National Oral Health Survey & Fluoride Mapping 2002-2003

HARYANA

Dental Council of India
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NATIONAL ORAL HEALTH SURVEY & FLUORIDE MAPPING

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ABBREVIATIONS & ACRONYMS

NOHS & FM	National Oral Health Survey & Fluoride Mapping
DCI	Dental Council of India
NFHS	National Family Health Survey
NDP	Net Domestic Product
WHO	World Health Organisation
CEB	Census Enumeration Block
BDS	Bachelor of Dental Surgery
MDS	Master in Dental Surgery
M.P.H.	Master in Public Health
M.Sc	Master in Science
D.P.H.	Dental Public Health
deft	Decayed, indicated for extraction and filled primary (deciduous) teeth
dmft	Decayed, missing and filled primary (deciduous) teeth
DMFT	Decayed, missing and filled permanent teeth
dt/DT	Decayed teeth (primary/ permanent)
mt/MT	Missing teeth (primary/ permanent)
ft/FT	Filled teeth (primary/ permanent)
SIC Index	Significant Caries Index
CPI	Community periodontal index
DAI	Dental Aesthetics Index
TMJ	Temporomandibular Joint
mnt/ MNT	Mean number of teeth (primary/ permanent)
ppm	Part per million (of fluoride)

FOREWORD

It gives me great pleasure to write a foreword to this report on the National Epidemiological Oral Health Survey & Fluoride Mapping of the Dental Council of India. This is a historic document as it is for the first time that a scientific survey on oral health problems at state and national levels has been undertaken in India. With this report in place, we are amongst those few countries in the world where data on oral health problems has been collected through a scientifically conducted sample survey. The report, I am sure, will prove to be an invaluable tool for effective planning and implementation of oral health programmes in the country.

This gigantic national survey, with the states as component units, would not have been possible without the commitment and the efforts of a large number of organizations and individuals. At the outset, I must acknowledge the role of the members of the Executive Committee of the Dental Council of India and its General Body, who supported me in this endeavour and gave all help as and when necessary. The survey work in the states was entrusted to Regional Coordinators who were selected from senior faculty members in Community Dentistry or allied fields from reputed dental colleges. I am pleased that a large number of dental colleges, through their managements and the Principals/ Deans responded to my request to collaborate in this national endeavour. A list of the participating dental colleges and individuals has been given elsewhere in this report.

I would particularly like to acknowledge the contribution of the members of the core technical team for all pre-survey planning and designing activities, who include Drs V.B. Mathur, P.P. Talwar, Shankar Aradhya, S.S. Hiremath, K.V.V. Prasad, M.B. Aswathnarayan, (Ms) Amrit Tiwari, and S.G. Damle.

A central team was established early in the course of the survey at the office of the Dental Council of India to help develop project protocols, coordinate and liase with regional coordinators, manage logistics, compile, computerise and analyse data and develop tabulation plans and reports. This report, for which there was no precedence or example, is evidence of the hard work and professional competence of the team. As the leader of the team, it is with a sense of pride and satisfaction that I acknowledge the painstaking and dedicated work of the members, namely Dr. V.B. Mathur, Prof. P.P. Talwar and Mr. H.B. Chanana.

I gratefully acknowledge the cooperation and support of the Municipal Corporation of Delhi, particularly its Health Officer and Director, Health Services, Dr. K N Tiwari, who spared the services of Dr. V B Mathur for this national cause.

It would be impossible to conduct a large scale national survey of the present magnitude without sufficient resources. We are indebted to our esteemed partners, Colgate-Palmolive Co., U.S.A., and Colgate-Palmolive (India) Ltd., for supporting the project.

I am sure that results of this survey will pave the way for improving the oral health of the people of India. We recognise that this is only the first step in this direction, where oral health problems and related practices have been identified. The next crucial step will be to use the findings of this survey to plan and implement an appropriate and need-based oral health programme. Here, I hope the national and state governments will use the findings of the survey for planning and implementation of oral health programmes.

As President of the Dental Council of India, I would emphasise and recommend to all those concerned with dental education in the country to review the oral health needs of the people in the context of dental education and use the results of the survey to help strengthen the teaching/ training curriculum of the dental colleges. The students should be taught to look at survey results critically and make decisions about dental care strategies based on age, geographical areas and disease levels in the communities they serve. The dental colleges should use its findings and lay the correct emphasis so that the oral health needs of the people are met with quality services.

This survey must not remain a solitary event. We must ensure that a MIS (Management Information System) is established so that future trends of oral disease and action taken to combat it are monitored regularly through continuing periodic surveys.

The challenge for all of us lies in ensuring a more equitable and need based distribution of resources for oral health, making sure that the benefits of the survey reach the communities in improving their oral health.

Dr R. K. Bali

President, Dental Council of India.

July 2004.

PREFACE

The National Oral Health Survey & Fluoride Mapping of the Dental Council of India is the first-ever national-level epidemiological survey in the country, the need for which was felt for a long time. This massive initiative could not have been carried out without the partnership, participation, cooperation, support and help from a number of institutions, organizations and individuals, all of whom have directly and indirectly assisted the Dental Council of India in this magnanimous task.

We are indebted to the Ministry of Health & Family Welfare for providing the necessary permissions and management support since inception. We gratefully acknowledge the valuable contribution made by the Chief Director, Dr. K.V.Rao, National Family Health Survey, at the stage of sampling design, sample selection and training. We also gratefully acknowledge the contribution of Professor Fauj Ram, of the International Institute for Population Sciences, Mumbai, who was instrumental in setting the sampling frame for the selection of rural and urban primary units from where households were selected for data collection.

In the planning phase, the proposed survey was discussed with international experts in the field of oral epidemiology, health promotion and community dentistry. Prominent among these were Professor Aubrey Sheiham, Head, Department of Community Dentistry, University College, London; Professor Robert Bagramian, Chairman, Department of Community Dentistry, University of Michigan, Ann Arbor, USA; Professor Martin Hobdell, Ireland; and Dr Michael Craft, UK. We remain most indebted for their valued inputs and time.

Dr. P E Petersen, Responsible Officer, Oral Health Program, World Health Organization (WHO), Geneva, found time and visited us at the Dental Council of India, New Delhi, in November 2002. He volunteered the full cooperation and support of the WHO for the project, including assistance in data analysis and reports. We gratefully acknowledge his valuable inputs and feel sure that the information collected will find its appropriate place in the oral global databank maintained by the WHO and in their other publications.

The active participation of dental colleges, their managements, Principals Deans and faculty was envisioned since the inception of the project planning. It was, however, most gratifying to note the extent of enthusiasm and support that was received from the managements and faculty members of some of the colleges. They took upon themselves to meet Herculean challenges that were in front of them in the face of limited resources. The role of some of the colleges strengthens our belief that our colleagues are alive to their professional responsibilities and are dedicated to selfless service in the interest of research and community benefits.

The chairperson, Dr. Ram Das Pai, and the management, faculty and staff of the Manipal Academy of Higher Education (MAHE), Manipal (Karnataka), deserve a special thanks for co-hosting the large-scale training and calibration meeting for all Regional Coordinators and Supervisors at the Manipal Dental College in March 2002. We would specially like to record our sincere appreciation of the Dean, Dr. Shobha Tandon, and her able team, including Dr. V Surendra Shetty, Dr. Soben Peter and others for the professional management of this meeting and the excellent hospitality extended by them.

We also extend a very special thanks to Dr. S.G. Damle, Dean, Nair Dental College & Hospital, Mumbai, who co-hosted the report-writing workshop in January 2004 in Mumbai, where issues relating to state reports were discussed.

The central survey team, from time to time, has received valuable suggestions and active feedback from some senior members of the profession, including Drs. Ganesh Shenoy, Shankar Aradhya, A Jaykumar, S S Hiremath, S G Damle, N C Rao, and Mahesh Verma, and we wish to place on record our appreciation and grateful thanks for their inputs. Drs Arundeep Kaur, Pankaj Goel and C L Dileep assisted the central team in Delhi from time to time and deserve our sincere thanks for their inputs.

We are indebted to the members of the Executive Committee and the General Body of the Dental Council of India, New Delhi for their wholehearted support to this initiative of the Council President. We gratefully acknowledge the able leadership of Mr A L Miglani, Secretary (Retd.), the Secretary Incharge of the Dental Council of India, Mr S S Arora, and Mr C L Bhatia, Coordinator, who though working in the background put in every effort for the success of the survey. While every member of staff has made a valuable and selfless contribution to the survey, we wish to place on record the special contribution of Mr K V Abraham, Mr P K De, Mr. Shiv Kumar, Mr. Praveen Dewan, Mr. Puneet Bansal, and Mr. Anil Verma.

We acknowledge the valuable support, both technical and financial, provided by Colgate-Palmolive. While technical support was provided by Dr. Tony Volpe, Dr. Kedar Rustogi, Dr. Raj Kohli and Dr. Surendra Manek, valuable project management input was given by Mr. Mahendra Jauhari and Mr. Mahender Ashtekar.

Fluoride mapping of drinking water sources in the country to determine areas with optimal or high levels of fluoride was an integral part of the project. Dr. P M Dixit, his team and the management of M/s Medlar Labs, Mumbai, deserve our special thanks, as they were instrumental in completing the task of analysing more than 4,000 water samples that they received directly from the Regional Coordinators as per schedule despite various constraints.

We acknowledge the support of TNS MODE, New Delhi, a prominent marketing, advertising and research organization, who took responsibility of computerization and tabulation of the massive data sets and provided tables according to our tabulation plan. Later on, they also helped in the collection of water samples from the states which could not be covered so far under the survey.

We appreciate the efforts and patience of Mr Rajiv Mathur, an independent Consultant in Information Technology and data management, who has painstakingly worked in programming and reprogramming till we were satisfied with the final set of tables.

We wish to record our gratitude and thanks to all other organisations and individuals, whose names do not appear here but who have supported our work and contributed towards its success in one way or the other.

Dr. R. K. Bali
Dr. V. B. Mathur
Prof. P. P. Talwar
H.B. Chanana

July 2004.

ACKNOWLEDGEMENTS

I gratefully acknowledge the help and assistance rendered by a number of colleagues and friends, who participated in this survey so willingly. The list is long and would wish to record my gratitude, appreciation and thanks to all the organizations and individuals who have contributed towards the success of this survey in one way or the other.

At the outset, I am indebted to Padmashri Dr. R.K. Bali, President, Dental Council of India, for giving me this opportunity to be a part of this mammoth project as a Regional Coordinator for the northern region, comprising of three states viz. Himachal Pradesh, Punjab and Haryana, and one Union Territory, i.e. Chandigarh.

I wish to express my profound recognition of the constant help of the Central Survey Team headed by Padmashri Dr. R.K. Bali and Dr. V.B. Mathur, Project officer, Prof. P.P. Talwar, and Mr. H.B. Chanana for all the support and assistance during the various stage of the survey.

Further more, the help offered by Shri Vineet Chaudhary, Health Secretary to the Govt. of Himachal Pradesh, Dr. Asha Goel, Director of Medical education and Dr. S.K. Dhiman, Director of Health Services (H.P.), during the entire survey is duly appreciated. I thank Dr. S.C. Sharma, the then Principal, H.P. Govt. Dental College & Hospital, Shimla (H.P.), for providing all help and facilitating the survey during the initial stages.

I am grateful to Shri Anoop Garg, Chairman of the B.R.S. Dental College & Hospital, Kotbilla (Haryana), who readily agreed to host the 2-day Training & Calibration Workshop for the northern region, along with hospitality, at B.R.S. Dental College & Hospital.

I gratefully acknowledge the help rendered by Shri R.S. Thakur, Deputy Director, Census Operations (H.P.), in providing all data regarding the logistics of field work and the census data for the villages and urban blocks selected in Haryana.

I would like to express my sincere thanks to the Managements, Principals and staff of various Dental Colleges for their valuable support and co-operation during the survey by providing transport facilities, Logistics and above all, personnel for survey teams. Notably among them are:

1. H.P. Govt. Dental College & Hospital, Shimla (H.P.)
2. Govt. Dental College, PGIMS, Rohtak (Haryana)
3. D.A.V. Centenary Dental College, Model Town, Yamunanagar (Haryana)
4. M.M. College of Dental Sciences & Research, Mullana, Ambala (Haryana)

A special word of thanks to the team members (listed separately) for their dedication and co-operation in the state.

I wish to record my appreciation of the invaluable assistance rendered by Dr. (Mrs.) Shikha Tewari, Supervisor, who very deligently carried out the survey in all the three selected districts of Haryana and Dr. C.L. Dileep, Supervisor (H.P. and Chandigarh), who under my guidance and supervision co-ordinated with the Central Survey Team, managing logistics, Training & Calibration, compling & field work in writing the state Report.

While every person associated with the survey has contributed selflessly to this national project, I wish to place on record the special contribution of Dr. O.P. Verma, Senior Dental Surgeon, Chandigarh and Dr. Sanjay Tewari, Govt. Dental College, PGIMS, Rohtak (Haryana), for their extraordinary generosity and help rendered during the field work.

Though I have tried to acknowledge a few organizations and individuals by name, there are several other good Samaritans whose names could not be included for reasons of brevity. To them, I gratefully acknowledge their selfless help, benign support and timely contributions.

Dr. N.C. Rao
Regional Coordinator
Northern Region (Haryana)
National Oral Health Survey
and Fluoride Mapping 2002

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CHAPTER 0
EXECUTIVE SUMMARY

1. GENESIS

Oral health is a very important component of general health. However, it is one component about which there is very little awareness and little clear understanding of the implications of the consequences of ill-health. The high prevalence of dental diseases, like dental caries, periodontal diseases, various stages of malocclusion, besides lack of access to the required services leads to significant absenteeism and economic loss, apart from the ill-effects on the health of the person afflicted. In view of the adverse effects of poor oral health, it is important to take preventive measures and create the required services. For this purpose, it is necessary to know the prevalence of oral health problems and understand the dental health practices that people follow. Such information is basic for formulation of oral health policies and implementation of appropriate programmes to improve the awareness and knowledge of general public about the preventive aspects of oral health, to create the required services and to train the necessary dental manpower to meet these needs.

The Dental Council of India has been greatly concerned about this gap in knowledge and the resultant lack of appropriate policies and programmes. There has been a long-felt need for an epidemiological study on oral health problems, which would also include a study of the related oral health practices besides mapping fluoride levels in drinking water from various sources in the country. Such a study may help bring about a balance between the oral health needs of the people and the services provided, and help plan and organise need-based services to improve the level of oral health of the people.

Keeping this in view, the Dental Council of India undertook a national-level epidemiological study, "National Oral Health Survey and Fluoride Mapping," to assess the oral health problems of the people and practices they adopt in this regard. The present study is a community-based survey with the objectives of assessment of (1) awareness and knowledge of people about oral health problems; (2) current status of oral health problems in the community; (3) practices people adopt for both prevention and treatment of their oral and dental problems; and (4) levels of fluoride in the drinking water of the people across the country. The survey, initiated in 2002, aimed at knowing the ground situation to help decision-makers formulate policies and programmes to improve the oral health of the people. Mapping of fluoride levels in drinking water was made a part of the survey since the fluoride level is directly associated with oral health problems, such as dental and skeletal fluorosis.

2. SCOPE OF THE SURVEY

The scope of the survey was to collect information covering the following dimensions of oral health:

1. Prevalence of oral health problems,
2. Fluoride levels in drinking water,
3. Eating habits affecting oral health,

4. Dental cleaning practices.

5. Awareness and knowledge of people on factors affecting oral health, and

6. Treatment-seeking behaviour of people for their oral health problems.

It must be noted that this survey delved into areas much beyond the usual ambits of oral health surveys, which generally focus on the levels and problems of oral health in the community. This survey, on the other hand, collected data on many more dimensions so as to enable an understanding of the practices that cause oral health problems and the steps people take to seek treatment.

3. DESIGN OF THE SURVEY

Recognising the fact that India is a vast country with great diversity in eating habits and behavioural practices, the survey was designed and conducted so that state-wise oral health problems and related practices could be determined. This is to help the formulation and implementation of state-wise policies and programmes.

3.1 Sample size

Three considerati ons were kept in mind while deciding upon the sample size: (1) The estimates should be valid at the state level; (2) Intra-state regional variations may be captured in oral health problems and practices; and (3) It should be possible to complete the survey of the proposed sample within the limited budget available. In view of these, the WHO recommendation, that the sample comprise 300-600 dental examinations of people aged 5, 12, 15, 35-44 and 65-74 years from a homogeneous region, was adopted. Accordingly, it was decided that 315 households, both in rural and urban areas, would be taken from each homogeneous region in a state, and oral examinations done on 315 subjects in each identified age group. Also, the sample size would increase in case all the 315 subjects in each of the five identified age groups (5, 12, 15, 35-44 and 65-74 years) were not available in the selected 315 households. Besides, it was also decided that the examinations in each age group would be equally distributed between males and females. Further, of the selected sample size of 315 households, 210 households were to be from rural areas and 105 from urban areas. Thus, 105 males and 105 females were examined in each of the five age groups from the rural areas, and 53 males and 53 females in each age group from the urban areas.

3.2 Sample selection

Each state was divided into a few homogeneous regions, comprising of a number of districts, on the basis of agro-climatic factors used by the Planning Commission and the physio-geographic factors used by the Office of the Census Commissioner and the Registrar General of India. The total sample of households from a state thus depended upon the number of such homogeneous regions.

A three-stage sampling design was adopted to select 210 rural households from each homogeneous region. The first stage was the random selection of a district from a region. The second was selection of 15 villages with probability proportional to size (pps) of the village, and, finally, selection of 14 households randomly from each selected village.

In the case of the urban sample of 105 households from a homogeneous region, eight blocks/wards were randomly selected from the selected district. From these eight blocks, 15 wards or census enumeration blocks (CEBs) were randomly selected (each CEB has almost equal population). In the next stage, 7 households were selected from each CEB. Again, 105 subjects from each age group (5, 12, 15, 35-44 and 65-74) were to be examined, with males making up half the number, and females the other half.

4. STUDY TOOLS

In order to encompass all the objectives of the study, two types of questionnaires/schedules were used in the survey. One was the WHO schedule on Oral Health Assessment and the second was an individual questionnaire (specially developed by the Dental Council of India) for collecting information on etiologic factors related to oral health awareness, knowledge and practices of individuals on factors affecting oral health, and their treatment-seeking behaviour **Annexures**.

5. DATA COLLECTION

A small nucleus, Central Survey Unit, was set up in the office of the Dental Council of India in New Delhi. For the fieldwork, one dental state coordinator and his/her dental college were selected for each state. This coordinator was to oversee the fieldwork in the state in coordination with the Central Survey Unit. Each coordinator was to form field teams consisting of two dentists and one social worker. While the dentists were to examine the oral health of the subjects and record information on the Oral Health Assessment questionnaire, the social worker was to record information on the questionnaire related to etiological factors.

Great care was taken to ensure that the quality of the data collection met stringent standards. Besides a state coordinator, supervisors were appointed to move with the teams when they went for data collection. The coordinators, supervisors, of the dental colleges, were given total responsibility for the scrutiny and checking of the data. The data was scrutinised at three levels, in the field, in the state coordinator's office and at the central level, before processing.

Besides, water samples were taken from the selected households for testing fluoride levels, and all such tests on these samples were conducted in a laboratory in Mumbai.

6. CALIBRATION AND TRAINING WORKSHOPS

A three-day calibration and training workshop was organised where all the coordinators and supervisors were given training in field logistics, data collection, and standardisation of the assessment of oral health problems. The last is very important, and very thorough training was imparted for it, so that all field teams adopted uniform assessment methods in recording dental problems. A workshop on report writing was also organised in Mumbai to standardise the format & writing of each state report. This was necessary because some coordinators undertook responsibility of writing reports for their respective state. Of course some state reports were prepared by the Central Survey Unit.

7. AREA COVERAGE IN SURVEY

The National Oral Health Survey, was designed to cover all Agro-Climatic regions of the state. Since this state has been divided into three Agro-Climatic regions, all the three were covered in the survey.

8. FINDINGS (ORAL HEALTH KNOWLEDGE AND PRACTICES)

8.1 Characteristics of households surveyed

(i) About half of the respondents live in pucca houses in the state. There were no major differences in regard type of houses among the Regions.

(ii) About 80 percent of households had monthly expenditure of Rs. 5500 & below.

(iii) 78 percent of the households belonged to Hindus in the state & in each Region.

(iv) 23 percent of households were of Schedule Caste.

(v) 66 percent were getting piped/tap water for drinking.

About 97 percent had wheat their staple food & 93 percent reported vegetarians.

8.2 Profile of population in surveyed

(i) There was increase in the percent of illiterates from 6 to 76 percent over the increase in the age of respondents.

(ii) Nearly half of respondents belonging to age/age group 35-44 & below & 80 percent of aged (65-74) years reported not reading newspaper all.

(iii) The exposure to radio across all ages was limited. But exposure to TV across all ages was comparatively higher than that of radio particularly it was more in urban areas.

(iv) Exposure to cinema, across all ages, sexes & places of residence was very low.

8.3 Abnormal oral health habits across sge groups

The prevalence of abnormal habits/practices was generally low across all age groups. However the occurrences of habits of "breathing from the mouth and "grinding/gritting of teeth", consciously or unconsciously, during sleep or moments of stress was comparatively higher.

Three other observations which emerged are:

(1) The habit of "grinding or gritting teeth" except in case of 65-74 year old was more prevalent in females and more in rural.

(2) More children aged 5 years old in rural reported prevalence of oral habits like "grinding or gritting teeth", "breathing from mouth", and "sucking or biting fingers/thumbs", than their urban counterparts. Grinding or gritting teeth was found predominant oral habit among the younger age groups, and the habit of "breathing from the mouth" was more prevalent in 15 old and above year's age groups.

(3) In conclusion females aged 5 and 12 year olds, and males 65-74 year olds reported higher prevalence of abnormal oral health habits. While females aged 15 and 35-44 year olds had slightly higher prevalence of abnormal oral habits than males.

8.4 Sugar taking habits across age groups

(1) There was no difference in sugar taking habits by sex across all age groups.

(2) About 80 percent of respondents, across all age groups reported taken sugar two & more times in last one day.

(3) Only about 4-10 percent of the subjects, across the ages, did not consume sugar in last one day.

8.5 Oral hygiene practices across age groups

(1) The practice of cleaning the teeth was universal across age groups & sex.

(2) Around 68-75 percent of 12, 15 and 35-44 year age groups, and 35-60 percent of 5 and 65-74 year age groups, more males than females, more in urban than rural areas, reported use of toothbrush to clean teeth. The picture was almost similar across the three Regions.

(3) Around 78-89 percent, of respondents across all ages/age groups except 15 years old males, across both sexes, and more in rural than in urban areas, had cleaned teeth once a day. About (8-15) percent of respondents more males & more in urban had cleaned teeth twice a day.

(4) About 90-94 percent of subjects, across both sexes and all ages/age groups, except (64-67) percent of (65-74) age group, more in urban areas, reported the use of tooth paste, in the state as well as across three Regions.

(5) About 37-50 percent of the subjects across all ages/age groups, both sexes, more in urban areas, except belonging to 15 and 35-44 age group & males, reported the use of fluoridated toothpaste/powder. There were considerable differences across the three Regions.

(6) About 19-30 percent of the subjects across all ages/age groups, significantly high in urban areas, had changed tooth brushes once in 1-3 months. The replacement of tooth brushes was less frequent in rural areas, 31-52 percent of the subjects had changed toothbrush once in after six months of use.

(7) The practice of mouth rinsing was not very popular among the subjects. 42-51 percent of subjects aged 5, 12 and 15 year, and 26-36 percent of subjects aged 35 years and above across both sexes, reported rinsing mouth sometimes. While about 28-38 percent of the 5 and 12 year olds, more in rural areas, reported rinsing mouth always after eating, and (49-70 percent of aged 15 and above years except those belonging to age group (65-74) & more in rural had rinsed mouth always.

8.6 Dental Problems and treatment related aspects across age groups

(1) About 9-18 percent of subjects belonging to age 15 years and below, and about 42 percent belonging to age groups 35 years and above, across both sexes and more in rural areas, had oral health problems in last one year. Almost all across age/age groups, except (65-74) years

old had the dental decay. It was further observes that the percent of subjects having gum disease except 15 years old, increased with the increase in age of subjects. About 25 percent of the subjects aged 65-74 year had foul breath.

(2) About 27-41 percent subjects of across all ages, consulted trained dentist for their problems. There were large differentials in the practice of consulting dentist by places of residence and across the three regions. Around 39 percent of the subjects, across all ages and both sexes, were aware of Governmental dental care facility.

