religion								
Hindu	27.9	45.0	27.1	4,061	28.4	52.2	19.3	3,714
Muslim	28.2	40.3	31.6	400	36.4	41.7	21.7	396
Sikh	20.7	43.5	35.8	121	27.0	59.1	13.8	60
Other	40.4	22.5	37.1	32	(32.1)	(50.0)	(17.9)	25
Caste/tribe#								
Scheduled caste	27.6	32.6	39.8	395	34.1	37.2	28.7	484
Scheduled tribe	37.9	39.8	22.4	115	24.1	50.6	25.3	153
Other backward class	26.2	43.8	30.0	881	32.2	46.2	21.6	913
Other	27.6	46.6	25.8	3,097	26.7	56.3	17.0	2,546
Standard of living index								
Low	18.7	38.1	43.2	746	28.1	43.0	28.8	1,233
Medium	23.6	44.8	31.6	1,501	27.4	52.9	19.7	1,376
High	33.3	46.1	20.6	2,367	31.6	56.2	12.1	1,586
Total	27.8	44.4	27.8	4,614	29.2	51.3	19.5	4,195

Note: Total includes 3 cases missing information on education are not shown separately @ Literate persons with no year of schooling are also included. # Total figure may not add to N due to do not and missing cases. ( ) Based on less than 50 unweighted cases.

8.6 Awareness of RTI/STI and HIV/AIDS by Districts

Table 8.19 shows the district-wise percentage distribution of currently married women and their husbands who are aware of RTI/STI and HIV/AIDS.

According to DLHS, 28.9 percent and 48 percent of women were aware of RTI/STI and HIV/AIDS respectively and the corresponding figures for husbands of eligible women are 39.9 percent and 77.4 percent respectively. The awareness of RTI/STI and HIV/AIDS among men is higher than that among women by 11 and 29 percentage points.

In all the districts, men are more aware of RTI/STI and HIV/AIDS than women except in Almora where slightly more percentage of women are aware of RTI/STI than men. The highest level of awareness about RTI/STI among women was reported in Almora (51.6 percent), followed by Pauri Garhwal (45.3 percent) and the lowest in Uttarkashi (9.9 percent). Among men, the highest level of awareness of RTI/STI was reported in Champawat (65.4 percent),

followed by Tehri Garhwal (59.5 percent) and Pauri Garhwal (56.2 percent) and the lowest in Uttarkashi (15 percent).

The proportion of husbands of eligible currently married women aged 15-44 years who are aware of HIV/AIDS in the districts of Uttaranchal are also presented in Table 8.19. Among women, the awareness about HIV/AIDS ranges from the highest of 66.3 percent in Pauri Garhwal to the lowest of 24.9 percent in Uttarkashi. With the exception of Uttarkashi, Rudraprayag, Hardwar and Champawat, in every district, a minimum of two-fifth of the women reported awareness of HIV/AIDS. A high level of awareness of HIV/AIDS among men exceeding 75 percent was reported in all the districts except Uttarkashi, Hardwar and Dehradun.

Table 8.19 AWARENESS OF RTI/STI AND HIV/AIDS BY DISTRICT

Percentage of currently married women and their husbands aware of RTI/STI and HIV/AIDS by district, Uttaranchal, 2002-04

	Percentage of women		Percentage of men	
District	Aware of RTI/STI	Aware of HIV/AIDS	Aware of RTI/STI	Aware of HIV/AIDS
Almora	51.6	45.5	49.1	76.1
Bageshwar	30.6	53.5	51.1	85.2
Chamoli	29.7	47.9	46.7	78.9
Champawat	36.5	39.4	65.4	85.0
Dehradun	20.9	49.9	25.3	72.8
Hardwar	15.8	37.5	23.9	68.5
Nainital	39.2	56.9	52.1	86.7
Pithoragarh	25.4	43.2	38.1	77.5
Pauri Garhwal	45.3	66.3	56.2	87.1
Rudraprayag	21.1	32.2	28.8	76.7
Tehri Garhwal	28.2	55.6	59.5	84.6
Udham Singh Nagar	39.2	57.9	52.5	77.9
Uttarkashi	9.9	24.9	15.0	68.5
Uttaranchal	28.9	48.0	39.9	77.4