(3) 83 percent, of respondents in urban areas reported less than half an hour time to reach the dental care facility.

8.7 Awareness of dental health problems across age groups

(1) About 60-70 percent of subjects, across all ages and both sexes, and more in urban areas, were aware of oral health problems in the state as well as across all the three regions.

(2) About 56 percent of subjects, across all ages and both sexes, more in urban, were aware of the factors that can cause oral health problems, in the state as well as across all the three Regions. Most of them reported factors such as not brushing regularly (30-48 percent), followed by eating sweets/ice-creams or chocolates (26-38 percent) and not rinsing the mouth (7-18 percent). Tobacco as a factor was reported by about 5 percent.

(3) Nearly 55 percent of respondents across both sexes more in rural across all ages /age groups were aware of preventive measures. Nearly one third, across all age groups except (35-44) years old reported cleaning of teeth regularly a measure to prevent oral health problems. While other about 15 percent, across all age groups reported avoid sweet items.

8.8 Tobacco smoking and chewing habits across age groups

(1) About 17 & 22 percent aged the 35-44 & 65-74 year, more in rural areas respectively had the habit of smoking. There was observed large differences among the three regions. About one half of the subjects aged 35-44 years & 34 percent aged 65-74 years had the habit of smoking Bidis. They were more in the rural areas.

28 percent & 48 percent of 35-44 year & 65-74 year olds more in rural & more males reported smoking Hookah in the state as well as across Regions. Three fourths of the smokers across both sexes and places of residence reported smoking less than ten times in a day.

(2) About 6-7 percent of subjects, across ages, and more in rural areas reported chewing pan/pan masala with tobacco. 62 percent of subjects aged 65-74 reported chewing for 5-10 years.

(3) Around 6-7 percent subjects across age groups, more males than females, in the state & across the three regions, had the habit of consuming alcohol.

9. FINDINGS (ORAL HEALTH ASSESSMENT)

The oral health status of subjects was clinically assessed in the field conditions by teams of dental surgeons who were previously trained and calibrated. The WHO Clinical Assessment Form (1997) was used to record the clinical conditions. The clinical findings are presented in this report in Chapter VI under the following broad heads:

1. Dental Caries status & Treatment Need
2. Periodontal Disease status
3. Malocclusion status
4. Oral Cancers and other oral mucosal lesions
5. Dental Fluorosis status
6. Other conditions:

   Extra Oral Lesions; TMJ Assessment; Enamel Opacities and Hypoplasia; Prosthetic Status & Need; and Community need for immediate Care and Referrals.

9.1 Dental caries

- Overall, the mean number of teeth present in the mouth of individuals decreased as age advanced. While almost the full complement of teeth were present in the younger age groups, 1.6 teeth were missing on an average among the 35-44 year age group. In the 65-74 years age group the mean number of teeth present dropped to 20 teeth, indicating a loss of more than one-third of that normally present teeth in an average mouth.
- The prevalence of caries experience among 5 year olds was about 41 percent. The dmft value of 1-3 was most prevalent (21 percent) and the range of 6-10 teeth was seen among 8.7 percent of the subjects. The caries experience was higher in Region-1 compared to the other 2 regions.
- Among the 12 and 15 year olds, caries experience was about 49 and 58 percent, respectively. Caries experience rose rapidly among the 35-44 and 65-74 year age groups, with about 77 and 80 percent being affected, respectively. DMFT values of 25-32 were found among 36 percent of the 65-74 year age group.
- The DT component contributed the most (1.5 - 2.7 teeth) to DMFT scores for all age groups, excluding 5 year olds, who have primary teeth and except for the 65 – 74 year age group where the MT component contributed the most (11.9 teeth) to DMFT scores.
- The significant Caries Index (SIC), which provides a measure of the mean DMFT of the one-third of the subjects with the highest mean scores of DMFT, was consistently high (about 2 to 3 times higher than mean DMFT values) across all age groups and was highest for the 65 – 74 year age group (29.6 teeth).
- The mean number of missing teeth was 11.9 teeth among the 65-74 year age group, about 2.2 teeth missing due to reasons, other than caries.
- About 7 percent males and 8 percent females in the 35-44 year age group, and 7 percent subjects in the 65-74 year age group had root caries. There were no subjects with root fillings.

The high levels of mean number of teeth decayed and missing, together with negligible number of filled teeth indicate that either there was little priority for treatment of decayed teeth or it was not affordable for most people. Another possibility is the inaccessibility (difficult to reach facilities) or non-availability of dental services in the area where the subjects resided (23 percent).

9.2 Treatment need

- Overall, a direct correlation existed between age and treatment need, except for the 65-74 year age group. The 5 year olds had the least treatment need (40 percent) and was highest for the 35-44 year age group (83 percent).
- The need for treatment was more in rural than urban areas in children (5, 12, 15 years) and was vice-versa for adults (35-44 and 65-74 years).
- The need for one or more surface filling was the highest for all age groups, except for the 65-74 year age group where the need for other, but unspecified care was higher.
- The need for extraction was least among the 5 year olds (2 percent) and highest in the 65-74 year age group (20 percent).
- The need for pulp care was reportedly more in the 15 and 35-44 year age group (5 percent) than other age group (2 percent).
- A majority of the subjects were indicated for other, but unspecified treatment care, among the older age groups, which was predominantly a need for prosthesis. The need for 'other care' rose gradually across the age groups from 3 percent to 50 percent.

9.3 Periodontal status

- The periodontal status was assessed using the Community Periodontal Index (CPI) with its three indicators of gingival bleeding, calculus and periodontal pockets. In addition, the loss of epithelial attachment was also measured to provide an indication of the status of periodontal health.
- The prevalence of periodontal disease was highest among 35-44 year age group (89 percent) and lowest among the 5 year olds (17 percent).
- Invariably, across all age groups except the 65-74 year age group, bleeding and calculus emerged as the most prevalent condition.
- The mean number of healthy sextants was highest for the 15 year olds (2.6 sextants) and lowest for the 65-74 year age group (0.4 sextants).
- Gingival bleeding was a more prevalent condition among the lower age group and accumulated calculus was increasingly a problem as age advanced.
- Overall, the prevalence proportion of subjects with loss of attachment in one or more sextants was lowest among the 15 year olds (6 percent) and highest among the 65-74 year age group (46 percent). The most prevalent form of loss of attachment was 4-5 mm in depth, across the ages. A loss of attachment of 6-8 mm in depth was seen to increase as age advanced, from 1 percent among 15 year olds to 15 percent among the 65-74 year age group.
- Overall, for the older age groups, rural residents had higher levels of loss of attachment than urbanites, and Region-3 had a higher prevalence of the condition than the other 2 Regions.

9.4 Malocclusion

- The Dental Aesthetic Index (DAI), recommended by the WHO, was used to analyze the severity of malocclusion in the surveyed population.
- The proportion of subjects with malocclusion increased with age, from 10 percent among 12 year olds to 20 percent among the 35-44 year age group, with a slight dip among the 15 year olds (8 percent).
- Children aged 5 years had none or minor malocclusion and it was 80 percent in the 35-44 year age group. Definite malocclusion (DAI scores 26-30) was seen among 7 percent of the 35-44 year age group.
- Very severe (handicapping) form of malocclusion was seen among 8 percent of the 35-44 year age group.

9.5 Oral cancer and oral mucosal lesions

- The prevalence of oral mucosal lesions was quite low and ulceration was the most common lesion.
- Oral Cancer was not detected in any of the subjects examined.
- Prevalence of oral mucosal lesions was higher in rural than urban areas.

9.6 Dental fluorosis status

- Fluorosis was reported in all age groups but the majority had 'questionable' fluorosis. The 'very mild' and 'mild' fluorosis occured in 15.2% 5 year olds; 24.0% 12 year olds; 25.7% 15 year' 23.1% 35-44 year olds; and 26.1 % 65-74 year olds. 'Moderate' fluorosis was reported in only 0.6% 5 year olds; 2.8% each of 12, 35-44 & 65-74 year old with 2.3% in 15 year olds. Severe fluorosis occured in 0.1 to 1 per cent subjects across age.
- Dental fluorosis was consistently high in Region -3 (35-61 percent) compared to Region – 2 (29-44 percent) followed by Region-1 (8-12 percent). The prevalence was higher in rural (34-49 percent) than urban areas (21-37 percent).

9.7 Other lesions

9.7.1 Extra oral lesions

- The prevalence of extra oral lesions was very low (0.5 – 1.1 percent). The lesions were mainly ulceration, sores, erosions and fissures, located mainly on the commissures and vermillion border among the younger age group and on the head, neck, limbs and nose, cheeks, chin among the older age groups.
- The prevalence of extra oral lesions was higher in urban areas compared to rural areas, except for the 5 year olds.

9.7.2 T.M. joint symptoms and signs

- T.M. Joint Symptoms were reported by around 1– 2 percent subjects across the ages.
- T.M. Joint Signs were elicited among 3 percent of the subjects among the 35-44 year age groups and clicking was the most commonly elicited sign.
- The TM Joint signs were seen more in Region – 2 than the other 2 regions.

9.7.3 Enamel defects (opacities and hypoplasia)

- The enamel defects were seen among all the age groups (18-30 percent).
- The most prevalent enamel defect was demarcatd opacity (13 percent) followed by diffuse opacity (11 percent) across the age groups.
- The prevalence of enamel defects was higher among rural residents than urbanites.

9.8 Prosthetic status & need

- The dental prosthetic status and need for both upper and lower dental arches was recorded for subjects 15 yrs. and above. The information was collected to assess the extent to which subjects were wearing or needing dental prostheses including bridge, partial dentures and full dentures.
- Prosthesis wearing in the upper arch increased as age advanced.
- In the 35-44 and 65-74 year age groups, 4 and 17 percent subjects, respectively, were wearing upper prosthesis. Full mouth denture was the most prevalent prosthesis among the 65-74 year age group (12 percent) followed by partial dentures (3 percent).
- Among the 35-44 and 65-74 year age groups, 4 and 18 percent, respectively, were wearing lower prosthesis.
- 13 percent subjects among the 65-74 year age group were wearing full mouth dentures.
- Prosthetic need among the 35-44 year age group was 25 percent for the upper arch. The need was higher for the 65-74 year age group (67 percent).
- There was a greater need for lower prosthesis than upper prosthesis. Around 31 percent subjects in the 35-44 year age group needed prosthesis and the most prevalent need was for multi-unit prosthesis and the most prevalent need was that for full mouth dentures.
- 37 percent subjects required full mouth dentures among the 65-74 year age group, slightly more among females than males.

9.9 Community need for immediate care and referrals

- Overall, life threatening and painful or infective conditions were extremely rare, (0.1 percent among the younger age groups and 0.3 percent among the 35-44 year age group).
- Pain or infection was recorded in about 5 percent subjects across the age groups.
- Referrals were made for almost all the condition recorded for the subjects.

Summary of findings of important oral health conditions and practices by age in Haryana

	Findings	Age in years				
		5	12	15	35-44	65-74
1.	**Oral disease conditions**					
1.1	Dental Caries					
	% Prevalence	40.7	49.3	57.7	77.2	79.5
	Mean DMFT	1.3	1.5	2.1	4.4	12.8
	SiC Index	4.4	4.6	6.1	10.4	29.6
1.2	Periodontal disease					
	Bleeding, calculus or pockets					
	% Prevalence	16.9	55.1	63.0	88.9	60.3
	Mean no of Sextants affected	0.4	2.4	3.3	4.8	2.3
1.3	Loss of attachment					
	% Prevalence	NA	NA	5.8	44.9	45.6
	Mean no of Sextants affected	NA	NA			
1.4	Malocclusion (%)	0.0	10.1	8.1	20.2	NA
1.5	Dental Fluorosis (%)	29.8	45.2	44.8	38.2	40.5
1.6	Oral mucosal conditions (Nos.)	2	4	3	12	12
1.7	Oral Cancer (Nos.)	0	0	0	0	0
1.8	Edentulousness (%)	NA	NA	0.0	1.6	37.1
2	**Oral Health Practices**					
2.1	Sugar Intake in last 24 hours					
	Once	9.3	10.5	11.6	10.3	10.8
	Two & more times	85.1	85.9	83.8	81.3	79.6
2.2	Clean teeth with					
	Tooth Brush	59.6	71.1	74.6	67.9	34.5
	Fingers	9.4	5.8	5.2	5.6	6.8
2.3	Rinsing mouth					
	Always	29.2	37.4	49.6	60.5	67.4
	Sometimes	49.3	48.7	42.5	34.6	28.2
2.4	Tobacco smoking	NA	NA	NA	17.4	21.7
2.5	Frequency of tobacco smoking					
	Less than 10 times	NA	NA	NA	78.6	75.0
	10 or more times	NA	NA	NA	21.5	25.0

CHAPTER I
INTRODUCTION

1.1 BACKGROUND OF THE STATE

1.1.1 Geographical location

The present state of Haryana was created on 1 November 1966 out of the territories of the post-independence composite state of Punjab under the Punjab Reorganization Act of 1966. Chandigarh is the capital of Haryana, It is also the capital of Punjab and the seat of government of the Union Territory of Chandigarh. Haryana has the 15th largest population among the states in India. It has an area of 44,212 km^2. In 1998-99 Haryana was divided into 16 districts distributed in four administrative divisions. Division I, comprising Ambala, Kurukshetra, and Yamunanagar districts; Division II, comprising Kaithal, Karnal, Panipat, Sonipat, and Rohtak districts; Division III, comprising Sirsa, Hissar, Jind, and Bhiwani districts; and division IV, comprising Mahendragarh, Rewari, Gurgaon, and Faridabad districts (Centre for Monitoring Indian Economic, 1997). Currently, Haryana is divided into 19 districts. The three new districts are Fatehabad, Jhajjar, and Panchkula, which have been carved out of the same area (Ministry of Information and Broadcasting, 2000).

1.1.2 Composition of population and its growth

According to the Provisional Population Tables of the 2001 Census, Haryana had a population of 21.1 million, accounting for 2.1 percent of the total population of India (Office of the Registrar General and Census Commissioner, 2001). The total population of the state was 10.0 million in 1971, 12.9 million in 1981 and 16.5 million in 1991. The population growth rate decreased slightly from 28.7 percent in 1971-81 to 27.4 percent in 1981-91, and increased to 28.1 percent in 1991-2001, which is more than the decadal percentage increase for the country as a whole (21.3 percent in 1991-2001). Population density per km^2 in Haryana increased from 227 in1971 to 292 in 1981, 372 in 1991, and 477 in 2001. The population density in Haryana (477) is substantially higher than the density for the country as a whole (324), which indicates substantial and growing pressure on land and other resources. Haryana's share in India's land area is just 1.3 percent.

Haryana has been undergoing slow but steady urbanization. The percentage of the population living in urban areas increased from 18 percent in 1971 to 22 percent in 1981 and 25 percent in 1991, which is slightly less than the 1991 level of urbanization for India (26 percent).

According to the 1991 census, the proportion of the total population designated as scheduled castes is 20 percent, which is slightly higher than that in the country as a whole (17 percent). The scheduled-caste population increased slightly from 19 percent of the total population of Haryana in 1971 to 20 percent in 1991. As per the scheduled list, there are no scheduled tribes in the state.

For 1997, the Sample Registration System estimated an infant mortality rate of 68 per 1,000 live births in Haryana, compared with 71 in India. The infant mortality rate in Haryana declined only marginally from 72 per 1,000 live births in 1971 to 68 per 1,000 live births in 1997. The crude death rate also declined from 9.9 per 1,000 population in 1971 to 8.0 in 1997. For 1996-2001, life expectancy in Haryana is projected to be 63.9 years for males and 67.4 years for females, a substantial increase from the estimates of 61.4 years for males and 59.6 years for females in 1981-86. The projected increase in life expectancy is considerably more for females than for males.

The couple protection rate (defined as the percentage of eligible couples effectively protected against pregnancy by various methods of contraception) in Haryana was 54 in 1997, compared with 12 percent in 1971. The couple protection rate in Haryana in 1997 (54 percent) was substantially higher than the all-India estimate of 45 percent.

Between 1971 and 1997, fertility declined substantially in the state. The crude birth rate declined from 42.1 per 1,000 population in 1971 to 28.3 in 1997, a decline of 14 percentage points. The total fertility rate also declined substantially, from 6.7 children per woman in 1971 to 3.4 children per woman in 1997- dropping by 3.3 children per woman in 26 years.

1.1.3 Socio-economic characteristics

Haryana is one of the educationally forward states in India. According to the 2001 Census, the literacy rate among the population age seven and above was 69 percent, compare with 65 percent for India as a whole. The literacy rates were 79 percent for males and 56 percent for females in Haryana, compared with 76 and 54 percent for males and females, respectively, for India. The gap in literacy rates between males and females in Haryana is almost the same as the gap in India as a whole. Although female literacy has grown more rapidly than male literacy during 1971-2001, the female literacy level continues to be substantially lower than the male literacy level in the state. In fact, the gap between male and female literacy rates is almost the same in 2001 (23 percentage points) as it was in 1971 (22 percentage points).

Haryana is among India's economically more developed states. Although it continues to be predominantly an agricultural state, Haryana's economy has been transforming rapidly into an industrial economy. The contribution of the agricultural sector to the net state domestic product (NSDP) declined from 54 percent in 1980-81 to 42 percent in 1996-97. The manufacturing sector contributed 14 percent in 1980-81 and 20 percent in 1996-97 to the state domestic product, indicating a substantial increase in this sector. The share of other sectors increased from 32 percent in 1980-81 to 38 percent in 1996-97 (EPW Research Foundation, 1998). At the time of the 1991Census, the agricultural sector provided livelihood to 58 percent of the working population in the state, as cultivators and agricultural labourers (Office of the Registrar General and Census Commissioner, 1992).

1.1.4 Industrial development

Haryana has experienced rapid industrial growth since the early 1970s. This is reflected in the fact that the number of working factories in Haryana has increased from 1,458 in 1971 to 5,355 in 1933. At the two respective time points, they provided employment to 94,000 and 258,000 workers (Central Statistical Organisation, 1997). Haryana accounts for four-fifths of cars, two-thirds of motorcycles and tractors, and one-fourth of cycles produced in the country (Ministry of Information and Broadcasting, 2000). A major petroleum oil refinery is currently coming up in Panipat district. Additionally, there are a large number of small and rural industries.

The average annual per capita net domestic product in the state increased from Rs. 2,370 in 1980-81 to Rs. 3,956 in 1996-97 at constant (1980-81) prices or Rs. 16,199 at current prices (EPW Research Foundation, 1998). As per the estimates provided by the Planning Commission for 1993-94, 28 percent of the rural population and 16 percent of the urban population in Haryana was living below the poverty line (Central Statistical Organisation, 1999).

1.2 NEED FOR ORAL HEALTH SURVEY

1.2.1 Oral health problems

Oral Health is a very important component of the general health of the people. The high prevalence and severity of oral diseases such as dental caries, periodontal disease, oral cancers and various stages of malocclusions and crippling nature of these diseases lead to significant absenteeism and economic loss. Dental illness, thus contributes to considerable reduction in national productivity and overall national development.

It is reported that almost 85 percent of children and 95-100 percent adult population suffer from periodontal disease at a point in time. About 35 percent of children suffer from misaligned teeth and jaws affecting their proper functioning. These children lose their school time, and suffer from pain of dental origin. This not only affects their routine life activities but also causes a good deal of discomfort to their parents in several ways. These dental problems are initially painless but become chronic and self-destructive later, thus leading to gradual tooth loss. The dental caries has a crippling effect on the functional components of oral cavity that leads to malnutrition because of incapacity to chew any coarse food available to them. Unfortunately, this is still not considered a public health problem and thus no action is taken to correct it. In other words, there is need to make people aware of preventive and curative aspects of oral health so that quality of life of people could be improved.

The oral diseases also have an adverse effect on the vital organs of the body. The pus oozing pockets in advanced periodontal disease in adults act as a focus of infection for other vital organs of body like kidney, heart, lungs, brain etc. Limited information available from the micro level studies suggests that 35-40 percent of body cancers are oral cancers. That is, incidence of simple oral morbidity becomes chronic and ultimately life-threatening. One needs not only to take preventive measures, but early curative steps as well. It is unfortunate that oral health has received much less attention perhaps because of its lower life threatening risk. Its role in quality of life, now, has been recognized and thus all efforts should be afoot to improve oral health of the people.

Several adverse effects of poor oral health necessitate preventive, curative and educational services/ activities. It requires an understanding of people's knowledge and awareness, attitudes towards oral health and their oral health practices besides the magnitude of the problems and corrective and treatment-seeking measures people adopt. This information is basic for the formulation of policy, developing strategic measures and meeting appropriate manpower needs, and creating programmes for improvement of oral health of people.

1.2.2 Lack of data for policies and manpower development

No authentic, reliable or consolidated data on the magnitude of oral health problems, behavioural practices of people for preventive and curative care, dental manpower, infrastructure and on the appropriateness and efficiency of the existing oral health care services including educational and awareness-raising activities are available in the country. However, a wide spectrum of oral health services exists in many urban/rural areas in India. These services range from rudimentary & sporadic in rural areas to sophisticated and state-of-the-art in urban areas. It is unfortunate that there has neither been any systematic assessment of the need and form of educational activities and curative services, nor of the impact of the existing services on the oral health of the people. The vacuum of an effective monitoring and evaluation system is being felt; the dental professionals

are very keen to fill this gap between the emerging needs and the existing services. A strong need exists to understand the oral health care practices and treatment-seeking behaviours of people and to assess the existing oral health care services. An appropriate and relevant oral health policy for the country should address the local problems in the broad context of the overall World Health Organization's (WHO) primary health care approach framework. Ultimately, data needs to be generated to help address and improve the overall oral health of the people in the country.

Since the quantity of intake of fluorides has an effect on dental caries prevention and control, it is also necessary to know the intake of fluoride through water, tooth paste or any other source. This will help to bring out area specific policies to meet fluoride needs of the people.

In summary, two types of studies are needed. One, on the incidence/ prevalence of oral health problems, and the knowledge and behavioural practices of people for prevention as well as treatment of oral health problems. Second, the existing facilities and infrastructure need to be assessed for their cost effectiveness and utilization patterns. Such studies and their analysis will ultimately help in bringing about a balance between the needs and the services to meet these needs.

1.3 INITIATIVE OF THE DENTAL COUNCIL OF INDIA

The Dental Council of India, as per its objective, has always been concerned with the oral health of people in the country. It has, on the one hand, been attempting to strengthen the quality of oral health activities by arranging workshops/seminars to inform and involve dentists in the oral health issues of the country, and, on the other, been raising its concern for the poor oral health situation in the country with the Government. The idea is to work at both the stakeholders for improving oral health in the country. It has been making recommendations and suggesting ways and means to bring about improvement in the overall oral health situation in the country.

1.4 NATIONAL ORAL HEALTH SURVEY

As indicated above, there is need to conduct two types of studies on oral health to bring about a balance between the oral health needs of the people and services to meet those needs. The first is a community survey to assess (i) knowledge of the people on appropriate dental health promoting behaviors including treatment seeking behaviors, and (ii) the oral health status of the population concerned. The second is the survey and assessment of available dental care services. The Dental Council of India undertook a community survey, National Oral Health Survey, to assess the dental problems and practices related to oral health in 2002. This report presents the result of this survey where a representative sample of community members in all the states have been contacted to assess their dental service needs and understand their knowledge and behavior in regard to practices affecting oral health. Priority and need for such a survey was recommended as early as 1991 in the National Workshop on "Exploring New Frontiers in Dental Public Health: Planning for the Future" organized by the Dental Council of India under the Presidentship of Dr R K Bali. This Workshop had highlighted the lack of data and a framework for planning the oral health manpower and services in our country and recommended a nation-wide oral health survey to assess current status of oral health. As a follow up of this recommendation, the Dental Council of India, again under the Presidentship of Dr R K Bali, developed a proposal to conduct a National Oral Health Survey to assess oral health problems in the country and the behavioural practices affecting them. Mapping of the fluoride levels in the country was also made a part of this survey. It approached several individuals and agencies for technical and financial support for undertaking this national survey.

1.4.1 Support of Government of India

This proposal was submitted to Ministry of Health & Family Welfare, Govt. of India for (i) seeking their formal approval, and (ii) grant of financial assistance and necessary logistic support. After several meetings between the President of the Dental Council of India and officials of the Ministry of Health & Family Welfare, Govt. of India, the importance and need of the national survey was recognized but the Government, in view of its other, move pressing commitments, could not provide financial assistance. However, the Ministry of Heath & Family Welfare agreed to support the Council's efforts to seek financial and technical support from other agencies.

1.4.2 Support from Colgate India/ International

The President of the Dental Council of India, Dr R K Bali, approached the Colgate India/ International for funding this Survey and after a series of meetings in Delhi, Mumbai and the USA, the management of the Company, recognizing the need for such a survey, agreed to grant a major financial assistance for this national survey.

1.4.3 Support of individuals and dental colleges in India

The Dental Council of India did not have the manpower to manage this large survey itself and thus decided to carry it out by collaborating with the dental colleges in India and the Indian Association of Public Health Dentistry (IAPHD). A bare minimum technical unit was set up for this purpose. It consisted of Dr. R.K. Bali as Chairman and Project Coordinator, Dr.V.B.Mathur as Project Officer and Mr. H.B. Chanana as Statistician. Professor P.P.Talwar, an eminent expert in statistics and demography, was appointed as the consultant in survey methodology. **(Annexure-1)** They formed the Central Survey Team for the National Oral Health Survey & Fluoride Mapping located in the office of the Dental Council of India in New Delhi. It was decided that the Central Survey Team will involve Principals/ Deans/ Heads of Dental Colleges at Regional/ State levels and a few members of the IAPHD for technical development of the survey, data collection in their states and then, later on, for its report writing. This model was thought to be the best for involvement of the dental colleges to ensure their sense of ownership of the survey and their commitment. The colleges participated enthusiastically and generated, shared and pooled local level resources to supplement the grant for the survey. The President of the Dental Council of India sent a copy of the proposal/ protocol of the National Oral Health Survey to these colleges; they were requested for their support and participation. As expected, almost all resource persons and Deans/ Principals of Dental Colleges readily agreed with his request and expressed willingness to participate in this national endeavor.

The Dental Council of India appointed a core technical committee consisting of experts in oral health and survey methodology (Statistics) to work out technical and field details for the National Oral Health Survey. Joint expertise was felt necessary so that this oral health survey could provide scientific estimates of the prevalence of various oral health problems and knowledge and behavioural practices of people. The members of the committee are listed in the appropriate section in the annexure in this report. **(Annexure-2)**

1.5 SCOPE OF THE SURVEY

This survey recognized the fact that India is a vast country with great diversity in eating habits and behavioural practices which could affect the oral health of people. It was, therefore, decided to conduct

the survey in such a way that state-wise oral health problems and practices can be determined. This would help in formulation and implementation of the state-wise policies and programmes on oral health activities and services to improve oral health of the people of each state.

As indicated earlier, it was also decided to collect water samples from representative areas to assess level of fluoride in water because of its implications on the oral health. Such data was ultimately to help in fluoride mapping at state level.

The scope of data collection was enlarged in the sense that it would collect data not only on incidence/ prevalence of oral health problems (WHO clinical form), but also on dental hygiene practices, food habits, knowledge of dental problems and behavioural practices related to dental health.

In this way, the scope of this survey was to have state-wise and national data and reports containing information on the following components of the oral health:

- Prevalence of important oral health problems
- Fluoride mapping
- Dental cleaning practices
- Awareness and knowledge of people on the factors affecting oral health, and their related dietary and dental cleaning practices
- Treatment seeking behaviour of people for their oral health problems.

It also explores association between oral health and its related practices.

1.6 OBJECTIVES

The long-term goal of the survey was to provide state-wise data for improvement of the overall oral health of people in India. It was done by collecting enough information for formulation of national oral health policy and for implementation of oral health programs in each state. All its dimensions of preventive, promotive and curative oral health care were to be addressed in the survey.

More specifically, the objectives of the National Oral Health Survey were:

1.6.1 To collect data on oral health status, particularly on,

- Dental Caries
- Periodontal disease
- Malocclusion
- Oral cancers
- Fluorosis
- Mucosal and Bony lesions

1.6.2 To understand eating and dental cleaning practices that affect oral health and determine the degree of association/ correlation between some of the known etiologic factors which affect oral health status; particularly included were

- Food habits (affecting oral health)
- Eating habits (affecting oral health)
- Dental cleaning practices, and
- Intake of fluoride

1.6.3 To assess awareness and knowledge of people on the factors affecting oral health, and

1.6.4 To determine treatment seeking behaviour of people for their oral health problems.

It was presumed that the data collected would lead to development of programs on preventive, promotive and curative dimensions of the oral health problems in each state. It was also to serve as a baseline data against which progress of the dental programs could be assessed in the future years.

1.7 CHAPTERIZATION PLAN

The report is comprised of the following main chapters:

0 Executive Summary

1. Introduction
2. Methodology & Data Collection
3. Background Characteristics of the Surveyed Population
4. Mapping of the Fluoride Levels
5. Oral Health Knowledge and Practices
6. Status of Oral Health

CHAPTER II

METHODOLOGY AND DATA COLLECTION

2.1 BASIC CONSIDERATIONS IN DESIGNING THE SURVEY

The following considerations were taken into account to design the survey:

1. The estimates of oral health problems and related practices need to be made at state level.
2. The study should be able to capture intra-state regional variations in oral health problems. That is, regional differentials (within a state) in oral health problems should be assessed to suggest region-specific programmes.
3. The scope of information should be so decided that the states should be able to formulate state-wise oral health policies and programmes. It means that information should be collected on

- Levels of oral health problems
- Etiological factors which affect oral health
- Behavioural practices in regard to dental cleaning practices
- Awareness of dental problems and practices followed to seek treatment, and
- Fluoride mapping and issues related to fluoride in tooth paste/ powder

4. Available financial resources (limited) should be able to carry the survey in all the states of the country unless some other prohibitive factors operate in a state.

2.2 SAMPLE DESIGN

2.2.1 Sample size

The following considerations were made in working out the sample size:

- The estimates should be valid at state level, and
- Intra-state regional variations in the oral health problems and related practices may be captured.

The World Health Organisation (WHO) has recommended a sample of 300-600 dental examinations of people of ages 5, 12, 15, 35-44 and 65-74 from a homogeneous region of a state. Hence, this sample size was kept in mind while deciding on number of households to be selected from different homogeneous regions (within a state). It was decided that 315 households covering both rural and urban areas would be selected from each homogeneous region in the state. It was expected that this sample of households would give 315 respondents/examinees of each of the five ages 5, 12, 15, 35-44 and 65-74. In case this number of respondents (315 in each of the five ages) was not available from 315 households selected, then more households were covered to get these numbers of examinees/ respondents. It may be pointed out that though this is a lower limit of the sample size recommended by WHO, this study had to settle for this sample size because of the financial constraints under which this study was undertaken.

It may be restated that the sample size of 315 households or more was taken from each homogeneous region within a state. Therefore, there was much larger sample size at the state level; it depended on the number of homogeneous regions in which the state has been divided. For instance, if the state has five homogeneous regions, then the total sample size of the households for the state would be 5x315= 1575 or more households to cover 1575 respondents/ examinees of each of the five ages. In all, 7875 oral examinations were to be done in the above example.

In order to give representation to urban population, which formed a small proportion of the total population in most of the regions in India/state, urban sample was over-sampled so as to get estimates with a reasonable margin of sampling error of the parameters under study. It was decided that two-thirds of the sample would come from rural areas and one-third from urban. Thus 210 households were selected from rural areas and 105 from the urban. Weights (for rural and urban proportions) were applied to these estimates to get parameter estimates at the stratum (region) level and then at the state level.

As indicated above, though it was expected that 315 households from each region would give a sample of 315 individuals from the ages 5, 12, 15, 35-44 and 65-74, yet instructions were given to the field teams that 315 respondents/ examinees from each age were to be covered from each region even if larger number of households needed to be visited and interviewed/ examined.

It was also decided to have equal number of males and females in the sample. Therefore, when the field teams were to visit the households they had to make sure that 315 respondents/ examinees were equally divided between males and females. In other words, the field teams had to start with a larger sample of households in order to cover 315 respondents/ examinees of each of the five ages with equal number of males and females.

2.2.2 Selection of sample

The Planning Commission of India, in an exercise to group districts in homogeneous regions within a state, had divided each of the major states and Union Territories into a few homogeneous agro-climatic regions on the basis of socio-economic indicators and agricultural parameters. In the case of remaining States/Union Territories, the homogeneous physio-geographic regions determined by the office of Registrar General of India, were used as strata/ homogeneous regions within a state. Each homogeneous region thus formed a stratum for collection of data from 315 respondents/ examinees of each age. This number of 315 was equally divided between males and females. The selected states, by homogenous regions and district selected from each region is enclosed in **(Annexure-3)**.

2.2.2.1 Rural sample

In order to get a sample of rural households in a stratum (region), three-stage sampling method was adopted. At the first stage, one district was selected from the group of districts in that particular region; the second stage was selection of 15 villages from the selected district and the third stage was selection of 14 households from the villages selected in the second stage. The selection of the district was done randomly. For the selection of villages, all the villages in the selected district were arranged in an array by size of the village to get cumulative total of village population. This cumulative total array was divided into three sections, each having equal population size. Five villages with probability proportional to the population size (pps) of the village were selected from each of three sections. Thus 15 villages were selected in the second

stage. The list of villages were taken from the sampling frame developed for the Rapid Household Survey, a district-wise survey conducted by the Government of India, and coordinated by the International Institute for Population Sciences, Mumbai; the list was based on the 1991 census. In the third stage, 14 or more households were selected randomly from a village (by dividing it into two equal parts with seven or more household from each part) to get a sample of 14 respondents/ examinees from each of the five ages – 5, 12, 15, 35-44 and 65-74, half of them were to be males. Thus a sample of 210 or more households from rural areas of the district/ region was selected to interview 14 members from each of the five ages 5,12,15,35-44 & 65-74. Half of them were to be males/females in each age.

2.2.2.2 Urban sample

As regards the urban sample, again, three stage sampling design was adopted to select urban households from the selected districts. In the first stage, eight blocks/ wards were selected randomly from the list of urban blocks/wards in the selected district. The second stage was selection of 15 Census Enumeration Blocks (CEBs) from the list of CEBs in the selected eight blocks/ wards (the population size in each CEB is approximately equal). The list of CEBs was obtained from the District Census Office and was for the year 1991. The third stage was a systematic sample of 7 or more households to get seven members of each of the five ages 5, 12, 15, 35-44 and 65-74. Half of them were to be males in each age. Thus a total of 105 or more households were randomly selected from the selected 15 CEBs.

On the basis of this sampling design, the number of households to be covered were 28, 665 or more to cover 28,665 respondents/ examinees in each of the five ages 5, 12, 15, 35-44 and 65-74. Half of them were to be males. The total number of examinations to be done were 1, 43, 325. The actual coverage comes to a minimum of 19845 households. That is, 92,225 examinations were done. Their state-wise, rural/urban distribution is shown in Table- 2.1

Table 2.1. States, number of regions and sample of rural/urban households.

Sl. No.	State	Coverage as per design				Actual coverage			
		No. of regions	No. of households		Total	No. of regions	No. of households		Total
			Rural	Urban			Rural	Urban	
1.	Andhra Pradesh	6	1260	630	1890	6	1260	630	1890
2.	Assam	3	630	315	945	2	420	210	630
3	Bihar	3	630	315	945	Not covered			
4.	Jharkhand	2	420	210	630	Not covered			
5.	Gujarat	7	1470	735	2205	7	1470	735	2205
6.	Haryana	3	630	315	945	3	630	315	945
7.	Himachal Pradesh	2	420	210	630	2	420	210	630
8.	Karnataka	4	840	420	1260	4	840	420	1260
9.	Kerala	3	630	315	945	3	630	315	945
10.	Madhya Pradesh	8	1680	840	2520	4	840	420	1260
11.	Chattisgarh	3	630	315	945	Not covered			
12.	Maharashtra	6	1260	630	1890	5	1050	525	1575
13.	Orissa	5	1050	525	1575	5	1050	525	1575
14.	Punjab	3	630	315	945	3	630	315	945
15.	Rajasthan	5	1050	525	1575	3	630	315	945
16.	Tamil Nadu	7	1470	735	2205	7	1470	735	2205
17.	Uttar Pradesh,	6	1260	630	1890	2	420	210	630
18.	Uttranchal	2	420	210	630	Not covered			
19.	W. Bengal	6	1260	630	1890	Not covered			
20.	Jammu & Kashmir	3	630	315	945	3	630	315	945
21.	Chandigarh	1	105	210	315	1	105	210	315
22.	Delhi	1	105	210	315	1	105	210	315
23.	Goa	1	105	210	315	1	105	210	315
24.	Pondicherry	1	105	210	315	1	105	210	315
	Total	**91**	**18690**	**9975**	**28665**	**63**	**12810**	**7035**	**19845**

Note: Names of the regions and selected districts are shown in Annexure-3.

Table 2.1(a) : Presents regions/districts within region and sampled district in the state of Haryana

Table 2.1(a) Statement showing regions/districts within regions and sampled district in the state of HARYANA

Code	Region	Districts	Sampled District	*Coverage as per design No. of Households*			*Actual Coverage No. of Households*		
				Rural	Urban	Total	Rural	Urban	Total
1	Foot Hills of Shivalik	i) Ambala							
		ii) Yamunanagar	Yamunanagar	210	105	315	210	105	315
		iii) Panchkula							
2	Plains	i) Kurikshetra							
		ii) Karnal							
		iii) Zind							
		iv) Sonepat							
		v) Rohtak	Rohtak	210	105	315	210	105	315
		vi) Faridabad							
		vii) Gurgaon							
		viii) Kaithal							
		ix) Panipat							
3	Arid	i) Mahendragarh							
		ii) Bhiwani							
		iii) Hissar							
		iv) Sirsa	Sirsa	210	105	315	210	105	315
		v) Fatehabad							
		vi) Shajjar							
		vii) Rewari							
Total	**3**	**19**	**3**	**630**	**315**	**945**	**630**	**315**	**630**

It may be noted that sample size shown, both on the basis of design and actual coverage, is for minimum number of households. They were to give this number of respondents from each of the five age groups – 5, 12, 15, 35-44 and 65-74 years, equally divided between males and females.

2.3 STUDY TOOLS

In order to cover the total scope of the study, two types of questionnaire/ schedules were used for data collection: Oral Health Assessment Questionnaire (WHO, 1997)) for recording the result of the examination of oral health of the individuals and Individual Questionnaire (Especially developed by DCI for this survey) for collecting information on etiologic factors related to oral health awareness, knowledge and practice of individuals on factors affecting oral health and their treatment seeking behaviour. These questionnaires were pre-tested and finalized by the Central Survey Unit in Delhi with the help of consultant. A copy each of the tools used is annexed in this report **Annexure-7**.

2.3.1 Oral health assessment form

This survey used the Oral Health Assessment form recommended by World Health Organization, Geneva. It followed all the instructions given in the WHO publication, "Oral Health Surveys: Basic Methods". By keeping the WHO form as it is, it was considered possible to collect data comparable to other sets of data in the Data Bank of WHO.

2.3.2 Questionnaire on oral health knowledge and practices

As indicated above, this survey did not limit itself to mere oral health assessment because the goal of this survey was to help formulate dental policies and programmes. Therefore, it was essential to collect information on all parameters like food habits, dental cleaning practices and treatment seeking practices that ultimately affect the oral health of people.

The core technical group working on this national survey developed a questionnaire wherein all the information related to factors that affect oral health was collected from respondents/ examinees that were examined for oral health problems. The idea was (1) to understand factors that affected their oral health status, and (2) determine relationship of different etiological factors with oral health status. The questionnaire had the following sections:

1. Socio-economic and demographic characteristics of population
2. Abnormal oral habits
3. Eating habits
4. Oral hygiene practices
5. Pattern of practices for dental treatment
6. Awareness and knowledge of dental problems, and
7. Tobacco smoking and chewing habits

2.4 DATA COLLECTION

Since the individuals of different ages and sex were to be examined/ interviewed (for oral health problems), it was necessary that dentists should be involved in the data collection teams. Therefore, it was decided that dental colleges, particularly Departments of Community Dentistry of the dental colleges should be involved in the data collection work. It was also hoped that their involvement will help reduce cost of the survey as not only their manpower but also their infrastructure and equipments could be deployed in the survey work. This was based on the

assumption that they were willing to cooperate with the task of national survey, the Dental Council of India had taken up, as well as their own professional interest in this long over-due activity for the dental profession. Keeping this in mind, the technical group formed for this survey identified dental colleges and individuals with such an interest in each state whose involvement could be helpful in quality data collection work. The President, Dental Council of India, wrote to these identified individuals and dental colleges to seek their interest in this national effort. The response was very positive and almost all the invitees were very enthusiastic about their involvement. A list of the participating dental colleges is annexed **(Annexure-4).**

The first stage in this data collection work was to set up a Central Survey Unit at the Dental Council Office in Delhi to coordinate all the activities related to this survey in each state. Because of the limited resources, a small nucleus was set up in the office of DCI. This nucleus consisted of an experienced and senior public health dental surgeon whose services were requisitioned on deputation from the Municipal Corporation of Delhi, a full-time statistician and a part-time Consultant in survey techniques.

This Central Survey Unit worked out the fieldwork logistics to get maximum output at the minimum cost. It was decided to send two field teams together in one vehicle to cover one village in a day. Based on the pre-test and the experience of WHO Assessment Form, it was found that two field teams, each of two dentists and one worker of social science background could complete the field work in one village where 14 or more households were to be covered to interview/ examine 14 individuals of each of the five ages in one day. A team of two dentists were to examine mouth of the respondent and complete the WHO Assessment Form – one was to examine the mouth and the other was to record the observations. They were to interchange their roles in order to reduce the fatigue factor. The social science—background worker, the third member of the field team, was to complete the questionnaire related to awareness and practices of the respondents related to dental health.

The quality of data was given utmost consideration. It was decided that supervisors would continuously move with the field teams to guide the data collection work. They were to help the team not only to select the households (as per the study design) whose members were to be interviewed/ examined but will scrutinize the filled in forms before sending them to the state headquarter. Therefore, keeping in view the constraints of funds, it was decided that number of supervisors would be in the ratio of one supervisor for four field teams so that they can accompany the teams alternately (As stated earlier, two teams were to travel together to collect data).

After working out logistics of the fieldwork, it was necessary to identify a team involved in the survey in each state. Three types of persons were needed from each state, a Coordinator, a Supervisor and dentists to form field teams. The former was to coordinate all survey activities at state level and was to liaise with the Central Survey Unit. The latter was to supervise and guide the fieldwork activities of the state field teams (each consisting of two dentists and one with social science background), working under the overall direction of the state Coordinator. The Coordinators were all very senior, experienced persons with research bent of mind – the principals, deans or professors of the departments of Community Dentistry of the dental colleges. **(Annexure -5)**. The Technical Committee of the survey identified them. These Coordinators were asked to identify senior dental surgeons from the dental colleges as their field team supervisors in the ratio of one supervisor for four teams.

These Coordinators and Supervisors were to identify field teams for the fieldwork. The number of field teams was to be equal to the number of homogeneous zones/ regions in the state so that field work in a district could be completed in two-month period by one team. Again, two dentists/ dental surgeon/ interns for each team were to be taken from the dental colleges in the state. This was not only to reduce cost of salaries of these dentists but was meant to give them field experience in examination of the mouth under the guidance of supervisors.

2.5 CALIBRATION AND TRAINING

Before start of the work at state level, it was necessary that standardization should be done in the examination and recording of the dental problems. The examiners should have common standards for identifying the dental problems. The Dental Council of India collaborated with the Manipal Academy of Higher Education (MAHE) to organize a three-day training cum calibration Workshop at Manipal, Karnataka during March 2002. All the State Coordinators and their identified Supervisors were invited to this workshop. They were explained the sampling design, various study tools and the field logistics of data collection. They were taken to the field to practice selection of the sample households and fill the questionnaire related to the practices that affect the oral health. They were also taken to the dental chairs of the dental college of Manipal to examine mouths of the patients to decide the dental problems patients had. A good deal of discussion was held along with the Coordinators and the Supervisors to ensure that every body had a common and uniform understanding of the dental problems to record in the form. This exercise was continued till it was felt that every body (Coordinators and Supervisors) had a uniform understanding on how to measure dental problems. This calibration workshop helped in standardization of measurement of the dental problems, which was necessary to ensure comparability of data from state to state. This training of the Coordinators and Supervisors was the first stage; they had to train their field teams who were, actually, to collect data in the field.

2.6 CLINICAL ASSESSMENT AND CONSIDERATIONS

The information on the questions on behavioural practices was asked directly to the respondents and their answers recorded on the prescribed proforma. In the case of clinical assessment of oral health status, there was need for common and uniform understanding of recording criteria amongst field teams. Therefore, special efforts were made to standardize methods of assessment and the field teams were trained and calibrated accordingly. The details on how the clinical assessment was made and some considerations in clinical assessment are described below.

The recording criteria used for various oral health conditions were as prescribed and as described for pathfinder survey methodology in "Oral Health Surveys: Basic Methods", 4th Edition, 1997, WHO Geneva. The WHO Oral Health Assessment Form 1997 was used in the National Oral Health survey. All columns for the clinical data (column no. 32 to column no.180) were filled up by the teams in the field while conducting the survey for each individual.

The main instruments and utilities which formed a part of the field kit bag carried by each of the teams during the course of clinical examinations were:

1. Mouth Mirrors, Tweezers, Curved double ended probes and WHO CPI ball ended probes.
2. Supplies of cotton rolls, masks and gloves, cold sterilizing solution, alcohol or spirit, instrument trays and chittle forceps. The cold sterilizing solution was used in field

conditions for the instruments although the sets of instruments were previously boiled for 20-30 minutes.

3. Lightweight folding chair for clinical dental examination of subjects.
4. Torches and batteries.

A portable, lightweight field chair was used to seat the subjects in such a manner that the head was placed aligned with the back of chair and the lower jaw was horizontal (parallel to the floor). Examinations were carried out in natural light (daylight) and a simple two-cell torch was used to illuminate the oral and dental tissues in the mouth. The examiner stood behind and on side of the subject while examining the subject. The combination of natural and torchlight was used to provide consistency of lighting during examinations of different subjects and provide sufficient light for clear visibility in the mouth. The torch was held in place by an assistant from within the team or from the community where the examinations were being carried out. (As stated earlier, all trainers were trained in Manipal training workshop to adopt this method. The teams in all states were trained to use this method to ensure that the approach and results were uniform and widely comparable.)

Clinical oral examinations were carried out by previously trained and calibrated dental surgeons who worked in pairs in the field while surveying subjects. The dental surgeons working in the field were normally interns, junior residents or other dental surgeons drawn from regional dental colleges carefully chosen for the task by senior faculty members responsible for the survey in their area. Two dental surgeons formed one clinical examination team. One member was the examiner, who examined the selected subject and called out the scores for each item of examination clearly. The other member was the Recorder, who again called out or repeated the scores loudly and clearly for the examiner to hear and either confirm or correct, as necessary, and then enter it in the appropriate place in the paper proforma for each subject examined. In order to avoid monotony and fatigue, the roles of the examiner and recorder were interchanged from time to time; they did not exchange their role during the course of any one examination.

The teams used instruments and utilities as mentioned above for the detection of caries, periodontal disease and most other conditions. Sufficient numbers of instruments were carried everyday by field teams after proper sterilization so that work was not interrupted due to the need to re-sterilize instruments.

The data was collected by the field teams led by their supervisors and scrutinized by the State Coordinators who forwarded the filled up forms to the Central Project Cell in the office of the Dental Council of India in New Delhi. In Delhi, the clinical data forms were scrutinized again by the central project team before sending them for analysis and preparation of tables.

The clinical findings are presented in Chapter VI of this report under the following broad heads:

1. Summary of Findings
2. Dental Caries Status and Treatment Need
3. Periodontal Disease Status
4. Malocclusion Status

5. Oral Cancers and other Oral Mucosal Lesions
6. Status of Dental Fluorosis
7. Other conditions:

   Extra Oral Lesions; TMJ Signs and Symptoms; Enamel Opacities and Hypoplasia; Prosthetic Status and Need; and Community Need for immediate Care and Referrals.

While the criteria used for recording caries is as described in the WHO manual, the data on caries status is presented in tables which also provide information on the distribution of subjects with mean values of dmft and DMFT. The following range is used :

Primary teeth (5 yr)	Permanent teeth (12 & 15 yr)	Permanent teeth (35-44 yr & 65-74 yr)
dmft = 0	DMFT = 0	DMFT = 0
dmft = 1 to 3	DMFT = 1 to 3	DMFT = 1 to 3
dmft = 4 to 5	DMFT = 4 to 7	DMFT = 4 to 8
dmft = 6 to 10	DMFT = 8 to 14	DMFT = 9 to 16
dmft = 11 to 15	DMFT = 15 to 21	DMFT = 17 to 24
dmft = 16 to 20.	DMFT = 22 to 28.	DMFT = 25 to 28.
		DMFT = 29 to 32.