Appendix – A

Sampling Error Estimation

The accuracy of programme indicators such as contraceptive prevalence rate, unmet need and institutional delivery, antenatal coverage etc. estimated from DLHS-RCH can be assessed in terms of stability of the estimated indicators as measured by the standard errors. Standard errors reflect only the appropriateness and suitability of sampling design adopted for RCH survey. However, the accuracy of estimated programme indicator are also affected to a great extent by non-sampling errors arising from lack of proper operationalisation and non-response cases, and is inherent in large scale surveys. The estimation producers of District Level Reproductive & Child Health survey takes into consideration design appropriateness and non-response rates. DLHS-RCH estimator of programme indicators is design as

$$r = \frac{\sum_h \sum_j \sum_i w_{hji} y_{hji}}{\sum_h \sum_j \sum_i w_{hji} x_{hji}} = \frac{y}{x} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

where the cell (h, j, i) stands for i^{th} observational unit in j^{th} primary sampling unit (PSU) in h^{th} stratum, basically rural-urban areas of a district are taken as strata. W_{hij} is the sampling weight of $(h, j, i)^{th}$ cell inflated by response rates. The variables y and x denote the main and the auxiliary characteristics required for computation of proportion or ratios.

The equation for estimation of variance of programme indicator (r) is obtained after Taylor series linearisation as

$$var(r) = \frac{1}{x^2}[\, var(y) + r^2\, var(x) - 2\, r\, cov(y, x)] \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (2)$$

$$var(y) = \sum_h \frac{n_h}{n_h - 1} \left[\sum_j \sum_i (w_{hji} y_{hij})^2 - \frac{\left(\sum_j \sum_i w_{hji} y_{hji} \right)^2}{n_h} \right] \quad \ldots\ldots\ldots\ldots\ldots (3)$$

$$cov(y, x) = \sum_h \frac{n_h}{n_h - 1} \left[\sum_j \sum_i w_{hji}^2 y_{hji} x_{hji} - \frac{(\sum_j \sum_i w_{hji} y_{hji})(\sum_j \sum_i w_{hji} x_{hji})}{n_h} \right] \quad \ldots\ldots\ldots\ldots (4)$$

and n_h is the number of sampled PSUs representing rural or urban areas of a district/state.

List of Selected Programme Variables for Sampling Errors, RCH 2002-04

Variable	Estimate	Base Population
CPR (Any Method)	Proportion	Currently married women age 15-44 years
Unmet Need	Proportion	Currently married women age 15-44 years
Any ANC	Proportion	Last live/still births in the past three years
ANC3+	Proportion	Last live/still births in the past three years
Institutional Delivery	Proportion	Last live/still births in the past three years
Safe Delivery	Proportion	Last live/still births in the past three years
BCG	Proportion	Children age 12-23 months
Measles	Proportion	Children age 12-23 months
Birth order 3+	Proportion	Currently married women age 15-44 years with births in past three years

Sampling errors, Uttaranchal, 2002-04

Variables	Estimate (R)	Sampling error (SE)	Number of cases: Unweighted	Number of cases: Weighted	Design Effect	Relative Error (%)	95% Conf. Interval: R-1.96 SE	95% Conf. Interval: R+1.96 SE
Contraceptive Prevalence Rate (Currently Married Women age 15-44)								
Total	0.487	0.007	9,641	9,641	2.138	1.5	0.472	0.501
Rural	0.458	0.008	7,002	7,003	1.845	1.8	0.442	0.473
Urban	0.564	0.016	2,639	2,638	2.870	2.9	0.532	0.596
Unmet Need (Currently Married Women age 15-44)								
Total	0.269	0.007	9,641	9,641	2.307	2.6	0.255	0.282
Rural	0.281	0.008	7,002	7,003	2.069	2.7	0.266	0.297
Urban	0.235	0.014	2,639	2,638	3.001	6.1	0.207	0.263
Received Any Antenatal Check up (last live/still birth of past 3 years)								
Total	0.626	0.012	3,704	3,897	2.261	1.9	0.603	0.649
Rural	0.569	0.013	2,826	2,924	2.015	2.3	0.544	0.595
Urban	0.797	0.021	878	973	2.776	2.7	0.755	0.839
Received 3+ Antenatal Check up (last live/still birth of past 3 years)								
Total	0.280	0.011	3,704	3,896	2.369	4.0	0.258	0.301
Rural	0.207	0.010	2,826	2,924	1.939	5.1	0.186	0.228
Urban	0.498	0.028	878	972	3.146	5.7	0.442	0.553
Institutional Delivery (last live/still birth of past 3 years)								
Total	0.237	0.010	3,704	3,896	2.126	4.2	0.217	0.257
Rural	0.175	0.010	2,826	2,924	1.872	5.5	0.156	0.194
Urban	0.423	0.027	878	972	2.937	6.4	0.370	0.476
Safe Delivery (last live/still birth of past 3 years)								
Total	0.325	0.011	3,704	3,897	2.153	3.4	0.304	0.347
Rural	0.254	0.011	2,826	2,924	1.846	4.3	0.233	0.276
Urban	0.539	0.029	878	973	3.262	5.3	0.483	0.596
Received BCG Vaccination (last and last but one living children, age 12-23 months)								
Total	0.727	0.020	1,148	1,227	2.315	2.8	0.687	0.766
Rural	0.682	0.023	868	926	2.118	3.4	0.636	0.727
Urban	0.866	0.035	280	301	3.012	4.1	0.796	0.935
Received Measles (last and last but one living children, age 12-23 months)								
Total	0.544	0.022	1,148	1,227	2.150	4.0	0.501	0.586
Rural	0.508	0.023	868	926	1.870	4.6	0.462	0.553
Urban	0.655	0.049	280	301	2.941	7.5	0.558	0.751
Birth order 3+ (birth in last three years)								
Total	0.459	0.011	3,982	4,247	2.246	2.5	0.437	0.482
Rural	0.487	0.013	3,029	3,207	1.997	2.6	0.463	0.512
Urban	0.374	0.026	953	1,040	2.973	6.9	0.323	0.425