A new approach to grouping of dmft/ DMFT by range according to the percentage of affected teeth in the mouth is introduced in this survey report. The first range is the dmft/ DMFT value of 1 to 3. This provides an estimate of subjects who had less than 4 teeth decayed, missing or filled. Further, the dentition has been divided into 4 equal parts (quarters) on the basis of the number of teeth (maximum being 20 for primary teeth and 28 or 32 for permanent teeth). Each quarter represents 25% of the teeth normally present. The ranges therefore reflect these four quarters in each case as explained above. The rationale for this distribution is to facilitate reporting in terms of the four quarters or percentage teeth that are decayed, missing or filled, out of the number of teeth normally present for the age group concerned.

The status of malocclusion has been presented based on the Dental Aesthetic Index (DAI) scores for the age groups 12 yr, 15 yr and 35-44 yr which were computed as per the WHO's instructions and are presented in the report.

The severity of malocclusion within a population is classified based on their Dental Aesthetic Index (DAI) Index scores. The regression equation (WHO 1997) used for calculating standard DAI scores is as follows:

(missing visible teeth x 6) + (crowding) + (spacing) + (diastema x 3) + (largest anterior maxillary irregularity) + (largest anterior mandibular irregularity) + (anterior maxillary overjet x 2) + (anterior mandibular overjet x 4) + (vertical anterior openbite x 4) + (antero-posterior molar relation x 3) + 13

2.7 FLUORIDE ESTIMATION IN DRINKING WATER SAMPLES

As stated earlier, the analysis of the drinking water samples from various states were directly sent by the various Regional Coordinators and received by M/s Medlar Laboratories Pvt Ltd., (a Unit of M/s CIPLA), Mumbai. Dr. P M Dixit, Chief Chemist, has provided the following information on the analysis procedure.

Medlar Labs used sophisticated equipment and intricate chromatographic separation methodology to analyse the water samples with accuracy and precision.

The analysis procedure was based on the Ion Chromatographic separation in Anion Exchange mode and Suppressed Conductivity detection. The basic separation is performed by anion exchange mechanism of water samples on high efficiency Ionpac AG 11RC and IonPac AS 11RC connected in series and elution (process of extracting one material from another by washing with a solvent to remove adsorbed material from an adsorbent) with sodium hydroxide mobile phase.

Under this technique, a standard stock solution of Fluoride (100 ppm F anion) is prepared (0 – 5.0 ppm) in order to build a calibration graph prior to the start of the analysis.

The actual water samples were thoroughly mixed by vigorously shaking and filtered through a 0.45 u Nylon membrane. The effluent was collected into a clean dry conical glass tube. This was used for the fluoride estimation. The actual water sample was loaded into the mobile phase container in the equipment where the container is connected to a pump and made to run on the system. After about 20 minutes of stabilization period, the actual concentration of Fluoride ion in the water is analysed.

The following modules were used to assemble the fluoride analyser:

1. Isocratic pump-M/s Dionex Corp., USA, IP 20 Pump (I. No. -1)
2. AS300 Auto sampler- M/s Thermo Separation Products
3. Conductivity Detector-M/s Dionex Corp., USA, Model CD 20, (I. No. 4)
4. Anion Self Regenerating Suppressor- M/s Dionex Corp., USA, Model ASRS Ultra.
5. IonPac AG 11RC, as guard column, 4 x 50 mm- M/s Dionex Corp., USA
6. IonPac AS 11RC, as analytical column, 4 x 250 mm- M/s Dionex Corp., USA.
7. WinchromEx, data acquisition software in personal computer, PC 2.

In order to confirm the system stability and performance, one standard stock solution of fluoride (strength 1.0 ppm) was injected after every 10 samples.

2.8 FIELD WORK EXPERIENCES

2.8.1 Pre-fieldwork activity

In order to get help and support in the field work, it was felt necessary to get Government clearances from the right authorities. All the concerned authorities were approached and permissions were taken. The Census office was also approached for getting maps for the Census Enumeration Blocks (CEBs) or taking sample of households.

2.8.2 Identification and training the field teams

Three teams were formed, each consisting of two dentists and one social scientist. The dentists were taken from the dental faculty of the Regional Dental College. The Social scientists were taken from the faculty of social sciences of the university.

After the rainy season, in the month of July, extensive training was given to the field teams. They wer explained the questionnaire and logistics of the field work. In order to make sure that these dentists follow the standardized methods of assessing and recording the dental problems as decided in the Manipal training, the dentists were taken to the OPD of the Regional Dental College. They were given a thorough training on clinical examinations and on assessment of the dental problems. **Annexure - 6**

2.8.3 Fieldwork

- After the classroom and dental college training, the teams were taken to the field to make sure that they had understood the method of selection of the households, interview the individuals to fill the questionnaires and clinical examination of the dental problems. Once it was found that the teams had had understood all the issues related to field work and were in a situation to work independently, they were sent to the field.
- Despite the extensive training, both in the class and in the field, the teams faced several initital problems. The supervisors who were accompanying the teams helped them to overcome those problems. Very soon the teams acquired the required confidence and the field work became smooth operation.
- The supervisors were very alert to make sure that data was complete and consistent. They made sure that all the forms were scrutinized and corrected before they were submitted to the coordinator.
- In order to get cooperation from the respondents, the teams had carried medicines and vitamins. Free samples were distributed to the respondents to build necessary equation with them. It was found that people in rural areas were more cooperative than in urban areas.

2.9 SCRUTINY OF DATA

As stated earlier, all efforts were made to ensure that quality of data was good. A senior level person was moving with the teams to guide them in case of any doubts. He/ she was also responsible for scrutiny of the filled in forms before the team returned from the area of data collection. It was his/her responsibility to scrutinize the forms if they could not be checked in the field. This scrutiny was necessary before they were submitted to the state Coordinator for onward transmission to the Central Survey Unit. The Coordinator was also responsible to scrutinize the forms, fully in the initial stages and then on sample basis before sending them to the Central Survey Unit in Delhi.

The Central Survey Unit at DCI was particularly careful in scrutiny of the forms from each state. First two batches of forms of each survey team from each state were thoroughly scrutinized to determine gaps in the form of blanks, wrong recording and inconsistencies. The Coordinators were immediately contacted by telephone to point out the data problems. The same concerns were reinforced by sending a Fax. After such reporting, the next batch received was also scrutinized

carefully to ensure that deficiencies pointed out earlier have been taken care of in the next batch of forms filled. After initial total scrutiny, the data were scrutinized on a sample basis to ensure that there was no slackness in efforts later – the fatigue factor should not reduce quality of data.

2.10 DATA ANALYSIS

In the absence of any resources for data analysis at the Dental Council of India, the total job of data entry, validity checks and production of desired tables (as per analysis plan) was contracted out to TNS MODE, an organization with a good deal of research experience in studies related to health. All efforts were made to monitor quality of this work at this stage. The Central Survey Unit had worked out the type of tables needed, the level (Zone or Region/ State/ Country) for which such analysis was needed. The necessary weights were also worked out to ensure that the estimates were valid for the level to which they relate. These blank tables were given to the agency (TNS MODE) to fill in the data in different cells. In order to ensure that the values given in each cell of the table were right, the software package developed by TNS MODE was tested in a limited number of schedules by manually checking the results.

2.11 REPORT WRITING

The Central Survey Unit, Delhi prepared two reports, for Delhi and Assam as model reports after detailed discussions on the report format and the format of tables. Once these reports were ready, an effort was made to identify Coordinators who could find time and resources to write reports for their own states, for which they had collected data. The idea was to conduct a Report Writing Workshop to orient them with the chapterization plan, data tables of their own states and share with them style of writing adopted in the model reports (Delhi and Assam). This was felt necessary to make sure that all state reports were written in uniform style/pattern. For other states, it was decided that the Central Survey Unit, Delhi would write reports and send them for their modifications, if any. The Central Survey Unit also prepared all the sections and sub-sections of chapters 1 (Introduction) and 2 (Methodology and Data Collection) which were to be common for all the reports. These chapters were also given to the states Coordinators who were involved inn the Report Writing Workshop.

Dr. S. G. Damle, Dean, Nair Hospital Dental, Mumbai and Additional Director Health, Maharashtra co-hosted the Report Writing Workshop in Mumbai on January 10-11, 2004 where the staff of the Central Survey Unit discussed all the issues involved in writing the reports with the Coordinators of the States: Andhra Pradesh, Goa, Haryana, Himachal Pradesh, Karnataka, Kerala, Maharashtra, Pondicherry, Punjab and Tamil Nadu.. They were given two reports (model), a set of tables for their own state and even a CD containing raw data for their own state. They were told that their state report should adopt the format shown in the model reports; they can do more analysis if needed by using their own raw data. It was also decided and agreed that report should be ready in one month's time.

CHAPTER III

BACKGROUND CHARACTERISTICS OF SURVEYED POPULATION

3.1 CHARACTERISTICS OF HOUSEHOLDS

The data were collected from three regions of Haryana, namely, Region-1 (Foot Hills of Shivalik), Region-2 (Plains) and Region-3 (Arid).

The characteristics of households surveyed are shown in Table 3.1. It may be noted that about 50 percent of the households live in pucca houses (80 percent in urban and 37 percent in rural areas). This was followed by 43 percent of the households living in semi-pucca houses. Only about 7 percent of the households had kuccha houses in the state. No major differences in regard to type houses were found among the three Regions.

About 43 percent of the respondents reported monthly expenditure (proxy for household income) of Rs 2,501 to Rs 5,500 and other 40 percent had monthly expenditure of less than or equal to Rs 2,500. In the urban areas, 26 percent of the respondents reported their monthly expenditure of Rs 5,501 to Rs 10,000, compared to only 6 percent in the rural. No large differences were noticed among the three Regions.

About 78 percent of households in the state were of Hindu. About 18 percent belonged to Sikhs. There were more Sikhs resident in Region -3 (41 percent) compared to 7 percent in Region-1 and 3 percent in Region- 2. There was 15 percent & 0.2 percent of households belonged to Muslims and Christians, respectively. About 23 percent of the households belonged to Scheduled Castes (SC). These were more in Region-2 (29 percent) than in Region-1 (19 percent) and Region-3 (15 percent). Other Backward Castes (OBCs) formed about 15 percent. Only 4 percent of the subjects belonged to Schedule Tribes (ST). While 58 percent of the households belonged to higher castes in the states.

About 66 percent of the households reported getting piped/tap water for drinking purposes. While other 30 percent of the households were using tubewell/handpump as a source of drinking water. Piped supply was more in urban (64 percent) than in rural areas (57 percent). Tube wells/hand pumps were more in rural (36) than in urban areas (15 percent). There was not much difference among the regions. Only about 5 percent of the households were dependent on other sources of water like ponds, river, canal or open well, (more in rural than in urban areas). The inhabitants of Region-3 and Region-1 were less dependent on other sources of water than Region-2.

Nearly 97 percent of the subjects reported wheat their staple food. Only 3 percent reported rice as their staple food. There was no difference in staple food between urban/rural and across the three Regions.

About 93 percent of the households, across places of residence & Regions reported vegetarians.

Table : 3.1 Percent distribution of the households by characteristics and geographical area.

STATE : Haryana

	Household Charactersties		REGIONS			STATE		
			1	2	3	R	U	T
1	**Type of household**	n=	398	418	431	832	415	1247
	Kuccha		6.8	5.5	9.7	9.6	2.0	7.2
	Semi Pucca		35.1	46.2	38.6	53.4	18.5	42.6
	Pucca		58.2	48.3	51.7	37.1	79.5	50.2
2	**Monthly expenditure (in Rs.)**							
	<= 2500		27.8	49.5	30.4	46.4	26.4	40.1
	2,501 - 5,500		53.0	38.4	45.2	43.6	40.7	42.8
	5,501 - 10,000		18.5	7.5	18.0	6.0	25.9	12.2
	10,000 +		0.8	4.7	6.4	4.0	6.9	4.9
3	**Religon**							
	Hindus		86.6	93.1	56.4	72.0	91.7	77.8
	Muslims		4.8	1.6	0.5	1.3	2.3	1.5
	Sikhs		7.0	3.1	40.6	23.9	4.9	18.4
	Christians		0.6	0.2	0.0	0.0	0.6	0.2
4	**Caste**							
	Scheduled Caste		19.2	29.1	14.5	25.5	16.5	22.7
	Scheduled Tribe		2.2	4.7	4.2	5.6	1.2	4.3
	Other Backward Classes		18.4	13.2	16.2	16.8	10.6	14.9
	Others		60.2	53.0	65.1	52.0	71.7	58.2
5	**Sources of drinking water**							
	Pipe/tap		64.4	61.4	72.5	57.3	84.0	65.9
	Tubewell/handpump		33.3	31.1	26.0	36.4	15.0	29.5
	Others		2.2	7.5	1.5	6.2	1.0	4.6
6	**Staple food**							
	Wheat		93.8	88.8	92.8	96.0	98.8	96.8
	Rice		1.8	5.0	0.2	3.8	1.2	3.0
7	**Nature of food**							
	Vegetarian		91.3	94.4	91.9	93.6	91.0	92.8
	Non-vegetarian		8.7	5.6	8.1	6.4	9.0	7.2

CHARACTERISTICS OF HOUSEHOLDS (SUMMING UP)

1. About half of the respondents live in pucca houses in the state. There were no major differences in regard type of houses among the Regions.
2. About 80 percent of households had monthly expenditure of Rs. 5500 & below.
3. 78 percent of the households belonged to Hindus in the state & in each Region.
4. 23 percent of households were of Schedule Caste.
5. 66 percent were getting piped/tap water for drinking.
6. About 97 percent had wheat their staple food & 93 percent reported vegetarians.

3.2 PROFILE OF POPULATION

3.2.2 12 year olds

3.2.2.1 Educational Level

96 percent of respondents of this age, more males & more in urban had education up to middle & above in the state as well as in Regions. Only about 4 percent of the children more females & more in rural was illiterate in the state. As regard regions, there were more illiterate in Region-3 & least in Region-2

3.2.3 15 year olds

3.2.3.1 Educational level

Only 6 percent of respondents of this age, more females & more in rural were illiterate. There were more illiterate in Region-3 than in Region 2 & 1. About 63 percent of the respondents across both sexes & places of residence had education up to middle school and other about 31 percent across both sexes & more in urban were high school and above in the state. As regard Region -1 (97 percent) and Region-2 (98 percent) had higher literacy rates than Region-3 (88 percent).

Table : 3.2.2 Percent distribution of 12 year olds by educational level and media exposure, sex & geographical area.

AGE: 12 yrs **STATE : Haryana**

	Educational level & Media Exposure		MALE						FEMALE						STATE TOTAL
			REGIONS			STATE			REGIONS			STATE			
			1	2	3	R	U	T	1	2	3	R	U	T	
1	**Educational level**	n=	172	147	157	315	161	476	172	147	161	324	156	480	956
	Illiterate		2.1	0.7	7.5	5.2	0.0	3.4	3.4	0.7	10.7	7.0	0.3	4.8	4.1
	Upto middle		97.9	94.4	90.6	91.4	97.4	93.6	96.6	96.5	88.6	91.2	98.5	93.6	93.6
	High school & above		0.0	4.8	1.9	3.3	2.6	3.1	0.0	2.8	0.7	1.8	1.1	1.6	2.4
2	**Newspaper reading habits**						NOT ASKED								
3	**Radio listening habits**						NOT ASKED								
4	**TV watching habits**						NOT ASKED								
	Daily														
	Sometimes														
	Not at all														
5	**Cinema watching habits**						NOT ASKED								
	Once in 3 months														
	Less often														
	Not at all														

3.2.3.2 Exposure to media

About 58 percent of subjects, more females & more in rural, reported not reading newspaper at all. Other about 34 percent of the respondents more males & more in urban reported reading newspaper sometimes. The habit of reading newspaper daily was found only among 9 percent of the subjects, more in urban areas (14 percent) than in rural (7 percent).

Exposure to radio was limited. About 56 percent did not listen to radio at all. Only 8 percent of the subjects, across both sexes reported listening to radio in the state, as well as across the three Regions.

About 48 percent of the respondents more females & more in urban, reported watching television daily. Other about 27 percent did not watch television at all.

About 67 percent of the respondents more females & more in rural had no habit of watching cinema while 26 percent and 8 percent across both sexes & more in urban had watched cinema, less often and once in three months respectively in the state. The position in this regard in the three Regions was similar to that in the state.

Table : 3.2.3 Percent distribution of 15 year olds by educational level and media exposure, sex & geographical area.

AGE: 15 yrs **STATE : Haryana**

	Educational level & Media Exposure		MALE						FEMALE						STATE TOTAL
			REGIONS			STATE			REGIONS			STATE			
			1	2	3	R	U	T	1	2	3	R	U	T	
1	**Educational level**	n=	174	151	164	329	160	489	166	144	160	310	160	470	959
	Illiterate		1.1	2.1	11.1	7.9	0.0	5.3	4.6	2.8	12.8	9.9	1.3	6.8	6.1
	Upto middle		87.4	62.5	54.7	62.4	63.9	62.9	82.2	62.2	55.6	64.4	58.4	62.2	62.6
	High school & above		11.5	35.4	34.1	29.7	36.1	31.9	13.2	35.0	31.6	25.7	40.3	31.0	31.5
2	**Newspaper reading habits**														
	Daily		1.1	10.7	11.2	8.3	13.8	10.1	4.6	11.3	2.9	4.6	13.1	7.7	8.9
	Sometimes		41.6	33.4	37.6	31.5	42.9	35.3	40.9	27.6	36.0	29.4	35.8	31.7	33.5
	Not at all		57.4	55.8	51.1	60.2	43.3	54.6	54.5	61.1	61.1	66.0	51.1	60.6	57.6
3	**Radio listening habits**														
	Daily		5.8	10.5	5.9	6.6	11.0	8.1	3.5	10.3	6.1	5.5	11.9	7.8	8.0
	Sometimes		46.6	34.6	38.5	38.3	33.7	36.7	40.8	32.9	36.4	35.1	34.8	35.0	35.9
	Not at all		47.6	54.9	55.5	55.1	55.3	55.2	55.7	56.8	57.5	59.5	53.3	57.2	56.2
4	**TV watching habits**														
	Daily		54.2	51.0	34.4	37.5	62.6	45.9	52.6	59.8	33.1	39.2	67.6	49.5	47.7
	Sometimes		32.6	29.9	27.0	30.5	23.8	28.3	32.3	18.2	26.2	23.0	21.9	22.6	25.5
	Not at all		13.3	19.1	38.5	32.0	13.5	25.8	15.1	22.0	40.7	37.8	10.5	27.9	26.9
5	**Cinema watching habits**														
	Once in 3 months		9.9	10.7	3.8	5.3	15.5	8.7	13.8	6.6	2.9	3.6	11.8	6.5	7.6
	Less often		25.4	25.0	34.5	23.4	38.0	28.3	28.0	17.1	28.9	16.6	33.4	22.7	25.5
	Not at all		64.6	64.3	61.7	71.3	46.5	63.0	58.2	76.3	68.2	79.8	54.8	70.8	66.9

3.2.4 35-44 year olds

3.2.4.1 Educational level

About 27 percent of respondents, 19 percent males and 34 percent females, and more in rural (36 percent) than in urban areas (8 percent) reported illiterate. About 40 percent of the subjects across both sexes more in rural had education upto middle school while 33 percent more males & more in urban had education up to high school and above.

3.2.4.2 Exposure to media

About 52 percent of the subjects (60 percent females and 43 percent males) did not read newspaper at all. Other 19 percent more males & more in urban reported reading newspapers daily. More reported the habit of reading newspaper daily in Region-2 than in Region-3. There was not much exposure to radio. About 52 percent, (60 percent females and 44 percent males) did not listen to the radio at all. Only 10 percent, across both sex & more in urban listened to radio daily.

Exposure to television was high, especially in the urban areas (64-67 percent in urban compared to 25-30 percent in rural areas). About 29 percent of the respondents did not watch television at all. They were more in rural (35-41) percent than in urban areas (10-11) percent.

Almost 73 percent of the respondents reported no habit of watching cinema. Only about 3 percent of the subjects had watched cinema once in 3 months, They were more in urban (8 percent) than in rural areas (less than one percent).

Table : 3.2.4 Percent distribution of 35-44 year olds by educational level and media exposure, sex & geographical area.

AGE: 35-44 yrs **STATE : Haryana**

	Educational level & Media Exposure		MALE						FEMALE						STATE TOTAL
			REGIONS			STATE			REGIONS			STATE			
			1	2	3	R	U	T	1	2	3	R	U	T	
1	**Educational level**	n=	179	153	163	328	167	495	163	163	160	328	158	486	**981**
	Illiterate		15.2	16.9	25.6	27.1	5.1	19.4	30.2	32.1	39.0	45.1	11.8	33.8	**26.6**
	Upto middle		43.2	42.5	37.3	43.0	36.8	40.8	43.4	43.4	31.2	40.1	37.8	39.3	**40.1**
	High school & above		41.6	40.7	37.1	29.9	58.1	39.8	26.4	24.4	29.7	14.9	50.4	26.9	**33.4**
2	**Newspaper reading habits**														
	Daily		16.7	31.3	17.6	17.4	38.9	24.9	3.7	17.4	6.9	6.1	26.3	13.0	**19.0**
	Sometimes		43.2	30.4	30.8	29.2	36.5	31.7	42.2	25.4	26.0	22.3	36.3	27.1	**29.4**
	Not at all		40.0	38.3	51.6	53.4	24.6	43.3	54.1	57.2	67.0	71.6	37.4	60.0	**51.7**
3	**Radio listening habits**														
	Daily		10.3	17.3	3.8	8.7	17.3	11.7	4.7	10.8	4.4	5.3	13.1	7.9	**9.8**
	Sometimes		50.2	43.1	46.8	48.7	35.5	44.1	39.2	33.5	29.9	31.1	35.1	32.5	**38.3**
	Not at all		39.5	39.6	49.4	42.6	47.2	44.2	56.1	55.7	65.7	63.6	51.8	59.6	**51.9**
4	**TV watching habits**														
	Daily		40.0	47.0	32.7	30.3	63.8	42.0	42.1	43.9	27.8	25.2	67.0	39.4	**40.7**
	Sometimes		45.7	30.3	29.9	34.4	25.3	31.3	37.7	32.2	26.0	33.1	23.1	29.7	**30.5**
	Not at all		14.2	22.7	37.4	35.2	10.9	26.7	20.2	23.8	46.1	41.7	9.9	30.9	**28.8**
5	**Cinema watching habits**														
	Once in 3 months		3.9	3.6	1.7	0.9	7.8	3.3	2.2	2.8	1.7	0.4	7.1	2.6	**3.0**
	Less often		36.1	19.3	39.1	22.4	39.7	28.4	29.5	14.7	26.6	14.2	32.1	20.3	**24.4**
	Not at all		60.0	77.1	59.2	76.8	52.5	68.3	68.4	82.6	71.7	85.4	60.8	77.1	**72.7**

3.2.5 65-74 year olds

3.2.5.1 Education level

About 76 percent of males and 78 percent of females reported illiterate. They were more in rural (79 percent) than in urban areas (51 percent). About 20 percent & 10 percent of the subjects had education up to middle school & high school & above respectively. The educational levels in the three regions were similar to that in the state.

3.2.5.2 Exposure to media

Educational levels clearly reflect the habit of reading newspaper. About 80 percent of the subjects more females & more in rural had no habit of reading newspapers at all. Only about 15 percent of males and 4 percent of females had the habit of reading newspaper daily. The readership was higher in the urban (32 percent) compared to in rural areas (14 percent).

Exposure to the radio was low. Almost 70 percent of the subjects, more females, across places of residence had no habit of listening to radio. Only 8 percent of the subjects more males & more in urban reported listening to radio daily.

Exposure to the television was higher than radio. About 23 percent of the subjects, more males & more in urban had the habit of watching television daily; More than one half of the subjects (52 percent) reported no habit of watching television. This was more in rural (58 percent) than in urban areas (39 percent).

Exposure to cinema was very low. Only about 10 percent of respondents had watched cinema once in three months or less often. They were more in urban than in rural areas.

Overall, with minor differences, males had a higher exposure to media than females, across the three Regions.

Table : 3.2.5 Percent distribution of 65-74 year olds by educational level and media exposure, sex & geographical area.

AGE: 65-74 yrs **STATE : Haryana**

	Educational level & Media Exposure		MALE						FEMALE						STATE TOTAL
			REGIONS			STATE			REGIONS			STATE			
			1	2	3	R	U	T	1	2	3	R	U	T	
1	**Educational level**	n=	171	154	157	330	152	482	163	147	156	317	149	466	948
	Illiterate		64.4	59.4	64.3	69.7	43.0	61.0	78.0	82.0	75.4	87.6	58.8	78.3	69.7
	Upto middle		22.9	21.0	27.8	20.1	31.6	23.9	14.0	12.9	21.4	11.0	28.3	16.6	20.3
	High school & above		12.6	19.5	7.9	10.2	25.4	15.2	8.0	5.1	3.2	1.4	12.9	5.1	10.2
2	**Newspaper reading habits**														
	Daily		9.0	19.5	9.8	11.0	23.9	15.3	5.1	3.8	3.1	2.0	8.2	4.0	9.7
	Sometimes		22.8	14.7	6.1	10.3	18.7	13.0	13.5	6.5	4.2	4.1	12.9	6.9	10.0
	Not at all		68.1	65.8	84.1	78.7	57.4	71.7	81.3	89.7	92.6	93.9	78.9	89.0	80.4
3	**Radio listening habits**														
	Daily		7.1	15.1	1.4	6.8	15.7	9.7	5.1	8.0	1.4	4.6	7.1	5.4	7.6
	Sometimes		42.9	28.6	20.9	30.5	21.1	27.4	34.0	17.4	14.4	19.8	15.3	18.3	22.9
	Not at all		50.0	56.4	77.7	62.7	63.1	62.9	60.9	74.5	84.2	75.6	77.6	76.3	69.6
4	**TV watching habits**														
	Daily		24.7	31.1	19.6	20.3	40.5	26.9	22.2	21.3	12.5	10.3	38.0	19.2	23.1
	Sometimes		35.0	25.9	18.0	26.5	18.6	23.9	35.8	30.1	17.7	26.9	25.1	26.3	25.1
	Not at all		40.4	42.9	62.4	53.1	40.9	49.1	42.0	48.7	69.8	62.8	36.9	54.4	51.8
5	**Cinema watching habits**														
	Once in 3 months		3.5	4.4	0.0	1.4	6.1	3.0	3.6	1.2	0.0	0.0	4.0	1.3	2.2
	Less often		11.2	7.6	12.5	8.6	12.8	10.0	9.3	4.1	6.7	4.3	8.7	5.7	7.9
	Not at all		85.4	88.0	87.5	90.0	81.1	87.1	87.1	94.7	93.3	95.7	87.3	92.9	90.0

PROFILE OF POPULATION ACROSS AGE GROUPS (SUMMING UP)

(i) There was increase in the percent of illiterates from 6 to 76 percent over the increase in the age of respondents.

(ii) Nearly half of respondents belonging to age/age group 35-44 & below & 80 percent of aged (65-74) years reported not reading newspaper all.

(iii) The exposure to radio across all ages was limited. But exposure to TV across all ages was comparatively higher than that of radio particularly it was more in urban areas.

(iv) Exposure to cinema, across all ages, sexes & places of residence was very low.

CHAPTER IV

MAPPING OF FLUORIDE LEVELS

4.1 INTRODUCTION

As stated in the section on objectives (chapter 2), one of the objectives of the National Oral Health Survey was to map the fluoride levels in different parts of the country. For this purpose, the field teams were expected to collect water samples from the households they visited for collection of information related to oral health practices and the current situation of the oral health. This chapter presents results of the analysis of the fluoride levels from those water samples.

4.2 COLLECTION OF WATER SAMPLES

The field teams were given the following instructions about collection of water samples from the households they visited:

1. Each team will carry along with them a set of sterilized plastic bottles supplied to them when they go to the field. These bottles were ordered from a manufacturer in Hyderabad specially for this purpose and had the following characteristics:

(1) Its capacity was 500 ml as per recommendations of the Medlab, Mumbai, India where the water samples were to be analyzed for fluoride levels. (This lab, now has agreed that a sample of even 200 ml would have been enough).This quantity of water was decided to take account of the possible spillage of water during transportation.

(2) The quality of plastic for bottles was so decided that they could stand the pressure of transportation from Hyderabad to each state where survey was conducted, travel with the field teams and then dispatched to Mumbai for analysis.

(3) It was sterilized to ensure that collected water did not get contaminated from any source, and

(4) The bottles had two corks to make sure that spillage of water was minimum and the Medlab got quantity of water sufficient to analyze its fluoride levels.

2. Every field team was instructed to collect water samples from the first household they visited every day. Water sample was collected from the next household only if the source of drinking water of the household was different from the previous household from where water sample was collected. In other words, water samples were collected from all the sampled households that had different sources of drinking water in the area of coverage. If the source of drinking water in the household was the same as collected previously then water sample was not collected. It means that water samples were collected from a representative sample of households of the villages/urban blocks and one knew number of household in the sampled area who were using water of the specific ppm level. Since the villages and urban areas were, themselves, representative of the other areas of zones/states, the water samples collected were representative of all the area units of the zones/states and the results give distribution of household with different levels of ppm.

3. All water sample bottles had identification particulars of the household including its state, zone and serial number of the household, which were numbered within each zone.

4. Since a specified number of households were covered from each zone, the field teams were instructed to number the households in each zone serially, starting from 1 to the last number in a zone. Thus, every household covered had a unique serial number within a zone. The water sample bottles had this number recorded; thus, each water sample was uniquely matched with the household so that the water sample could be linked to the household from where other information on oral health was collected.

5. The collected water samples were transported to Medlab, Mumbai, India for analysis.

This collection of water sample and its linking with the household was done for two purposes. The first was that the collected household drinking water samples represent the situation of rural and urban households of the zone and ultimately of the state (by giving proper weights to the rural and urban areas of the zone/state). This analysis would help to map the fluoride levels in different areas of the state and the country as the sampled areas and households were a representative sample of the total areas. The other purpose was to try to relate the fluoride levels of drinking water, oral health related dental practices and the actual status of the oral health of the households and individuals.

4.3 ANALYSIS OF WATER SAMPLES

Since analysis of water samples for its fluoride levels requires special equipment, the President, Dental Council of India, Dr. R.K.Bali contacted the Colgate-India for help in the analysis. They have been supportive to the total effort of the Dental Council of India in the conduct of the National Oral Health Survey including the funding they provided. They agreed to the request of the Dental Council of India for the analysis of the water samples for fluoride levels and identified Medlab, Mumbai for such analysis.

The methodology they adopted in analysis of the fluoride levels has been described in section 2.3.3 of the chapter on Methodology and Data Collection.

4.4 FINDINGS

The levels of fluoride in rural and urban areas and state are shown in Table 4.1.

Table 4.1 Percent distribution of water samples by levels of fluoride in rural, urban and Haryana state.

Levels of fluoride (ppm)	% distribution of water samples		
	Rural	Urban	Total
0.0 – 0.5	51.0	100.0	70.6
0.51 –1.00	16.7	0.0	10.1
1.01 –1.50	0.0	0.0	0.0
1.51 –2.00	13.0	0.0	7.8
2.01 – 4.00	19.2	0.0	11.6
4.01 –8.00	0.0	0.0	0.0
8.01 +	0.0	0.0	0.0

Note: Though Haryana has been divided in to three agro-climatic Regions. The data on fluoride levels could only be got for Region I, namely Foot Hills of Shivalik. These three Regions and Region I along with districts therein, may be seen in the State map. The state levels have been computed on the basis of data in Region I.

Almost one-fifth of the households in rural areas of the Region I uses drinking water with fluoride levels of 1.5 and above. This fraction becomes one-third in rural areas.

Fig. 4.1 Drinking water levels of fluoride in HARYANA

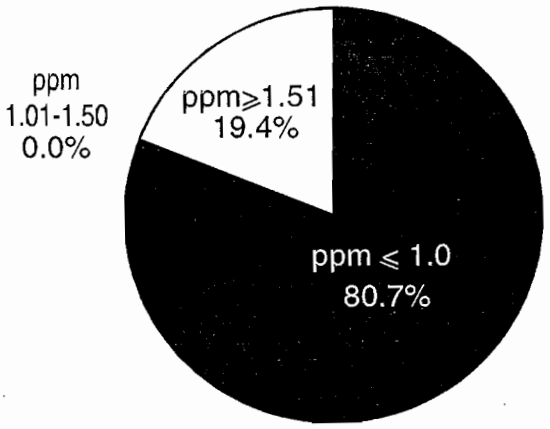
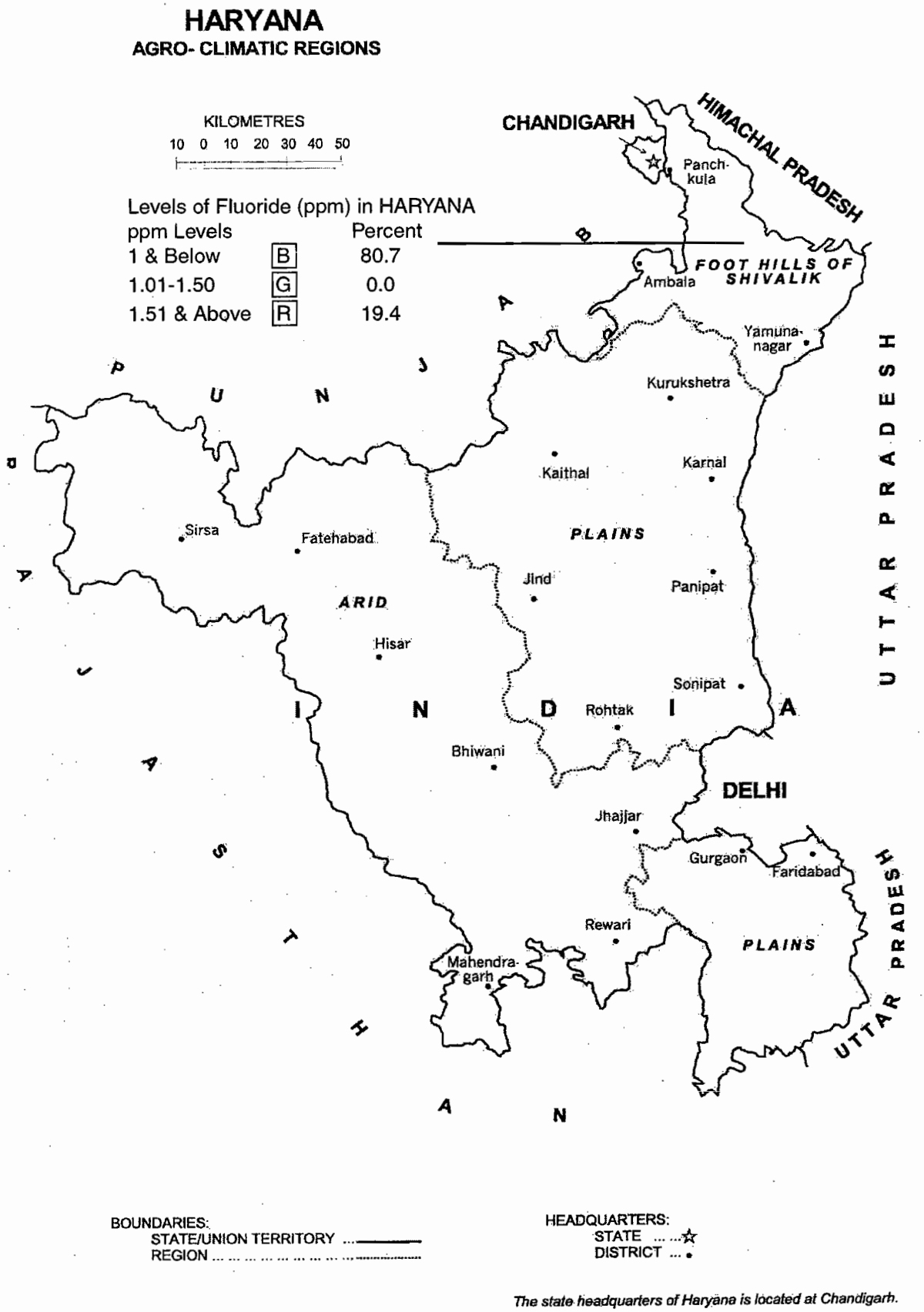


Fig. 4.2 Drinking water levels of Fluoride (ppm) in HARYANA, INDIA



The state headquarters of Haryana is located at Chandigarh.

CHAPTER V

ORAL HEALTH KNOWLEDGE AND PRACTICE

A series of questions on food habits and other habits/practices were asked from respondents belonging to different ages/age groups, sexes, places of residence and regions. There were to identify oral health risk practices and to plan appropriate educational activities, to brings improvements in the oral health of the population.

5.1 ABNORMAL ORAL HABITS

Five questions on abnormal habits, "breathing from mouth" "sucking or biting finger/ thumb", "thrusting tongue on teeth", "biting nails, lips or objects like pencil", and the habit of "grinding /gritting teeth", were asked from each respondent (In case of child from his/her caretaker). The responses obtained are presented in Table 5.1 and are discussed in this section.

5.1.1 5 year olds

14 percent of children more males than females reported the habit of "grinding/gritting teeth" consciously or unconsciously, during sleep or moments of stress. This was slightly higher in rural than in urban children.

The respondents were asked whether they breathed from mouth. About 9 percent of subjects, more females & more in rural had the habit of "breathing from mouth". Another about 9 percent across both sexes & more in rural reported having the habit, of "sucking or biting fingers/thumbs" . While about 7 percent & 3 percent, across both sexes & more in urban had the habits of "biting nails, lips or any other object like pencils", and "thrusting tongue on teeth" respectively in the state. As regard Regions, there was comparatively more across both sexes having each of abnormal habit except the habit of "grinding/gritting teeth" in Region-1 than in Region-2 & 3. There was more females than males in Regions-3 than in Region-2 & 3 reported the habit of "grinding/ gritting teeth".

5.1.2 12 year olds

The prevalence of each of abnormal habit was comparatively low in this group of children than in the 5 years old (4-5) percent of this age irrespective of sex had each of the habit such as "breathing from mouth "biting, nails, lips or object like pencils" and "grinding/gritting teeth"

There were more having each of abnormal habit except the habit of "grinding/gritting teeth" in Region-1 than in Regions 2 & 3.

5.1.3 15 year olds

The occurrence of each of abnormal habit was still lower in this age group of subject in comparison to the previous ones. About 6 percent & 4 percent of subjects reported the habits of "breathing from mouth" and "biting nails, lips or objects like pencil". There were not much differentials in their occurrences either by places of residence or sex and across Regions.

Table : 5.1 Percent respondents by habits affecting oral health age, sex & geographical area.

AGE: 5 yrs STATE : Haryana

	Habits affecting Oral Health		MALE						FEMALE						STATE TOTAL
			REGIONS			STATE			REGIONS			STATE			
			1	2	3	R	U	T	1	2	3	R	U	T	
		n=	178	155	172	335	170	505	167	133	149	303	146	449	954
1	Breathing from mouth		10.5	4.6	10.5	8.0	6.4	7.5	14.0	8.4	14.9	12.9	8.6	11.4	9.5
2	Sucking or biting fingers/thumb		24.1	7.7	5.0	9.4	8.1	8.9	25.0	10.8	2.9	10.7	7.7	9.7	9.3
3	Thrusting tongue on teeth		9.9	1.8	0.6	2.1	3.2	2.5	6.4	3.6	0.0	2.0	4.2	2.8	2.7
4	Biting nails/lips/objects like pencil		15.7	5.0	4.3	5.8	7.2	6.3	14.3	8.3	2.2	6.8	7.1	6.9	6.6
5	Grinding / gritting teeth		6.0	5.6	21.7	12.1	10.9	11.7	11.9	11.0	26.4	17.3	16.2	16.9	14.3

AGE: 12 yrs STATE : Haryana

	Habits affecting Oral Health		MALE						FEMALE						STATE TOTAL
			REGIONS			STATE			REGIONS			STATE			
			1	2	3	R	U	T	1	2	3	R	U	T	
		n=	172	147	157	315	161	476	172	147	161	324	156	480	956
1	Breathing from mouth		9.0	1.9	6.2	5.3	3.0	4.5	6.3	3.3	7.6	5.1	5.9	5.4	5.0
2	Sucking or biting fingers/thumb		9.8	0.0	1.4	2.0	1.5	1.8	7.3	1.4	0.7	1.9	2.0	2.0	1.9
3	Thrusting tongue on teeth		2.1	1.9	0.0	0.9	2.1	1.3	3.9	3.2	2.9	1.8	6.4	3.3	2.3
4	Biting nails/lips/objects like pencil		10.5	4.7	0.7	3.6	5.0	4.1	16.8	2.6	4.2	4.4	6.8	5.2	4.7
5	Grinding / gritting teeth		4.7	4.0	5.5	5.2	4.0	4.8	6.0	3.3	7.7	5.7	4.7	5.4	5.1

AGE: 15 yrs STATE : Haryana

	Habits affecting Oral Health		MALE						FEMALE						STATE TOTAL
			REGIONS			STATE			REGIONS			STATE			
			1	2	3	R	U	T	1	2	3	R	U	T	
		n=	174	151	164	329	160	489	166	144	160	310	160	470	959
1	Breathing from mouth		5.1	6.5	6.6	6.8	6.0	6.5	5.3	2.7	8.2	5.4	4.6	5.1	5.8
2	Sucking or biting fingers/thumb		1.1	0.0	0.0	0.2	0.0	0.1	1.7	1.3	0.7	0.7	2.1	1.2	0.7
3	Thrusting tongue on teeth		2.3	3.2	1.3	2.0	3.5	2.5	0.6	1.3	1.3	0.9	2.1	1.3	1.9
4	Biting nails/lips/objects like pencil		4.5	5.3	2.0	4.1	3.8	4.0	3.3	4.7	3.2	3.8	4.6	4.1	4.1
5	Grinding / gritting teeth		1.6	0.7	3.3	2.6	0.0	1.7	2.8	2.8	2.5	3.3	1.5	2.6	2.2

AGE: 35-44 yrs STATE : Haryana

	Habits affecting Oral Health		MALE						FEMALE						STATE TOTAL
			REGIONS			STATE			REGIONS			STATE			
			1	2	3	R	U	T	1	2	3	R	U	T	
		n=	179	153	163	328	167	495	163	163	160	328	158	486	981
1	Breathing from mouth		0.0	3.3	8.4	6.0	2.5	4.8	3.4	6.6	11.4	9.6	5.2	8.1	6.5
2	Sucking or biting fingers/thumb		0.0	1.3	2.0	1.6	1.0	1.4	1.7	3.1	2.0	3.3	1.0	2.5	2.0
3	Thrusting tongue on teeth		0.7	1.3	0.7	0.9	1.3	1.0	0.0	3.0	0.7	1.8	2.1	1.9	1.5
4	Biting nails/lips/objects like pencil		0.5	5.1	2.6	3.6	4.1	3.7	1.1	2.6	1.9	2.8	0.5	2.0	2.9
5	Grinding / gritting teeth		4.0	5.0	4.0	4.1	6.0	4.8	4.7	1.2	0.7	1.5	1.3	1.4	3.1

AGE: 65-74 yrs STATE : Haryana

	Habits affecting Oral Health		MALE						FEMALE						STATE TOTAL
			REGIONS			STATE			REGIONS			STATE			
			1	2	3	R	U	T	1	2	3	R	U	T	
		n=	171	154	157	330	152	482	163	147	156	317	149	466	948
1	Breathing from mouth		3.4	6.7	0.7	2.3	9.2	4.6	3.4	6.0	6.6	6.1	5.7	6.0	5.3
2	Sucking or biting fingers/thumb		0.5	1.2	0.7	0.5	2.2	1.0	2.4	0.0	1.2	0.7	0.9	0.7	0.9
3	Thrusting tongue on teeth		0.0	3.1	0.7	1.3	3.3	2.0	0.6	0.7	0.7	1.0	0.0	0.7	1.4
4	Biting nails/lips/objects like pencil		0.0	3.1	1.2	1.3	3.8	2.2	0.6	0.0	1.4	0.9	0.0	0.6	1.4
5	Grinding / gritting teeth		2.2	1.8	2.1	2.0	2.2	2.0	1.8	4.4	2.7	2.2	7.3	3.8	2.9

5.1.4 35-44 year olds

The occurrence of each of abnormal habit except the habits of "breathing from mouth" & "grinding/gritting teeth", was comparatively low in this age group of subjects than those belonging to earlier age groups of subjects. About 7 percent of subjects reported the habit of "breathing from mouth". There were 5 percent males and 8 percent of females and were more in rural than in urban areas. Other about 3 percent of the subjects reported the habit of grinding/gritting teeth. While 2-3 percent of respondents reported each of remaining abnormal habits. There was no differentials by either genders or places of residence and across the three Regions.

5.1.5 Abnormal oral habits for age group – 65-74 years

The prevalence of each of abnormal habit in this group of subjects was lower than in subjects belonging to earlier age groups. Nearly 5 percent, the largest from this group of subjects reported the habit of "breathing from mouth". They were about 5 percent males and 6 percent females & were more in urban. About 1-3 percent of subjects reported each of other abnormal habits. There were not much differentials either by sex or places of residence and across the three Regions.

ABNORMAL HABITS ACROSS AGE GROUPS (SUMMING UP)

The prevalence of abnormal habits/practices was generally low across all age groups. However the occurrences of habits of "breathing from the mouth and "grinding/gritting of teeth", consciously or unconsciously, during sleep or moments of stress was comparatively higher.

Three other observations which emerged are:

1. The habit of "grinding or gritting teeth" except in case of 65-74 year old was more prevalent in females and more in rural.
2. More children aged 5 years old in rural reported prevalence of oral habits like "grinding or gritting teeth", "breathing from mouth", and "sucking or biting fingers/thumbs", than their urban counterparts. Grinding or gritting teeth was found predominant oral health habit among the younger age groups, and the habit of "breathing from the mouth" was more prevalent in 15 old and above year's age groups.
3. In conclusion females aged 5 and 12 year olds, and males 65-74 year olds reported higher prevalence of abnormal oral health habits. While females aged 15 and 35-44 year olds had slightly higher prevalence of abnormal oral habits than males.

5.2 SUGAR-TAKING HABITS

Since sugar eating habit affects oral health, the respondents belonging to ages/age groups 5, 12, 15, 35-44 & 65-74 years both sexes by place of residence, were asked about the frequency with which they had consumed sugar during the last one day. Their responses as obtained are presented in Table 5.2 and Fig. 1 are discussed here.

5.2.1 5 year olds

The respondents were asked about the frequency with which they had consumed sugar during the last one day. About 49 percent of the subjects, across both sexes & more in rural, reported had

taken sugar two and more times in last one day. While 36 percent of subjects took sugar two times in last one day. Only about6 percent of the subjects did not take sugar in last one day. There were not much differentials either by places of residence or sex or across the three Regions.

5.2.2 12 year olds

About 45 percent of the subjects reported had taken sugar two and more times in last one day. Other 41 percent more females & more in urban had consumed it two times in the last one day. Only 4 percent of subjects did not consume sugar in last one day. There was not much urban/rural differentials or sex or across the three Regions.

5.2.3 15 year olds

About 44 percent of the subjects reported had taken sugar two times in last one day and 40 percent, more males & more in rural, had taken sugar two & more times, in last one day. Only 5 percent of the subjects did not consume sugar in last one day. No major differences in the pattern of sugar consumption were found among the genders and their place of residence, and across the three Regions.

5.2.4 35-44 year olds

About 42 percent of the subjects more males & more in rural reported had taken sugar two & more times in last one day. While about 39 percent, across both sexes & more in urban had taken sugar two times in last one day. Only 9 percent of the subjects across both sexes & more in rural did not take sugar in last one day. Comparatively more did not take sugar at all in last one day in Region-2 than in Region 1 & 3. While more had taken sugar two & more times in last one day in Region-3 than in Region 1 & 2

5.2.5 65 -74 year olds

About 40 percent of the respondents, more males & more in rural, reported had taken sugar two times in last one day. While 39 percent of subjects more males & more in rural had taken sugar two & more times, in last one day. About 10 percent of subjects did not consume sugar at all in last one day. Except for difference in the percent of subjects did not take sugar & sugar taken once between Regions, there were minor differentials in regard to sugar taken two & more times and two times across the three regions.