Sampling errors, Uttaranchal, 2002-04

District	Estimate (R)	Sampling error (SE)	Number of cases		Relative Error (%)	95% Conf. Interval	
			Unweighted	Weighted		R-1.96 SE	R+1.96 SE
Contraceptive Prevalence Rate (Currently Married Women age 15-44)							
Almora	0.436	0.025	730	730	5.7	0.387	0.485
Bageshwar	0.533	0.021	716	716	3.9	0.493	0.574
Chamoli	0.570	0.020	724	724	3.5	0.531	0.609
Champawat	0.528	0.030	763	763	5.7	0.470	0.586
Dehradun	0.420	0.027	709	709	6.4	0.367	0.473
Hardwar	0.399	0.021	751	751	5.3	0.358	0.440
Nainital	0.516	0.024	801	801	4.7	0.470	0.562
Pithoragarh	0.561	0.022	763	763	3.9	0.518	0.604
Pouri Garhwal	0.547	0.021	679	671	3.8	0.507	0.588
Rudraprayag	0.541	0.023	763	763	4.3	0.496	0.586
Tehri Garhwal	0.505	0.020	738	738	4.0	0.465	0.545
Udham Singh Nagar	0.549	0.019	791	791	3.5	0.511	0.587
Uttarkashi	0.511	0.021	713	713	4.1	0.469	0.553

Sampling errors, Uttaranchal, 2002-04

District	Estimate (R)	Sampling error (SE)	Number of cases		Relative Error (%)	95% Conf. Interval	
			Unweighted	Weighted		R-1.96 SE	R+1.96 SE
Unmet Need (Currently Married Women age 15-44)							
Almora	0.324	0.025	730	730	7.7	0.276	0.373
Bageshwar	0.236	0.018	716	714	7.6	0.201	0.270
Chamoli	0.178	0.016	724	723	9.0	0.147	0.208
Champawat	0.209	0.025	763	762	12.0	0.161	0.257
Dehradun	0.348	0.027	709	709	7.8	0.295	0.401
Hardwar	0.355	0.021	751	751	5.9	0.314	0.396
Nainital	0.285	0.022	801	801	7.7	0.243	0.328
Pithoragarh	0.211	0.018	763	763	8.5	0.176	0.246
Pouri Garhwal	0.199	0.017	679	672	8.5	0.166	0.231
Rudraprayag	0.225	0.019	763	763	8.4	0.187	0.262
Tehri Garhwal	0.203	0.017	738	738	8.4	0.170	0.236
Udham Singh Nagar	0.221	0.016	791	791	7.2	0.189	0.252
Uttarkashi	0.189	0.017	713	713	9.0	0.157	0.222