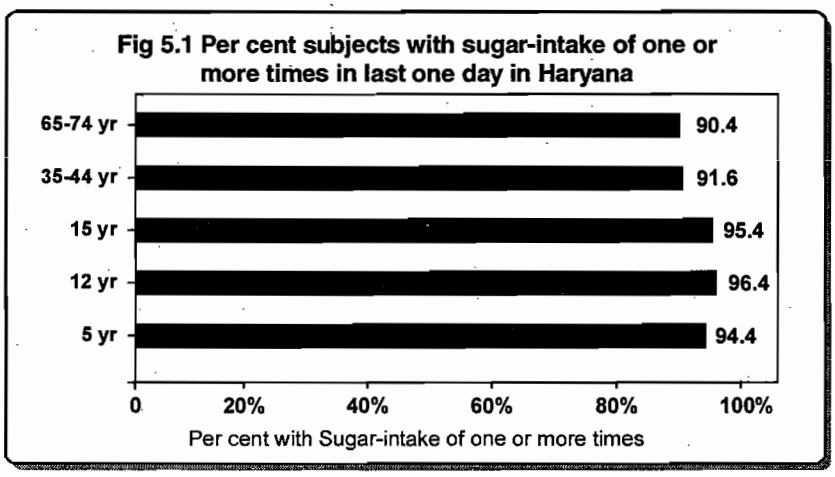


Fig 5.1 Per cent subjects with sugar-intake of one or more times in last one day in Haryana

Table : 5.2 Percent distribution of Males and Females in different Regions / State by Pattern of Sugar intake

AGE: 5 yrs **STATE : Haryana**

	Pattern of sugar intake in last one day		MALE						FEMALE						STATE TOTAL
			REGIONS			STATE			REGIONS			STATE			
			1	2	3	R	U	T	1	2	3	R	U	T	
		n=	178	155	172	335	170	505	167	133	149	303	146	449	954
1	Not taken		5.8	5.0	4.8	5.0	5.3	5.1	5.0	6.0	6.9	6.9	4.6	6.1	5.6
2	Taken one time		9.9	11.9	7.8	9.2	12.7	10.4	10.3	12.0	2.6	7.9	8.8	8.2	9.3
3	Taken two times		37.8	34.4	42.1	38.4	34.5	37.0	31.8	35.9	36.9	30.8	45.6	35.8	36.4
4	Taken 2+ times		46.5	48.7	45.4	47.5	47.5	47.5	53.0	46.1	53.7	54.4	41.0	49.8	48.7

AGE: 12 yrs **STATE : Haryana**

	Pattern of sugar intake in last one day		MALE						FEMALE						STATE TOTAL
			REGIONS			STATE			REGIONS			STATE			
			1	2	3	R	U	T	1	2	3	R	U	T	
		n=	172	147	157	315	161	476	172	147	161	324	156	480	956
1	Not taken		3.2	4.8	2.6	4.3	2.6	3.7	5.6	3.5	4.0	3.5	4.4	3.8	3.8
2	Taken one time		9.7	13.7	6.6	11.1	9.5	10.5	6.3	14.5	6.7	12.3	6.6	10.4	10.5
3	Taken two times		34.6	36.9	40.2	35.4	41.4	37.6	39.5	43.3	47.7	43.1	47.8	44.7	41.2
4	Taken 2+ times		52.5	44.6	50.6	49.1	46.5	48.2	48.6	38.7	41.6	41.1	41.2	41.1	44.7

AGE: 15 yrs **STATE : Haryana**

	Pattern of sugar intake in last one day		MALE						FEMALE						STATE TOTAL
			REGIONS			STATE			REGIONS			STATE			
			1	2	3	R	U	T	1	2	3	R	U	T	
		n=	174	151	164	329	160	489	166	144	160	310	160	470	959
1	Not taken		2.3	2.7	5.8	4.7	1.9	3.7	1.8	5.5	7.0	5.5	5.9	5.6	4.7
2	Taken one time		6.4	15.1	6.8	10.4	12.4	11.1	11.5	16.9	6.2	12.6	11.0	12.0	11.6
3	Taken two times		45.1	39.1	47.3	40.6	47.2	42.8	43.2	46.1	43.7	43.9	45.8	44.6	43.7
4	Taken 2+ times		46.3	43.1	40.2	44.3	38.5	42.4	43.5	31.5	43.2	38.0	37.3	37.8	40.1

AGE: 35-44 yrs **STATE : Haryana**

	Pattern of sugar intake in last one day		MALE						FEMALE						STATE TOTAL
			REGIONS			STATE			REGIONS			STATE			
			1	2	3	R	U	T	1	2	3	R	U	T	
		n=	179	153	163	328	167	495	163	163	160	328	158	486	981
1	Not taken		2.9	13.3	6.5	11.0	6.2	9.3	5.8	8.7	7.1	8.9	5.4	7.7	8.5
2	Taken one time		17.3	10.4	7.0	10.3	10.1	10.2	13.7	12.1	5.6	8.7	13.3	10.3	10.3
3	Taken two times		37.1	36.5	42.7	35.1	45.5	38.7	42.6	39.5	38.2	37.2	43.0	39.2	39.0
4	Taken 2+ times		42.8	39.7	43.8	43.6	38.3	41.7	37.8	39.8	49.1	45.2	38.2	42.9	42.3

AGE: 65-74 yrs **STATE : Haryana**

	Pattern of sugar intake in last one day		MALE						FEMALE						STATE TOTAL
			REGIONS			STATE			REGIONS			STATE			
			1	2	3	R	U	T	1	2	3	R	U	T	
		n=	171	154	157	330	152	482	163	147	156	317	149	466	948
1	Not taken		7.7	17.1	4.8	10.6	14.7	11.9	6.8	5.6	10.4	8.7	4.7	7.4	9.7
2	Taken one time		21.1	8.5	5.3	8.9	9.6	9.1	15.6	14.0	9.9	14.4	8.5	12.5	10.8
3	Taken two times		34.2	36.2	41.8	36.5	39.0	37.3	39.5	46.7	39.1	40.1	49.5	43.2	40.3
4	Taken 2+ times		37.0	38.2	48.1	44.0	36.7	41.6	38.0	33.7	40.6	36.8	37.2	37.0	39.3

SUGAR-TAKING ACROSS AGE GROUPS (SUMMING UP)

1. There was no difference in sugar taking habits by sex across all age groups.
2. About 80 percent of respondents, across all age groups reported taken sugar two & more times in last one day.
3. Only about 4-10 percent of the subjects, across the ages, did not consume sugar in last one day.

5.3 ORAL HYGIENE PRACTICES

A series of questions were asked about oral hygiene practices covering aspects like how the teeth were cleaned, what material was used to clean, whether it was fluoridated, how often teeth were cleaned and whether and how often the mouth was rinsed after meals. The responses that obtained from respondents belonging to ages/age groups of 5, 12, 15, 35-44 & 65-74 years by sexes & places of residence, are shown in Tables 5.3.1 to 5.3.5 and Fig. 5.2 and are discussed in this section:

5.3.1 5 year olds

About 60 percent of the children reported the use of toothbrush to clean teeth. The percentage was higher in urban (76 percent) than in rural areas (51 percent). About 9 percent across both sexes & more in rural, reported using finger to clean teeth. Datun (twigs of medicinal plants) was used only by 5 percent of the subjects, more in rural than urban areas. More used datun in Region-3 (10 percent) than in Region-2 and in Region-1 (1 percent). About one fourth of the subjects reported using other unspecified aids to clean teeth.

About 87 percent had cleaned teeth once a day in the state as well as in each Region 5 percent reported cleaning teeth twice a day in the state as well as in each Region.

91 percent of the children reported the use of toothpaste. While only 4 percent of subjects had used toothpowder to clean teeth. 46 percent of subjects, more males & more in urban reported the use of fluoridated toothpaste/powder. While 37 percent more females and more in urban had used non-fluoridated toothpaste/powder.

About 36 percent of the children reported change of tooth brushes once in 4-6 months and almost a similar percentage (35 percent) of children reported change of tooth brushes once in 6 months and above; These across both sexes were more in rural (83 percent) than in urban areas (55 percent). Other about 25 percent, across both sexes, more in urban, had changed tooth brushes once in 1-3 months.

As regard mouth rinsing practices, about 49 percent of the children had rinsed mouth sometimes. While about 29 percent reported rinsing mouth always. This was slightly higher in rural (32 percent) than in urban areas (23 percent) in the state. There was more rinsing mouth sometimes in Region-1 and always in Region-2.

Table : 5.3.1 Percent 5 year olds by oral hygiene practices, sex & geographical area.

AGE: 5 yrs STATE : Haryana

	Oral Hygiene Practices		MALE						FEMALE						STATE TOTAL
			REGIONS			STATE			REGIONS			STATE			
			1	2	3	R	U	T	1	2	3	R	U	T	
1	**Clean teeth with**	n=	**178**	**155**	**172**	**335**	**170**	**505**	**167**	**133**	**149**	**303**	**146**	**449**	**954**
	finger		2.1	16.4	3.5	10.8	7.0	9.5	0.6	14.5	6.0	10.1	7.5	9.2	**9.4**
	brush		87.3	54.1	59.8	52.2	77.9	61.0	87.1	50.5	56.2	50.6	73.1	58.2	**59.6**
	datun		2.1	4.0	9.4	8.2	1.0	5.7	0.6	1.5	10.8	6.8	1.2	4.9	**5.3**
	others		8.5	25.5	27.3	28.8	14.1	23.7	11.8	33.5	27.0	32.5	18.3	27.7	**25.7**
2	**Frequency of cleaning teeth**	n=	**158**	**110**	**112**	**230**	**150**	**380**	**145**	**87**	**95**	**202**	**125**	**327**	**707**
	Once a day		90.5	83.1	87.7	86.0	84.6	85.4	93.4	88.0	87.8	89.8	86.1	88.3	**86.9**
	Twice a day		4.5	7.8	2.5	3.4	9.3	5.9	2.9	7.7	0.9	2.1	8.8	4.8	**5.4**
	After every meal		0.0	1.8	0.0	0.8	1.2	0.9	0.0	0.0	0.0	0.0	0.0	0.0	**0.5**
3	**Material used for cleaning teeth**														
	Tooth paste		94.1	83.2	96.0	85.9	94.9	89.6	93.6	89.5	95.6	91.8	93.2	92.4	**91.0**
	Tooth powder		5.4	4.4	4.0	5.0	3.9	4.5	5.7	2.1	2.1	1.4	5.3	3.0	**3.8**
4	**Type of toothpaste/ powder**	n=	**157**	**97**	**112**	**217**	**149**	**366**	**144**	**80**	**93**	**193**	**124**	**317**	**683**
	Flouridated		39.5	46.3	56.6	45.7	51.7	48.3	39.7	41.8	51.9	43.9	43.9	43.9	**46.1**
	Non flouridated		42.1	29.3	33.9	31.3	37.8	34.1	43.7	32.3	41.5	34.0	47.0	39.5	**36.8**
5	**Change of toothbrush once in**	n=	**154**	**85**	**106**	**203**	**142**	**345**	**144**	**68**	**86**	**181**	**117**	**298**	**643**
	1-3 months		28.7	21.3	30.9	14.9	41.9	26.7	24.8	17.9	29.1	12.0	40.0	23.9	**25.3**
	4-6 months		40.0	30.6	29.2	35.7	27.0	31.9	38.0	44.4	36.5	45.6	33.1	40.3	**36.1**
	6 + months		27.8	44.7	38.8	46.8	28.5	38.8	31.3	30.5	34.4	38.6	21.6	31.3	**35.1**
6	**Rinse mouth after eating**	n=	**178**	**155**	**172**	**335**	**170**	**505**	**167**	**133**	**149**	**303**	**146**	**449**	**954**
	Sometimes		51.0	44.8	58.6	47.7	57.1	51.0	51.4	44.3	50.2	45.2	51.9	47.5	**49.3**
	Always		20.5	41.7	19.7	32.7	25.7	30.3	17.2	32.0	28.1	32.1	20.4	28.1	**29.2**

5.3.2 12 year olds

About 71 percent of the subjects more males & more in rural, reported the use of tooth brush to clean teeth, in the state. In Regions, there was more using tooth brush in Region-1 (93 percent) than in Region-3 (72 percent) and Region-2 (64 percent). Another 13 percent, across both sexes & more in rural reported the use of Datun. Another about 16 percent had used fingers and other unspecified materials to clean teeth. More reported the use of fingers & other material to clean teeth in Region-2 than in Region 1 & 3.

As regard frequency of cleaning teeth, 87 percent of the subjects, had cleaned teeth once a day. While 6 percent of the respondents, more in urban, cleaned teeth twice a day.

About 91 percent of the subjects, irrespective of sex, places of residence & across three Regions reported the use of tooth paste. While only 4 percent of subjects had used tooth powder to clean teeth.

The percent of subjects using fluoridated and non fluoridated tooth paste/powder were more or less equally divided. The users of both material were little more in urban than in rural areas.

About 39 percent of the respondents, across both sexes & more in rural, had replaced tooth brushes once in after six months of use. While 35 percent, irrespective of sex & places of residence reported change of tooth brushes once in 4-6 months. The rest (24 percent), across both sexes & more in urban had changed tooth brushes once in 1-3 months in the state. As regard regions there were not much difference in change of brushes once in 1-3 months, 4-6 months & 6+ months among Regions & between Regions & state.

As regard rinsing of mouth, about 49 percent of the respondents reported rinsing mouth sometimes after eating. These were more in urban (53 percent) than in rural areas (47 percent). On the contrary, about 37 percent of subjects reported rinsing mouth always after eating, were more in rural (42 percent) than in urban areas (30 percent).

Table : 5.3.2 Percent 12 year olds by oral hygiene practices, sex & geographical area.

AGE: 12 yrs STATE : Haryana

	Oral Hygiene Practices		MALE						FEMALE						STATE TOTAL
			REGIONS			STATE			REGIONS			STATE			
			1	2	3	R	U	T	1	2	3	R	U	T	
1	**Clean teeth with**	n=	172	147	157	315	161	476	172	147	161	324	156	480	956
	finger		0.0	6.9	1.9	4.4	3.6	4.1	1.6	12.4	3.4	7.9	6.6	7.5	**5.8**
	brush		94.6	66.7	73.4	65.7	87.0	73.3	91.2	61.1	70.0	61.3	84.4	68.9	**71.1**
	datun		1.6	14.6	15.1	17.1	5.2	12.9	3.7	10.3	18.7	16.5	4.5	12.6	**12.8**
	others		3.7	11.8	9.6	12.8	4.2	9.8	3.5	16.1	7.9	14.3	4.5	11.1	**10.5**
2	**Frequency of cleaning teeth**	n=	162	109	121	240	152	392	159	109	121	243	146	389	781
	Once a day		92.7	88.6	89.3	89.6	88.1	89.0	89.7	86.0	84.4	87.7	81.6	85.3	**87.2**
	Twice a day		4.8	8.9	3.6	6.0	7.6	6.7	5.8	7.7	3.1	2.6	11.8	6.2	**6.5]**
	After every meal		0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.7	0.0	0.4	**0.2**
3	**Material used for cleaning teeth**														
	Tooth paste		98.9	85.0	98.2	90.5	94.3	92.1	93.4	85.0	96.4	88.7	93.3	90.5	**91.3**
	Tooth powder		1.1	5.6	1.8	4.3	2.3	3.5	6.0	3.6	1.8	3.0	4.3	3.5	**3.5**
4	**Type of toothpaste/ powder**	n=	162	99	121	233	149	382	158	97	119	230	144	374	756
	Flouridated		40.8	40.2	55.5	42.3	50.1	45.6	40.6	47.8	46.6	42.4	49.9	45.4	**45.5**
	Non flouridated		49.4	36.6	36.3	36.1	44.8	39.8	52.3	33.1	42.3	38.1	44.7	40.8	**40.3**
5	**Change of toothbrush once in**	n=	162	99	118	231	148	379	156	91	115	224	138	362	741
	1-3 months		31.8	18.0	29.3	13.8	40.6	25.1	23.8	17.8	29.1	13.1	38.9	23.5	**24.3**
	4-6 months		36.3	37.7	29.7	34.5	36.1	35.1	35.8	42.7	26.0	34.5	36.6	35.3	**35.2**
	6 + months		30.8	41.2	38.2	48.1	22.2	37.2	40.3	37.4	44.0	51.1	23.2	39.9	**38.6**
6	**Rinse mouth after eating**	n=	172	147	157	315	161	476	172	147	161	324	156	480	956
	Sometimes		52.3	38.1	57.7	45.6	49.4	47.0	50.2	45.8	55.9	47.3	56.5	50.3	**48.7**
	Always		23.0	48.2	29.7	41.8	29.9	37.6	21.2	42.6	36.6	41.2	29.1	37.2	**37.4**

5.3.3 15 year olds

About 75 percent of the respondents, more in urban (90percent) than rural (67 percent) reported the use of toothbrush to clean teeth, in the state. Around 15 percent had used datun to clean teeth, were more in rural (21 percent) than in urban areas (6 percent). The fingers were used by 5 percent of the subjects, more in rural. As regard Regions there was more users of tooth brush irrespective of sex in Region-1 than in Regions 2 & 3. While were more users of datun in Region-3 than in Regions 1 & 2.

About 84 percent of the subjects, irrespective of sex & places of residence, had cleaned teeth once a day. While about 9 percent of the subjects reported cleaning teeth twice a day. There was observed not much of differentials in this regard between the genders and across the three Regions. Though some difference was observed between the places of residence i.e. rural/urban.

Almost 92 percent of the subjects had used toothpaste to clean teeth. Its users were slightly higher in urban (94 percent) than in rural areas (90 percent). Only 3 percent of the subjects reported the use of tooth powder.

About 45 percent & 41 percent of the subjects, across both sexes & more in urban, reported the use of fluoridated toothpaste/powder and non-fluoridated toothpaste/powder respectively in the state. The use of Fluoridated &non fluoridated tooth paste/powder in each Region was similar to that in the state.

About 35 percent of the subjects irrespective of sex & places of residence, had replaced toothbrushes once in 4-6 months. While other 35 percent across both sexes & more in rural had, changed toothbrushes once in after six months. Other 27 percent, more females sexes & more in urban, reported change of tooth brushes once in 1-3 months in the state.

The habit of rinsing the mouth every time after eating was reported by 50 percent of the subjects more females & more in urban. While other about 42 percent of the subjects had rinsed mouth sometimes after eating. There were more reported rinsing mouth always in rural while more reported rinsing mouth sometimes in urban area of the state. As regard Regions more reported rinsing mouth sometimes in Region 1 & 3. While more reported rinsing mouth always in Regions-2.

Table : 5.3.3 Percent 15 year olds by oral hygiene practices, sex & geographical area.

AGE: 15 yrs STATE : Haryana

	Oral Hygiene Practices		MALE						FEMALE						STATE TOTAL
			REGIONS			STATE			REGIONS			STATE			
			1	2	3	R	U	T	1	2	3	R	U	T	
1	**Clean teeth with**	n=	174	151	164	329	160	489	166	144	160	310	160	470	959
	finger		1.6	5.4	1.7	3.5	3.2	3.4	0.0	13.0	2.4	8.6	4.1	7.0	5.2
	brush		94.2	68.0	72.9	65.7	89.9	73.9	95.4	70.5	73.1	67.2	90.0	75.4	74.7
	datun		3.2	19.0	20.2	22.7	5.9	17.1	4.0	12.1	19.8	18.2	5.9	13.7	15.4
	others		1.1	7.6	5.2	8.0	1.1	5.7	0.6	4.4	4.7	6.0	0.0	3.8	4.8
2	**Frequency of cleaning teeth**	n=	166	112	125	250	153	403	158	121	123	250	152	402	805
	Once a day		92.1	79.7	84.9	83.1	83.5	83.2	93.7	84.2	85.4	87.5	82.1	85.3	84.3
	Twice a day		2.5	13.8	3.8	5.5	13.8	8.9	4.6	12.7	4.8	5.6	14.6	9.3	9.1
	After every meal		0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	2.2	0.9	0.5
3	**Material used for cleaning teeth**														
	Tooth paste		96.2	89.8	96.7	91.7	96.1	93.5	95.0	83.9	97.3	88.0	93.9	90.4	92.0
	Tooth powder		2.7	1.0	1.8	1.9	1.0	1.5	3.8	5.8	1.8	4.3	3.9	4.2	2.9
4	**Type of toothpaste/ powder**	n=	164	102	123	239	150	389	156	109	122	237	150	387	776
	Flouridated		35.7	44.6	54.5	46.5	44.6	45.7	45.1	43.1	48.6	40.4	50.9	44.9	45.3
	Non flouridated		57.6	37.9	33.9	33.2	53.0	41.4	48.2	34.8	42.4	38.3	44.2	40.8	41.1
5	**Change of toothbrush once in**	n=	163	104	122	240	149	389	158	103	119	233	147	380	769
	1-3 months		27.6	17.1	34.1	14.8	41.5	25.7	28.6	27.9	30.6	21.8	38.1	28.8	27.3
	4-6 months		38.3	35.8	31.3	34.0	37.3	35.3	36.7	39.5	26.7	34.7	34.8	34.8	35.1
	6 + months		32.9	40.0	33.6	45.3	21.1	35.4	34.1	31.8	40.9	42.2	25.9	35.2	35.3
6	**Rinse mouth after eating**	n=	174	151	164	329	160	489	166	144	160	310	160	470	959
	Sometimes		50.7	35.9	48.2	39.0	50.1	42.7	48.8	29.3	56.6	38.2	49.3	42.3	42.5
	Always		35.0	54.9	44.1	53.3	36.9	47.8	39.2	65.2	38.2	55.4	44.2	51.4	49.6

5.3.4 35-44 year olds

About 68 percent of the respondents, across both sexes & more in urban reported the use of toothbrush to clean teeth. While about 22 percent of the subjects across both sexes & more in rural reported using datum to clean teeth. Only 6 percent of the subjects were using finger to clean teeth. The use of tooth brush to clean teeth in each Region was mostly similar to that in the state.

About 81 percent of the respondents more males & more in rural reported cleaning teeth once a day, in the state. About 11 percent of the subjects had cleaned teeth twice a day. They were more in urban (18 percent) than in rural areas (6 percent). The practice of cleaning teeth every time after eating was just one percent of the subjects.

Almost 91 percent of the subjects, across both sexes, had used toothpaste to clean teeth. They were more in urban (98 percent) than in rural areas (86 percent). While only 5 percent, more females & more in rural had made use of tooth powder.

About 47 percent of the subjects more males, had used fluoridated toothpaste/powder. While about 40 percent across both sexes & more in urban, reported the use of non-fluoridated tooth paste/ powder.

About 36 percent of the respondents, more females & more in rural, had replaced toothbrushes once in after six months. While 30 percent of the subjects, across both sexes & more in urban, reported change of tooth brushes once in 1-3 months. Comparatively more reported change of tooth brushes once in 4 & more months in each Region.

The habit of rinsing the mouth always was reported by about 61 percent of the respondents, evenly distributed between genders and place of residence. More reported rinsing mouth always in Region-2 than in Regions 1 & 3.

Table : 5.3.4 Percent 35-44 year olds by oral hygiene practices, sex & geographical area.