Sampling errors, Uttaranchal, 2002-04

District	Estimate (R)	Sampling error (SE)	Number of cases Unweighted	Number of cases Weighted	Relative Error (%)	95% Conf. Interval R-1.96 SE	95% Conf. Interval R+1.96 SE
Received Any Antenatal Check up (last live/still birth of past 3 years)							
Almora	0.534	0.041	302	311	7.7	0.453	0.615
Bageshwar	0.817	0.026	255	256	3.2	0.767	0.867
Chamoli	0.767	0.031	229	225	4.0	0.707	0.827
Champawat	0.786	0.035	282	304	4.5	0.718	0.854
Dehradun	0.512	0.044	283	287	8.6	0.426	0.598
Hardwar	0.455	0.030	373	382	6.6	0.396	0.515
Nainital	0.730	0.030	331	348	4.1	0.672	0.788
Pithoragarh	0.565	0.037	274	270	6.5	0.493	0.637
Pouri Garhwal	0.812	0.028	235	242	3.4	0.758	0.866
Rudraprayag	0.476	0.038	296	290	8.0	0.402	0.551
Tehri Garhwal	0.709	0.034	244	245	4.8	0.642	0.775
Udham Singh Nagar	0.813	0.025	292	294	3.1	0.764	0.862
Uttarkashi	0.499	0.032	308	303	6.4	0.436	0.561

Sampling errors, Uttaranchal, 2002-04

District	Estimate (R)	Sampling error (SE)	Number of cases Unweighted	Number of cases Weighted	Relative Error (%)	95% Conf. Interval R-1.96 SE	95% Conf. Interval R+1.96 SE
Received 3+ Antenatal Check up (last live/still birth of past 3 years)							
Almora	0.249	0.031	302	311	12.4	0.188	0.310
Bageshwar	0.265	0.032	255	257	12.1	0.202	0.328
Chamoli	0.236	0.031	229	226	13.1	0.174	0.298
Champawat	0.310	0.046	282	302	14.8	0.220	0.400
Dehradun	0.355	0.041	283	287	11.5	0.275	0.435
Hardwar	0.241	0.025	373	381	10.4	0.191	0.291
Nainital	0.376	0.037	331	347	9.8	0.303	0.449
Pithoragarh	0.257	0.031	274	272	12.1	0.196	0.317
Pouri Garhwal	0.348	0.034	235	242	9.8	0.282	0.413
Rudraprayag	0.163	0.025	296	292	15.3	0.114	0.213
Tehri Garhwal	0.229	0.030	244	245	13.1	0.171	0.287
Udham Singh Nagar	0.317	0.029	292	293	9.1	0.259	0.375
Uttarkashi	0.178	0.023	308	304	12.9	0.133	0.223

Sampling errors, Uttaranchal, 2002-04

District	Estimate (R)	Sampling error (SE)	Number of cases		Relative Error (%)	95% Conf. Interval	
			Unweighted	Weighted		R-1.96 SE	R+1.96 SE
Institutional Delivery (last live/still birth of past 3 years)							
Almora	0.226	0.031	302	311	13.7	0.164	0.287
Bageshwar	0.241	0.032	255	257	13.3	0.178	0.303
Chamoli	0.187	0.028	229	226	15.0	0.132	0.242
Champawat	0.128	0.030	282	303	23.4	0.068	0.187
Dehradun	0.316	0.037	283	288	11.7	0.244	0.388
Hardwar	0.310	0.028	373	382	9.0	0.255	0.364
Nainital	0.198	0.025	331	346	12.6	0.148	0.248
Pithoragarh	0.287	0.032	274	269	11.1	0.224	0.351
Pouri Garhwal	0.332	0.033	235	242	9.9	0.268	0.396
Rudraprayag	0.166	0.027	296	291	16.3	0.113	0.218
Tehri Garhwal	0.272	0.032	244	245	11.8	0.211	0.334
Udham Singh Nagar	0.203	0.026	292	293	12.8	0.152	0.254
Uttarkashi	0.082	0.016	308	303	19.5	0.050	0.114

Sampling errors, Uttaranchal, 2002-04

District	Estimate (R)	Sampling error (SE)	Number of cases		Relative Error (%)	95% Conf. Interval	
			Unweighted	Weighted		R-1.96 SE	R+1.96 SE
Safe Delivery (last live/still birth of past 3 years)							
Almora	0.332	0.036	302	310	10.8	0.262	0.402
Bageshwar	0.407	0.035	255	257	8.6	0.337	0.476
Chamoli	0.245	0.030	229	227	12.2	0.185	0.304
Champawat	0.259	0.037	282	303	14.3	0.185	0.332
Dehradun	0.369	0.039	283	287	10.6	0.292	0.445
Hardwar	0.340	0.029	373	382	8.5	0.285	0.396
Nainital	0.340	0.033	331	346	9.7	0.275	0.405
Pithoragarh	0.352	0.034	274	269	9.7	0.284	0.419
Pouri Garhwal	0.430	0.035	235	241	8.1	0.362	0.498
Rudraprayag	0.230	0.030	296	291	13.0	0.172	0.289
Tehri Garhwal	0.379	0.035	244	245	9.2	0.311	0.447
Udham Singh Nagar	0.375	0.031	292	294	8.3	0.314	0.436
Uttarkashi	0.101	0.018	308	304	17.8	0.066	0.136