AGE: 35-44 yrs STATE : Haryana

	Oral Hygiene Practices		MALE						FEMALE						STATE TOTAL
			REGIONS			STATE			REGIONS			STATE			
			1	2	3	R	U	T	1	2	3	R	U	T	
1	**Clean teeth with**	n=	179	153	163	328	167	495	163	163	160	328	158	486	981
	finger		0.0	8.8	1.8	6.1	2.5	4.9	0.6	9.4	4.7	6.9	5.6	6.4	5.7
	brush		88.6	67.2	64.0	59.9	86.5	69.2	89.2	61.5	64.5	57.0	85.4	66.6	67.9
	datun		10.7	18.7	31.6	29.5	8.7	22.2	10.3	20.8	26.1	27.9	8.0	21.1	21.7
	others		0.7	5.3	2.6	4.4	2.3	3.7	0.0	8.3	4.7	8.2	1.0	5.8	4.8
2	**Frequency of cleaning teeth**	n=	159	117	111	237	150	387	146	117	114	231	146	377	764
	Once a day		93.9	81.7	87.6	86.5	82.9	85.0	90.3	73.2	81.2	78.6	76.2	77.6	81.3
	Twice a day		3.6	11.1	3.6	3.3	15.1	8.3	7.2	19.7	4.4	8.4	21.0	13.7	11.0
	After every meal		0.0	0.8	0.0	0.0	1.1	0.5	0.0	2.5	0.0	0.7	2.3	1.4	1.0
3	**Material used for cleaning teeth**														
	Tooth paste		96.5	84.0	99.0	87.4	96.6	91.3	94.1	83.7	97.1	84.5	98.5	90.4	90.9
	Tooth powder		2.3	6.1	0.0	4.3	2.3	3.4	3.3	9.1	2.9	9.7	0.3	5.8	4.6
4	**Type of toothpaste/ powder**	n=	157	106	110	224	149	373	142	109	114	220	145	365	738
	Flouridated		43.3	47.8	59.4	50.6	49.3	50.0	43.1	42.0	46.1	35.7	52.7	43.1	46.6
	Non flouridated		53.2	38.5	30.8	34.6	46.2	39.7	49.6	41.4	31.5	36.2	45.8	40.4	40.1
5	**Change of toothbrush once in**	n=	159	104	108	224	147	371	145	102	106	215	138	353	724
	1-3 months		24.4	23.9	41.7	19.4	44.8	30.5	32.0	24.6	34.2	17.3	45.4	29.5	30.0
	4-6 months		36.9	33.9	30.8	37.6	27.9	33.4	32.7	34.5	20.1	30.9	27.2	29.2	31.3
	6 + months		36.2	38.1	27.5	39.2	27.0	33.9	34.7	36.0	44.7	48.5	25.0	38.3	36.1
6	**Rinse mouth after eating**	n=	179	153	163	328	167	495	163	163	160	328	158	486	981
	Sometimes		40.0	28.2	39.6	31.9	37.4	33.8	43.3	22.1	53.8	35.4	35.8	35.5	34.7
	Always		58.4	66.5	54.7	62.3	59.6	61.3	51.6	73.6	40.6	59.7	59.6	59.7	60.5

5.3.5 65-74 year olds

The use of toothbrush to clean teeth, in this age group was relatively low. About one third of respondents, more females of more in urban reported the use of tooth brush. About 23 percent of the respondents comparatively more from this age group, reported using datum to clean teeth. They were more in rural (27 percent) than in urban areas (16 percent). The use of other unspecified aids for cleaning the teeth was quite high (35 percent) among these subjects.

About 79 percent of the subjects reported cleaning teeth once a day. While 9 percent of subjects had cleaned teeth twice a day in the state.

About 65 percent of the subjects reported the use of toothpaste. They were more in urban (84 percent) than in rural areas (52 percent). While tooth powder was used only by 11 percent of the subjects, more in rural (14 percent) than in urban areas (6 percent).

About 43 percent of the subjects had used fluoridated toothpaste/powder. They were more in urban (46 percent) than in rural areas (39 percent). Almost an equal percent of the subjects (41percent) reported the use of a non-fluoridated toothpaste/powder clean teeth. Comparatively more reported the use of fluoridated tooth paste than non-fluoridated toothpaste/powder in each Region.

About one half of the subjects (49 percent) had replaced toothbrushes once in after six months. They were more in rural (65 percent) than in urban areas (29 percent). Both sexes in Region-1 tended to change tooth brushes less often than those in the other two regions. About 19 percent of the subjects more in urban & more females, had changed toothbrushes once in 1-3 months. About 70 percent of subjects in each Region reported change of tooth brushes once in 4 & more months.

The habit of rinsing mouth always after eating was more common in both sexes and across the three regions. About 67percent of the subjects reported rinsing mouth always. This followed by other 28 percent of the subjects, reported rinsing mouth sometimes.

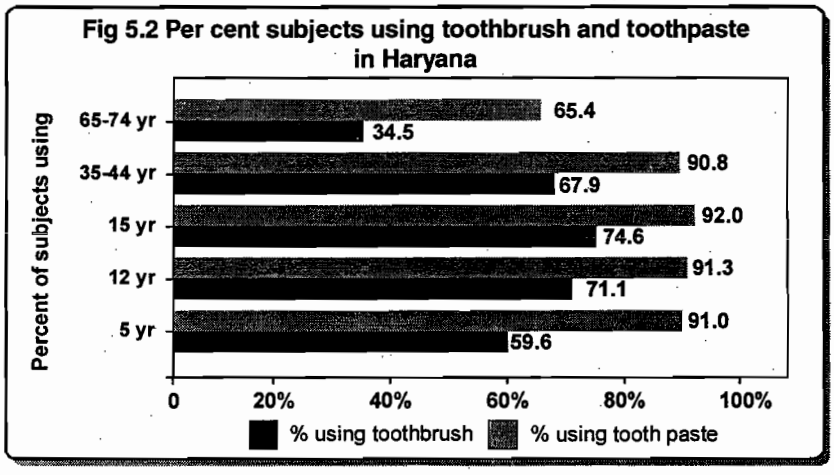


Table : 5.3.5 Percent 65-74 year olds by oral hygiene practices, sex & geographical area.

AGE: 65-74 yrs STATE : Haryana

	Oral Hygiene Practices		MALE						FEMALE						STATE
			REGIONS			STATE			REGIONS			STATE			TOTAL
			1	2	3	R	U	T	1	2	3	R	U	T	
1	**Clean teeth with**	n=	171	154	157	330	152	482	163	147	156	317	149	466	948
	finger		6.8	9.3	2.8	6.6	6.1	6.4	8.5	9.7	3.3	7.9	5.4	7.1	6.8
	brush		45.0	43.4	23.2	31.7	48.4	37.1	33.8	39.8	17.6	25.3	45.6	31.9	34.5
	datun		18.2	16.4	35.6	27.4	15.0	23.3	25.4	9.7	42.3	26.9	16.0	23.4	23.4
	others		29.9	31.0	38.4	34.3	30.5	33.1	32.3	40.8	36.8	39.9	33.0	37.6	35.4
2	**Frequency of cleaning teeth**	n=	89	82	42	137	76	213	69	74	33	110	66	176	389
	Once a day		83.2	84.7	66.9	80.4	79.4	80.0	82.2	73.3	93.4	80.8	74.0	77.9	79.0
	Twice a day		6.1	9.2	10.0	5.9	15.0	9.6	6.1	10.3	3.3	4.7	14.9	9.0	9.3
	After every meal		2.1	3.5	7.3	3.7	5.0	4.2	1.7	5.3	0.0	3.0	5.2	3.9	4.1
3	**Material used for cleaning teeth**														
	Tooth paste		75.8	59.8	64.2	52.5	81.4	64.3	76.2	60.4	69.2	52.3	85.7	66.5	65.4
	Tooth powder		5.5	9.8	12.6	11.1	7.7	9.7	7.0	11.3	21.6	17.3	5.1	12.1	10.9
4	**Type of toothpaste/ powder**	n=	72	58	33	95	68	163	57	54	30	81	60	141	304
	Flouridated		46.8	49.9	49.5	47.0	50.6	48.8	27.8	36.7	41.6	31.5	41.8	36.6	42.7
	Non flouridated		40.0	32.9	34.1	33.6	36.2	34.9	62.2	49.9	31.0	45.9	50.1	47.9	41.4
5	**Change of toothbrush once in**	n=	77	68	37	115	67	182	55	60	28	85	58	143	325
	1-3 months		24.3	12.5	12.3	7.2	25.8	15.1	45.1	17.6	23.1	13.8	34.5	23.4	19.3
	4-6 months		39.4	20.4	17.5	19.0	28.3	22.9	37.8	19.4	17.8	18.0	27.1	22.2	22.6
	6 + months		29.9	54.5	67.2	68.4	29.2	51.7	13.8	51.5	59.1	61.6	28.3	46.1	48.9
6	**Rinse mouth after eating**	n=	171	154	157	330	152	482	163	147	156	317	149	466	948
	Sometimes		34.1	19.2	35.4	26.7	25.7	26.4	31.8	24.7	37.1	31.0	27.4	29.9	28.2
	Always		62.6	78.1	57.9	67.5	73.8	69.5	65.1	72.0	55.5	63.4	69.0	65.2	67.4

ORAL HYGIENE PRACTICES ACROSS AGE GROUPS (SUMMING UP)

1. The practice of cleaning the teeth was universal across age groups & sex.
2. Around 68-75 percent of 12, 15 and 35-44 year age groups, and 35-60 percent of 5 and 65-74 year age groups, more males than females, more in urban than rural areas, reported use of toothbrush to clean teeth. The picture was almost similar across the three Regions.
3. Around 78-89 percent, of respondents across all ages/age groups except 15 years old males, across both sexes, and more in rural than in urban areas, had cleaned teeth once a day. About (8-15) percent of respondents more males & more in urban had cleaned teeth twice a day.
4. About 90-94 percent of subjects, across both sexes and all ages/age groups, except (64-67) percent of (65-74) age group, more in urban areas, reported the use of tooth paste, in the state as well as across three Regions.
5. About 37-50 percent of the subjects across all ages/age groups, both sexes, more in urban areas, except belonging to 15 and 35-44 age group & males, reported the use of fluoridated toothpaste/powder. There were considerable differences across the three Regions.
6. About 19-30 percent of the subjects across all ages/age groups, significantly high in urban areas had changed tooth brushes once in 1-3 months. The replacement of tooth brushes was less frequent in rural areas, 31-52 percent of the subjects had changed toothbrush once in after six months of use.
7. The practice of mouth rinsing was not very popular among the subjects. 42-51 percent of subjects aged 5, 12 and 15 year, and 26-36 percent of subjects aged 35 years and above across both sexes, reported rinsing mouth sometimes. While about 28-38 percent of the 5 and 12 year olds, more in rural areas, reported rinsing mouth always after eating, and (49-70 percent of aged 15 and above years except those belonging to age group (65-74) & more in rural had rinsed mouth always.

5.4 DENTAL PROBLEMS AND TREATMENT ASPECTS

The respondents were asked whether they suffered from any dental problem in the last one year and whom they consulted for the problems they had. They were also asked about the access they had to the dental facility. They were also asked whether they ever had suffered from any of disease such as hypertension, diabetes, epilepsy, jaundice and asthma. Responses on all these aspects are shown in Tables 5.4.1 to 5.4.5. and are discussed in this section.

5.4.1 5 year olds

About 10 percent of respondents irrespective of sex & places of residence had oral health problems during the last one year, in the state and across the three Regions.

As regard type of problems, 69 percent of respondents, more females had dental decay. This followed by those who had gum disease (13 percent). They were more males (14 percent) than females (11 percent).

About 46 percent of the respondents did not consult anybody, while 29 percent of the respondents more males & more in urban consulted trained dentist.

About 44 percent of the subjects did not know about the availability of any dental facility in their area. While about 38 percent of subjects reported the availability of Government or Private dental care facility.

A majority of the respondents (65 percent) more in urban, reported less than half an hour time to reach dental care facilities.

Less than one percent of the children, more in urban, reported ever suffered from jaundice.

Table 5 . 4. 1 Percent 5 year olds by reported nature of dental problems and treatment related aspects, sex & geographical area.
AGE: 5 yrs **STATE : Haryana**

	Nature of Dental Problems and Treatment related aspects		MALE						FEMALE						STATE TOTAL
			REGIONS			STATE			REGIONS			STATE			
			1	2	3	R	U	T	1	2	3	R	U	T	
1	**Suffered from oral health**	n=	178	155	172	335	170	505	167	133	149	303	146	449	954
	problems in last one year		5.8	14.3	7.6	11.3	9.3	10.6	6.8	12.0	5.3	8.6	9.0	8.7	9.7
2	**Type of oral health problems**	n=	11	22	13	34	12	46	12	16	8	26	10	36	82
	Dental decay		91.1	45.6	85.3	62.4	51.3	59.1	91.9	74.5	86.4	75.2	87.0	79.4	69.3
	Gum disease		8.9	17.7	6.5	9.2	26.9	14.5	8.1	6.6	27.2	17.1	0.0	11.1	12.8
	Foul breath		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.6	4.8	0.0	3.1	1.6
	Bleeding gums		0.0	4.1	0.0	0.0	10.9	3.3	8.1	0.0	0.0	1.2	0.0	0.8	2.1
	Others		0.0	13.6	0.0	8.4	10.9	9.1	0.0	12.3	0.0	6.3	13.0	8.6	8.9
3	**Consulted (out of those suffered)**														
	None		62.1	40.1	62.4	46.0	53.8	48.3	83.7	23.5	75.7	36.4	55.0	42.9	45.6
	Trained dentist		20.2	36.0	22.9	28.2	41.0	32.1	0.0	37.7	0.0	25.0	25.9	25.3	28.7
4	**Availaibility of dental facility**	n=	178	155	172	335	170	505	167	133	149	303	146	449	954
	None		12.3	28.3	13.0	25.2	10.5	20.1	17.4	26.9	15.8	26.7	10.1	21.0	20.6
	Govt. facility		15.2	35.4	17.0	24.1	31.9	26.8	18.2	34.9	15.6	23.0	31.7	26.0	26.4
	Pvt. facility		17.1	6.4	17.8	11.0	14.3	12.2	16.0	4.4	16.9	10.6	11.2	10.8	11.5
	Do not know		61.4	29.9	57.7	41.9	47.5	43.8	52.1	35.2	55.6	41.7	51.5	45.0	44.4
5	**Time taken to reach the facility**	n=	46	66	50	101	61	162	50	51	42	91	52	143	305
	Less than 1/2 hr.		59.1	64.9	65.1	51.4	88.5	66.4	62.8	60.8	61.8	49.5	86.3	63.6	65.0
	1/2 - 1 hr.		33.9	20.9	23.2	33.9	3.1	21.5	34.9	18.5	35.7	33.9	9.7	24.6	23.1
	> 1 hr.		0.0	11.2	0.0	8.6	2.4	6.1	0.0	18.9	2.5	16.6	0.0	10.2	8.2
	Cannot say		7.0	3.0	11.7	6.1	6.0	6.1	2.3	1.8	0.0	0.0	3.9	1.5	3.8
6	**Ever suffered from**	n=	178	155	172	335	170	505	167	133	149	303	146	449	954
	Hypertension		0.0	0.7	0.0	0.5	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.2
	Diabetes		0.0	0.0	0.5	0.0	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1
	Epilepsy		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Jaundice		2.1	0.0	1.5	0.4	1.4	0.7	2.2	0.7	0.0	0.4	1.2	0.7	0.7
	Asthma		1.0	0.0	0.0	0.2	0.0	0.1	0.6	0.0	0.0	0.1	0.0	0.1	0.1

5.4.2 12 year olds

About 11 percent of the children, across both sexes & more in rural, had one or the other dental problem in last one year.

As regard type of problems, about 74 percent had problem of dental decay. This was followed by 26 percent who had gum disease. Foul breath was reported by 11 percent of the children. There were neither much rural/urban differentials nor across the three Regions.

About 54 percent of the children did not consult anybody for oral health problems. About 27 percent across both sexes & more in urban consulted trained dentist.

About 41 percent of subjects were aware of Governmental dental care facility.

About 59 percent of subjects, more females & more in urban, reported less than half an hour time to reach dental care facilities. Other about 30 percent more males & more in rural reported half to one hour time, to reach dental care facility places.

A very small percentage of children (less than one percent) reported ever suffered from jaundice, hypertension or diabetes.

5.4.3 15 year olds

About 18 percent of respondents had oral health problems in the last one year. As regard type of problems, about 69 percent reported dental decay. They were evenly divided by sexes and place, of residence, and across the three regions. Other about 23 percent, more females reported foul breath, and similar percent of subjects reported problem of bleeding gums.

Only 30 percent of subjects, more females & more in urban consulted trained dentist. 72 percent of the subjects were aware of Government as well as private dental care facilities in the area. More were aware of Government than Pvt. dental care facilities.

About 59 percent across both sexes & more in urban reported less than half an hour time to reach dental care facilities and other about 29 percent across both sexes & more in rural reported half to one hour time to reach the facilities.

A very small section of the population had ever suffered form jaundice (0.6 percent) and hypertension (0.5 percent).

Table 5 . 4. 2 Percent 12 year olds by reported nature of dental problems and treatment related aspects, sex & geographical area.

AGE: 12 yrs **STATE : Haryana**

	Nature of Dental Problems and Treatment related aspects		MALE						FEMALE						STATE TOTAL
			REGIONS			STATE			REGIONS			STATE			
			1	2	3	R	U	T	1	2	3	R	U	T	
1	**Suffered from oral health**	n=	172	147	157	315	161	476	172	147	161	324	156	480	956
	problems in last one year		13.0	14.6	8.5	13.9	8.2	11.9	12.5	12.4	7.4	11.5	8.3	10.4	11.2
2	**Type of oral health problems**	n=	23	21	13	44	13	57	22	18	12	39	13	52	109
	Dental decay		91.8	67.6	83.8	78.2	62.1	74.3	91.4	77.9	50.0	72.5	73.6	72.8	73.6
	Gum disease		4.1	33.1	22.5	24.7	31.3	26.3	18.3	16.4	51.9	27.3	24.0	26.5	26.4
	Foul breath		0.0	4.9	8.1	6.5	0.0	4.9	0.0	16.4	25.0	15.1	20.0	16.3	10.6
	Bleeding gums		0.0	0.0	8.1	2.8	0.0	2.1	0.0	0.0	9.0	3.3	0.0	2.4	2.3
	Others		0.0	14.1	0.0	7.4	12.6	8.7	0.0	0.0	0.0	0.0	0.0	0.0	4.4
3	**Consulted (out of those suffered)**														
	None		64.9	38.0	63.0	50.4	42.6	48.5	62.3	55.7	66.0	60.5	54.4	58.9	53.7
	Trained dentist		26.9	33.1	8.1	24.1	32.8	26.2	16.3	32.8	16.0	20.3	45.6	26.9	26.6
4	**Availaibility of dental facility**	n=	172	147	157	315	161	476	172	147	161	324	156	480	956
	None		23.2	28.0	17.0	30.0	9.1	22.6	20.6	24.3	15.2	25.4	9.0	20.0	21.3
	Govt. facility		23.0	43.4	39.0	31.1	55.1	39.6	23.6	46.0	41.8	34.1	58.2	42.0	40.8
	Pvt. facility		15.2	7.5	31.4	17.4	16.3	17.0	15.8	8.9	30.7	17.2	18.9	17.8	17.4
	Do not know		42.8	21.7	25.1	25.0	27.9	26.0	43.0	22.7	26.9	27.8	24.8	26.9	26.5
5	**Time taken to reach the facility**	n=	57	75	93	127	98	225	61	79	96	138	98	236	461
	Less than 1/2 hr.		66.1	52.6	51.4	40.3	75.1	55.5	70.9	65.3	51.9	49.7	80.7	62.3	58.9
	1/2 - 1 hr.		30.3	30.9	40.4	46.6	15.6	33.1	23.9	18.5	38.8	33.7	15.1	26.1	29.6
	> 1 hr.		0.0	11.0	4.0	7.7	5.6	6.8	0.0	10.8	2.9	9.1	1.6	6.0	6.4
	Cannot say		3.6	5.5	4.2	5.4	3.7	4.7	5.2	5.4	6.4	7.5	2.6	5.5	5.1
6	**Ever suffered from**	n=	172	147	157	315	161	476	172	147	161	324	156	480	956
	Hypertension		0.5	0.6	0.7	0.5	1.0	0.7	0.0	0.6	0.5	0.0	1.6	0.5	0.6
	Diabetes		0.0	0.7	0.0	0.5	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.2
	Epilepsy		0.5	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.7	0.4	0.0	0.3	0.2
	Jaundice		0.5	0.0	0.5	0.1	0.5	0.2	1.6	0.0	0.5	0.3	0.5	0.4	0.3
	Asthma		0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.1	0.0	0.1	0.1

Table 5 . 4.3 Percent 15 year olds by reported nature of dental problems and treatment related aspects, sex & geographical area.

AGE: 15 yrs STATE : Haryana

	Nature of Dental Problems and Treatment related aspects		MALE						FEMALE						STATE TOTAL
			REGIONS			STATE			REGIONS			STATE			
			1	2	3	R	U	T	1	2	3	R	U	T	
1	**Suffered from oral health**	n=	174	151	164	329	160	489	166	144	160	310	160	470	959
	problems in last one year		23.6	23.1	7.1	17.0	18.6	17.5	24.4	20.2	11.7	19.0	15.0	17.5	17.5
2	**Type of oral health problems**	n=	41	35	11	60	27	87	42	29	18	68	21	89	176
	Dental decay		85.9	63.4	53.6	66.4	63.7	65.4	86.3	76.0	57.6	75.2	69.5	73.5	69.5
	Gum disease		23.3	17.7	18.5	20.8	14.4	18.5	20.1	23.4	37.9	21.5	40.3	27.3	22.9
	Foul breath		2.2	3.0	0.0	3.4	0.0	2.2	6.8	10.4	14.8	9.2	13.4	10.5	6.4
	Bleeding gums		4.5	2.6	27.8	7.6	5.8	7.0	4.6	7.3	5.8	8.7	0.0	6.0	6.5
	Others		2.2	8.6	0.0	6.3	5.8	6.1	0.0	0.0	0.0	0.0	0.0	0.0	3.1
3	**Consulted (out of those suffered)**														
	None		70.0	48.7	81.5	60.4	51.1	57.1	61.7	30.7	50.6	42.5	39.1	41.4	49.3
	Trained dentist		23.3	31.0	9.3	21.5	37.4	27.1	14.9	49.0	10.3	31.8	34.9	32.8	30.0
4	**Availaibility of dental facility**	n=	174	151	164	329	160	489	166	144	160	310	160	470	959
	None		28.1	29.6	12.8	30.0	6.6	22.1	25.9	24.7	18.2	28.3	10.9	22.0	22.1
	Govt. facility		33.2	45.5	50.1	37.9	62.5	46.1	36.1	55.6	43.5	41.0	63.5	49.1	47.6
	Pvt. facility		27.3	13.2	43.7	25.6	27.8	26.3	21.1	8.4	40.0	21.8	21.1	21.5	23.9
	Do not know		20.4	13.5	11.6	11.7	18.9	14.1	23.3	12.5	15.4	14.2	16.4	15.0	14.6
5	**Time taken to reach the facility**	n=	87	87	125	179	120	299	82	91	110	166	117	283	582
	Less than 1/2 hr.		66.8	62.7	51.7	48.1	78.5	60.0	62.8	58.9	51.6	44.3	77.0	57.8	58.9
	1/2 - 1 hr.		26.5	22.8	37.3	37.1	15.1	28.5	31.9	22.8	38.1	38.4	15.4	28.9	28.7
	> 1 hr.		1.0	6.0	4.5	4.7	4.2	4.5	0.0	14.1	2.6	11.4	1.3	7.3	5.9
	Cannot say		5.7	8.6	6.6	10.1	2.2	7.0	5.3	4.2	7.7	5.9	6.2	6.0	6.5
6	**Ever suffered from**	n=	174	151	164	329	160	489	166	144	160	310	160	470	959
	Hypertension		0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.6	1.2	0.4	1.8	0.9	0.5
	Diabetes		0.0	0.7	0.0	0.5	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.2
	Epilepsy		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	1.0	0.4	0.2
	Jaundice		0.0	0.6	0.0	0.0	1.1	0.4	1.1	0.6	0.5	0.2	1.5	0.7	0.6
	Asthma		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.4	0.0	0.3	0.2

5.4.4 35-44 year olds

About 43 percent of the respondents had oral health problems in the last one year. They were slightly more in rural than in urban areas. As regard type of problem about 60 percent reported dental decay. This was followed by other 45 percent more in rural, had gum disease and about 16 percent reported problem of bleeding gums. There were more males & more in urban areas.

Nearly 41 percent of the subjects across both sexes & more in urban consulted trained dentist.

About 52 percent were aware of availability of Government dental care facility. They were more in urban (71 percent) than in rural areas (42 percent).

About 62 percent across both sexes & more in urban reported less than half an hour time to reach the dental care facility and other about 28 percent more in rural reported half to one hour time to reach the nearest dental care facility.

Around 8 percent of the subjects reported ever suffered from hypertension, followed by diabetes (2 percent) and asthma (2 percent).

Table 5 .4. 4 Percent 35-44 year olds by reported nature of dental problems and treatment related aspects, sex & geographical area.