Sampling errors, Uttaranchal, 2002-04

District	Estimate (R)	Sampling error (SE)	Number of cases		Relative Error (%)	95% Conf. Interval	
			Unweighted	Weighted		R-1.96 SE	R+1.96 SE
Received BCG Vaccination (last and last but one living children, age 12-23 months)							
Almora	0.832	0.061	108	98	7.3	0.713	0.951
Bageshwar	0.885	0.037	69	75	4.1	0.814	0.957
Chamoli	0.836	0.053	55	58	6.3	0.733	0.939
Champawat	0.754	0.063	72	73	8.3	0.631	0.877
Dehradun	0.672	0.089	76	74	13.2	0.498	0.846
Garhwal	0.837	0.055	124	130	6.5	0.729	0.944
Hardwar	0.527	0.051	110	122	9.7	0.427	0.628
Nainital	0.850	0.044	81	81	5.2	0.764	0.936
Pithoragarh	0.797	0.058	46	53	7.2	0.684	0.910
Rudraprayag	0.851	0.048	82	82	5.6	0.758	0.944
Tehri Garhwal	0.747	0.062	59	63	8.3	0.625	0.869
Udham Singh Nagar	0.719	0.052	75	79	7.2	0.617	0.821
Uttarkashi	0.672	0.055	96	94	8.2	0.564	0.780

Sampling errors, Uttaranchal, 2002-04

District	Estimate (R)	Sampling error (SE)	Number of cases		Relative Error (%)	95% Conf. Interval	
			Unweighted	Weighted		R-1.96 SE	R+1.96 SE
Received Measles (last and last but one living children, age 12-23 months)							
Almora	0.663	0.063	108	98	9.5	0.539	0.786
Bageshwar	0.720	0.058	69	75	8.1	0.606	0.835
Chamoli	0.718	0.066	55	58	9.1	0.590	0.847
Champawat	0.669	0.071	72	73	10.6	0.531	0.808
Dehradun	0.541	0.086	76	74	15.9	0.372	0.711
Garhwal	0.740	0.064	124	130	8.6	0.615	0.866
Hardwar	0.295	0.045	110	122	15.1	0.208	0.383
Nainital	0.744	0.049	81	81	6.6	0.648	0.840
Pithoragarh	0.650	0.064	46	53	9.9	0.525	0.776
Rudraprayag	0.466	0.064	82	82	13.8	0.340	0.593
Tehri Garhwal	0.568	0.068	59	63	12.0	0.434	0.702
Udham Singh Nagar	0.513	0.060	75	79	11.7	0.396	0.631
Uttarkashi	0.397	0.054	96	94	13.5	0.292	0.502

Sampling errors, Uttaranchal, 2002-04

District	Estimate (R)	Sampling error (SE)	Number of cases		Relative Error (%)	95% Conf. Interval	
			Unweighted	Weighted		R-1.96 SE	R+1.96 SE
Birth order 3+ (birth in last three years)							
Almora	0.385	0.037	335	336	9.6	0.312	0.458
Bageshwar	0.358	0.033	253	252	9.2	0.293	0.424
Chamoli	0.419	0.035	234	234	8.4	0.350	0.488
Champawat	0.475	0.049	303	339	10.3	0.379	0.572
Dehradun	0.482	0.040	335	338	8.3	0.403	0.561
Hardwar	0.599	0.027	444	459	4.5	0.546	0.652
Nainital	0.372	0.033	358	362	8.9	0.306	0.437
Pithoragarh	0.444	0.036	278	271	8.1	0.372	0.515
Pouri Garhwal	0.296	0.032	235	239	10.8	0.233	0.358
Rudraprayag	0.442	0.036	332	337	8.1	0.370	0.513
Tehri Garhwal	0.426	0.036	244	242	8.5	0.356	0.495
Udham Singh Nagar	0.465	0.030	326	327	6.5	0.406	0.524
Uttarkashi	0.506	0.032	305	302	6.3	0.443	0.570

APPENDIX B

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Appendix – C