AGE: 35-44 yrs STATE : Haryana

	Nature of Dental Problems and Treatment related aspects		MALE						FEMALE						STATE TOTAL
			REGIONS			STATE			REGIONS			STATE			
			1	2	3	R	U	T	1	2	3	R	U	T	
1	**Suffered from oral health**	n=	179	153	163	328	167	495	163	163	160	328	158	486	981
	problems in last one year		47.5	53.8	24.7	42.5	42.3	42.4	44.7	49.7	31.7	44.6	40.0	43.0	42.7
2	**Type of oral health problems**	n=	85	82	40	140	67	207	73	81	49	145	58	203	410
	Dental decay		86.4	48.9	53.6	53.4	59.2	55.4	82.4	61.8	59.3	63.5	64.2	63.7	59.6
	Gum disease		52.7	40.3	57.4	45.5	46.4	45.9	40.0	40.1	54.6	46.9	35.1	43.2	44.6
	Foul breath		9.7	16.3	0.0	14.7	4.8	11.2	7.6	11.1	10.2	10.9	9.0	10.3	10.8
	Bleeding gums		11.7	23.1	7.4	17.2	20.1	18.2	17.6	13.3	14.9	14.2	15.3	14.5	16.4
	Others		0.0	2.4	5.3	2.9	2.4	2.7	0.0	3.7	0.0	2.1	2.6	2.3	2.5
3	**Consulted (out of those suffered)**														
	None		48.7	38.6	46.4	42.1	42.4	42.2	42.7	35.8	45.4	41.2	34.3	39.0	40.6
	Trained dentist		22.9	45.2	33.4	37.5	42.4	39.2	28.9	52.9	24.9	36.6	56.6	42.9	41.1
4	**Availaibility of dental facility**	n=	179	153	163	328	167	495	163	163	160	328	158	486	981
	None		27.2	28.7	15.0	32.4	3.5	22.3	29.4	31.8	16.5	31.4	14.4	25.6	24.0
	Govt. facility		47.8	53.0	56.1	43.1	75.9	54.6	43.7	51.0	46.7	40.4	66.2	49.1	51.9
	Pvt. facility		37.4	19.3	49.4	29.9	39.0	33.1	37.1	14.0	49.6	28.1	31.9	29.4	31.3
	Do not know		2.6	2.6	4.6	4.1	2.0	3.4	5.1	3.7	6.6	6.0	2.6	4.8	4.1
5	**Time taken to reach the facility**	n=	121	107	135	202	161	363	104	106	127	198	139	337	700
	Less than 1/2 hr.		68.0	66.4	52.5	47.5	82.3	62.9	68.1	62.5	54.4	47.7	82.4	61.8	62.4
	1/2 - 1 hr.		29.6	19.7	41.5	39.4	14.8	28.5	31.0	22.8	37.0	38.9	12.2	28.1	28.3
	> 1 hr.		2.4	9.9	1.4	7.7	1.9	5.2	0.0	10.9	4.2	8.1	4.2	6.5	5.9
	Cannot say		0.0	4.0	4.5	5.4	1.0	3.4	0.9	3.9	4.3	5.3	1.2	3.7	3.6
6	**Ever suffered from**	n=	179	153	163	328	167	495	163	163	160	328	158	486	981
	Hypertension		9.0	9.1	2.6	4.5	11.2	6.8	11.7	10.8	5.6	7.7	12.7	9.4	8.1
	Diabetes		4.0	3.8	0.0	1.9	4.0	2.6	3.7	1.7	0.5	0.8	3.2	1.6	2.1
	Epilepsy		0.0	0.0	1.3	0.7	0.0	0.5	0.0	0.0	0.7	0.4	0.0	0.2	0.4
	Jaundice		0.0	0.7	0.0	0.5	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.2
	Asthma		1.0	2.6	1.3	1.9	2.0	2.0	2.3	1.3	0.7	1.7	0.0	1.1	1.6

5.4.5 65-74 year olds

About 42 percent of the respondents had oral health problems in the last one year.

As regard type of oral health problems, about 66 percent of the subjects across both sexes & places of residence & three regions reported gum disease. About 55 percent, more females had dental decay. About one fourth of the subjects had bleeding gums. They were more males & more in rural areas.

The practice of consulting dental dentist did not seem to be popular among the subjects. About 41 percent of the subjects across both sexes & places of residence consulted trained dentist.

About 45 percent and 26 percent of subjects, more males & more in urban were aware of availability of Governmental and Private dental care facilities, respectively. There were more aware of Government dental care facilities than Pvt. one, in each Region.

A majority of the subjects (63 percent) across both sexes & more in urban reported less than half an hour time to reach the facilities and 25 percent across both sexes & more in rural reported half to one hour time to reach the nearest facility places.

As high as 22 percent of the subjects reported ever suffered from hypertension. They were more in urban (33 percent) than in rural areas (16 percent). This followed by those who had ever suffered from diabetes (8 percent) and asthma (5 percent).

DENTAL PROBLEMS AND TREATMENT RELATED ASPECTS ACROSS AGE GROUPS (SUMMING UP)

1. About 9-18 percent of subjects belonging to age 15 years and below, and about 42 percent belonging to age groups 35 years and above, across both sexes and more in rural areas, had oral health problems in last one year. Almost all across age/age groups, except (65-74) years old had the dental decay. It was further observes that the percent of subjects having gum disease except 15 years old, increased with the increase in age of subjects. About 25 percent of the subjects aged 65-74 year had foul breath.
2. About 27-41 percent of subjects across all ages, consulted trained dentist for their problems. There were large differentials in the practice of consulting dentist by places of residence and across the three regions. Around 39 percent of the subjects, across all ages and both sexes, were aware of Governmental dental care facility.
3. 83 percent, of respondents in urban areas reported less than half an hour time to reach the dental care facility.

Table 5 .4. 5 Percent 65-74 year olds by reported nature of dental problems and treatment related aspects, sex & geographical area.

AGE: 65-74 yrs STATE : Haryana

	Nature of Dental Problems and Treatment related aspects		MALE						FEMALE						STATE TOTAL
			REGIONS			STATE			REGIONS			STATE			
			1	2	3	R	U	T	1	2	3	R	U	T	
1	**Suffered from oral health**	n=	171	154	157	330	152	482	163	147	156	317	149	466	948
	problems in last one year		44.8	48.7	30.4	43.4	36.8	41.2	38.6	49.4	32.8	41.0	45.1	42.3	41.8
2	**Type of oral health problems**	n=	76	74	48	139	59	198	63	73	51	126	61	187	385
	Dental decay		67.4	51.6	37.5	47.6	55.0	49.8	89.0	59.8	51.3	65.1	50.4	60.0	54.9
	Gum disease		77.4	64.6	79.7	66.6	79.6	70.4	62.8	56.3	70.9	63.4	56.4	60.9	65.7
	Foul breath		23.6	37.2	13.0	32.7	18.5	28.6	12.9	29.7	10.5	27.5	10.0	21.4	25.0
	Bleeding gums		14.0	36.2	14.8	34.0	7.7	26.3	10.0	24.7	18.7	19.8	23.7	21.1	23.7
	Others		1.2	4.0	4.5	4.1	3.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0	1.9
3	**Consulted (out of those suffered)**														
	None		56.9	28.4	36.9	36.9	29.2	34.7	45.9	32.1	43.8	34.9	43.6	37.9	36.3
	Trained dentist		23.2	51.8	27.2	40.7	41.1	40.8	15.5	56.7	23.3	43.0	40.1	42.0	41.4
4	**Availaibility of dental facility**	n=	171	154	157	330	152	482	163	147	156	317	149	466	948
	None		28.0	36.5	14.6	33.4	13.3	26.8	35.0	34.1	20.3	35.8	12.8	28.4	27.6
	Govt. facility		42.3	48.5	46.1	43.5	55.0	47.3	46.2	43.6	37.4	35.1	57.7	42.4	44.9
	Pvt. facility		40.4	10.0	44.1	21.5	36.5	26.4	32.6	11.4	41.9	21.3	34.4	25.5	26.0
	Do not know		4.3	7.6	18.0	9.6	13.5	10.8	4.7	12.2	18.6	14.2	12.2	13.5	12.2
5	**Time taken to reach the facility**	n=	113	88	107	189	119	308	94	80	100	156	118	274	582
	Less than 1/2 hr.		66.9	54.2	67.3	48.4	84.7	62.3	67.3	64.6	59.2	48.3	87.1	64.3	63.3
	1/2 - 1 hr.		32.3	18.6	27.8	32.1	10.1	23.7	31.5	17.1	36.5	37.2	9.4	25.7	24.7
	> 1 hr.		0.8	25.0	3.8	18.0	3.7	12.5	1.2	17.1	0.0	11.6	2.0	7.6	10.1
	Cannot say		0.0	2.2	1.0	1.5	1.5	1.5	0.0	1.1	4.4	3.0	1.5	2.4	2.0
6	**Ever suffered from**	n=	171	154	157	330	152	482	163	147	156	317	149	466	948
	Hypertension		28.7	20.9	16.4	16.8	27.2	20.2	30.4	26.2	13.6	15.9	38.2	23.1	21.7
	Diabetes		14.0	12.3	1.8	6.9	13.4	9.1	14.5	7.3	4.0	6.1	9.8	7.3	8.2
	Epilepsy		0.7	0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.7	0.4	0.0	0.3	0.2
	Jaundice		1.2	0.0	0.5	0.1	0.9	0.3	0.6	0.0	0.0	0.1	0.0	0.1	0.2
	Asthma		6.5	5.9	4.8	7.1	2.2	5.5	5.2	4.1	3.8	4.3	3.7	4.1	4.8

5.5 AWARENESS OF DENTAL HEALTH PROBLEMS

Three questions were asked about the awareness of dental health problems. The first about the common dental problems, the second about the major factors responsible for the problems and the third on how to prevent the problems. The responses that obtained from the respondents belonging to different ages/age groups 12, 15, 35-44 & 65-74 years sex & places of residence are presented in Tables 5.5.2 to 5.5.5 and are discussed below:

5.5.2 12 year olds

About 55 percent of the children, more females & more in rural reported no knowledge of oral health problems. About 39 percent and 16 percent who reported knowledge, more males & more in urban reported tooth decay & gum disease respectively oral health problems. A small section of the children (3-4 percent) told bad smell and stained teeth. The percent who identified these problems were more males & more in urban. More had knowledge of oral health problems in Regions-3 than in Regios 1 & 2.

About 54 percent of the respondents reported no knowledge of factors responsible for oral health problems. The lack of awareness was more in rural (59 percent) than in urban areas (44 percent).

The percent of respondents reported factors responsible for oral health problems such as not brushing regularly (30 percent), eating sweets/ice-creams or chocolates (29 percent), and not rinsing the mouth (7 percent). The reportage was more in urban than in rural areas, more in males, probably due to their greater exposure to the media.

About 54 percent of the respondents reported no knowledge of preventive measures. 34 percent of those had knowledge of measures reported cleaning teeth regularly. While other 14 percent told measures such as avoid sweet items/ice creams. Visiting dentist regularly and not consuming tobacco the preventive measures were reported by 8 percent & 7 percent respectively. Those reported preventive measures were more in Region-3 than in Region 1 & 2.

5.5.3 15 year olds

About 45 percent of the respondents across both sexes & more in rural reported no knowledge of oral health problems. Those had knowledge of oral health problems, 47 percent & 23 percent of them, across both sexes & more in urban reported dental decay and gum disease respectively in the state. A few other described oral health problems such as bad smell & stained teeth.

About 44 percent of the subjects across both sexes & more in rural did not know about the factors responsible for oral health problems. 36 percent, 34 percent & 11 percent of the respondents, of those had knowledge, across both sexes & more in urban reported factors causing oral health problems such as not of those had knowledge brushing regularly, eating sweets/ice-creams or chocolates and not rinsing the mouth respectively.

About 47 percent of the subjects & more in rural reported no knowledge of the preventive measures. 39 percent & 11 percent of those had knowledge, across both sexes & more in urban reported preventive measures such as cleaning teeth regularly & visiting dentist regularly respectively. While other 17 percent & 7 percent, across both sexes & more in rural told avoid sweet items & not consuming tobacco. There were more aware of preventive measures in Region-3 than in Regions 2 & 3.

Table: 5.5.2 Percent 12 year olds by reported awareness of oral health problems, their causes & preventive measures, sex & geographical area.

AGE: 12 yrs **STATE : Haryana**

	Awareness of Oral Health Problems, Causes and Preventive Measures		MALE						FEMALE						STATE TOTAL
			REGIONS			STATE			REGIONS			STATE			
			1	2	3	R	U	T	1	2	3	R	U	T	
1	**Awareness of Oral Health Problems**	n=	172	147	157	315	161	476	172	147	161	324	156	480	956
	No knowledge		57.0	64.0	35.5	55.9	46.8	52.6	58.7	68.9	42.9	63.5	45.7	57.6	**55.1**
	Tooth decay		39.7	24.0	61.4	37.9	42.5	39.5	39.1	24.9	53.2	31.3	50.4	37.6	**38.6**
	Gum disease		19.1	12.6	24.8	17.6	18.6	18.0	19.7	9.2	15.6	12.0	15.5	13.1	**15.6**
	Bad smell		3.0	7.9	1.1	2.9	8.9	5.0	3.5	4.7	1.2	2.7	4.5	3.3	**4.2**
	Stained teeth		5.1	1.9	0.7	1.6	2.7	2.0	5.9	1.8	4.2	2.6	4.9	3.3	**2.7**
	Others		0.0	0.0	0.7	0.4	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	**0.2**
2	**Factors that cause Oral Health Problems**		172	147	157	315	161	476	172	147	161	324	156	480	956
	Eating sweets/ice cream		32.4	17.7	44.5	26.9	34.2	29.5	29.2	21.1	34.9	24.1	35.0	27.6	**28.6**
	Not brushing regularly		34.2	21.8	44.3	29.8	33.5	31.1	30.2	18.6	40.6	20.9	44.7	28.7	**29.9**
	Not rinsing		3.2	5.4	9.6	5.9	7.5	6.5	3.0	5.4	9.9	5.3	9.3	6.7	**6.6**
	Consuming tobacco		0.5	0.0	3.8	1.7	1.0	1.4	2.3	0.0	1.9	1.0	0.9	1.0	**1.2**
	Do not know		53.6	65.9	34.8	55.5	48.6	53.0	58.4	65.2	40.9	62.1	39.4	54.6	**53.8**
3	**Reported Preventive Measures**		172	147	157	315	161	476	172	147	161	324	156	480	956
	Not consuming Tobacco		5.9	3.2	14.2	7.9	7.1	7.6	7.0	3.2	9.7	4.6	9.5	6.2	**6.9**
	Cleaning teeth regularly		38.6	19.6	54.4	32.8	36.8	34.2	33.2	23.9	47.2	28.4	44.6	33.7	**34.0**
	Visiting dentist regularly		3.0	8.3	9.0	5.8	13.0	8.3	4.0	4.6	11.4	5.7	9.9	7.1	**7.7**
	Using flouride paste / powder		0.5	0.0	2.6	1.3	0.5	1.0	3.9	2.5	1.2	1.4	4.2	2.3	**1.7**
	Avoid sweet items		21.5	4.5	21.5	12.7	13.6	13.0	18.3	9.5	21.4	13.1	20.8	15.7	**14.4**
	Do not know		50.1	70.1	34.3	57.6	48.5	54.4	54.0	65.8	37.3	60.3	38.6	53.2	**53.8**

Table: 5.5.3 Percent 15 year olds by reported awareness of oral health problems, their causes & preventive measures, sex & geographical area.

AGE: 15 yrs **STATE : Haryana**

	Awareness of Oral Health Problems, Causes and Preventive Measures		MALE						FEMALE						STATE TOTAL
			REGIONS			STATE			REGIONS			STATE			
			1	2	3	R	U	T	1	2	3	R	U	T	
1	**Awareness of Oral Health Problems**	n=	174	151	164	329	160	489	166	144	160	310	160	470	959
	No knowledge		41.5	56.6	33.8	50.9	35.6	45.8	40.2	56.8	32.9	52.1	32.6	45.0	**45.4**
	Tooth decay		54.3	32.6	59.9	39.1	60.2	46.2	54.5	35.4	61.7	43.0	56.5	47.9	**47.1**
	Gum disease		32.0	16.9	26.8	23.1	22.0	22.7	29.9	20.8	22.9	21.2	27.1	23.3	**23.0**
	Bad smell		8.0	4.5	4.8	4.2	7.1	5.2	4.6	7.2	3.2	3.9	9.0	5.7	**5.5**
	Stained teeth		5.2	2.6	1.8	2.3	3.6	2.7	9.2	5.9	4.6	4.9	8.3	6.1	**4.4**
	Others		0.0	0.7	0.7	0.9	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	**0.3**
2	**Factors that cause Oral Health Problems**		174	151	164	329	160	489	166	144	160	310	160	470	959
	Eating sweets/ice cream		39.5	28.3	43.1	32.5	42.2	35.7	40.7	24.3	40.2	28.1	40.4	32.6	**34.2**
	Not brushing regularly		43.6	23.6	48.2	30.1	46.6	35.6	47.9	22.7	50.1	31.0	46.5	36.6	**36.1**
	Not rinsing		6.1	6.6	13.4	7.8	11.0	8.9	12.6	10.8	15.1	12.0	14.5	12.9	**10.9**
	Consuming tobacco		1.2	0.0	4.8	1.9	1.8	1.9	1.7	0.0	4.4	2.3	1.0	1.8	**1.9**
	Do not know		42.1	54.7	32.0	49.7	33.2	44.2	38.3	58.2	28.8	50.1	33.0	43.9	**44.1**
3	**Reported Preventive Measures**		174	151	164	329	160	489	166	144	160	310	160	470	959
	Not consuming Tobacco		5.4	3.8	16.7	9.2	8.1	8.8	7.7	2.1	8.8	6.1	3.9	5.3	**7.1**
	Cleaning teeth regularly		51.2	23.5	53.1	35.0	43.8	38.0	52.5	23.0	57.8	36.3	46.4	40.0	**39.0**
	Visiting dentist regularly		8.0	9.6	11.7	8.0	14.9	10.3	8.2	11.1	11.9	8.4	17.3	11.6	**11.0**
	Using flouride paste / powder		1.2	1.3	2.3	1.3	2.4	1.7	2.8	0.6	0.0	0.5	1.0	0.7	**1.2**
	Avoid sweet items		22.6	11.3	22.6	15.0	22.1	17.4	19.4	10.9	22.2	17.2	14.8	16.3	**16.9**
	Do not know		39.6	59.9	33.2	52.4	36.0	46.9	38.1	65.8	29.4	53.3	38.3	47.9	**47.4**

5.5.4 35-44 year olds

About 30 percent of the respondents,more females & more in rural reported no knowledge of oral health problems. 59 percent of them who had knowledge across both sexes & more in urban reported dental decay. While other 41 percent more males & more in urban told gum disease. Another 12 percent & 6 percent, across both sexes & more in urban described oral health problems such as bad smell & stained teeth respectively. There were more aware of each oral health problems in Region-1 than in Regions- 2 & 3.

About 34 percent of the subjects reported no knowledge of factors that can cause oral health problems. 38 percent, 48 percent and 18 percent of those had knowledge, across both sexes & more in urban reported factors such as and eating sweets/ice creams or chocolates not brushing regularly and not rinsing mouth, respectively. More reported afore mentioned factors in Region-1 than in Regions- 2 & 3.

34 percent of subjects across both sexes & more in rural reported no knowledge of the preventive measures. 53 percent, 19 percent, & 17 percent, of respondents, of those had knowledge across both sexes & more in urban reported preventive measures such as cleaning teeth regularly, avoid sweet items/ice creams and visiting the dentist regularly respectively the state. More reported each of aforementioned preventive measures in Region-1 than in Region- 2 & 3.

Table: 5.5.4 Percent 35-44 year olds by reported awareness of oral health problems, their causes & preventive measures, sex & geographical area.

AGE: 35-44 yrs STATE : Haryana

	Awareness of Oral Health Problems, Causes and Preventive Measures		MALE						FEMALE						STATE TOTAL
			REGIONS			STATE			REGIONS			STATE			
			1	2	3	R	U	T	1	2	3	R	U	T	
1	**Awareness of Oral Health Problems**	n=	179	153	163	328	167	495	163	163	160	328	158	486	981
	No knowledge		13.9	37.0	24.3	37.6	11.8	28.6	19.1	41.8	25.0	41.9	13.2	32.1	30.4
	Tooth decay		77.1	45.9	70.0	49.9	77.6	59.6	74.2	48.6	66.4	49.2	77.1	58.7	59.2
	Gum disease		66.7	42.2	39.0	38.2	58.7	45.4	55.8	30.1	35.9	30.1	48.7	36.4	40.9
	Bad smell		21.2	15.2	4.7	8.9	19.8	12.7	18.6	13.8	5.8	10.1	15.5	11.9	12.3
	Stained teeth		10.0	7.5	5.8	6.6	9.2	7.5	9.7	2.9	4.9	3.9	5.8	4.5	6.0
	Others		0.0	0.0	0.7	0.4	0.0	0.2	0.0	0.6	0.0	0.0	1.0	0.4	0.3
2	**Factors that cause Oral Health Problems**		179	153	163	328	167	495	163	163	160	328	158	486	981
	Eating sweets/ice cream		47.5	31.4	42.7	31.7	51.6	38.7	44.9	29.0	42.9	32.2	45.7	36.8	37.8
	Not brushing regularly		76.3	39.0	53.5	40.9	66.5	49.9	62.1	36.0	53.7	39.1	59.3	45.9	47.9
	Not rinsing		27.2	14.9	20.3	13.9	28.9	19.2	26.0	12.9	18.9	14.0	23.3	17.2	18.2
	Consuming tobacco		8.8	5.7	7.6	6.9	7.2	7.0	1.7	1.2	2.5	1.8	1.5	1.7	4.4
	Do not know		16.1	43.1	24.3	41.8	13.2	31.8	21.8	47.9	23.9	43.4	19.7	35.4	33.6
3	**Reported Preventive Measures**		179	153	163	328	167	495	163	163	160	328	158	486	981
	Not consuming Tobacco		13.8	3.9	16.5	11.5	6.5	9.8	10.4	4.7	8.8	6.2	8.7	7.0	8.4
	Cleaning teeth regularly		74.5	43.3	59.8	43.7	73.4	54.1	68.1	39.2	61.6	43.8	65.1	51.0	52.6
	Visiting dentist regularly		22.1	17.7	11.7	12.7	24.6	16.8	18.3	16.5	16.5	13.7	24.8	17.5	17.2
	Using flouride paste / powder		3.4	0.6	2.4	1.1	2.6	1.6	1.1	1.8	0.0	1.1	1.0	1.1	1.4
	Avoid sweet items		28.3	15.5	23.9	17.1	28.0	20.9	28.1	7.1	26.8	17.1	16.2	16.8	18.9
	Do not know		18.1	43.8	26.1	43.1	14.5	33.1	22.5	46.0	24.8	43.5	17.8	34.8	34.0

5.5.5 65-74 year olds

About 42 percent of respondents more females & more in rural reported no knowledge of oral health problems, 46 percent, 35 percent & 12 percent, of those reported knowledge, more males & more in urban reported oral health problems such as tooth decay, gum disease & bad smell respectively in the state. More reported each of aforementioned oral health problems irrespective of sex in Region-1 than in Regions 2 & 3.

In response to a query on the factors that can cause dental problems, about 47 percent of the subjects, more females & more in rural, reported no knowledge. 39 percent, 26 percent, 16 percent & other 5 percent, of those reported knowledge, more males & more in urban reported factors responsible for oral health problems such as not brushing regularly, eating sweets/ice creams or chocolates, not rinsing the mouth and consuming tobacco respectively in the state.

About 46 percent of the subjects more females & more in rural reported no knowledge of preventive measures. When asked from those had knowledge, about the preventive measures, 39 percent, 15 percent, 14 percent & other 10 percent, more males & more in urban reported measures such as cleaning teeth regularly, avoid sweet items, visiting the dentist regularly, and not consuming tobacco respectively. There were more irrespective of sex aware of each of aforementioned preventive measures in Region-1 than in Region 2 & 3.

AWARENESS OF DENTEL HEALTH PROBLEMS ACROSS AGE GROUPS (SUMMING UP)

1. About 60-70 percent of subjects, across all ages and both sexes, and more in urban areas, were aware of oral health problems in the state as well as across all the three regions.
2. About 56 percent of subjects, across all ages and both sexes, more in urban, were aware of the factors that can cause oral health problems, in the state as well as across all the three Regions. Most of them reported factors such as not brushing regularly (30-48 percent), followed by eating sweets/ice-creams or chocolates (26-38 percent) and not rinsing the mouth (7-18 percent). Tobacco as a factor was reported by about 5 percent.
3. Nearly 55 percent of respondents across both sexes more in rural across all ages /age groups were aware of preventive measures. Nearly one third, across all age groups except (35-44) years old reported cleaning of teeth regularly a measure to prevent oral health problems. While other about 15 percent, across all age groups reported avoid sweet items.

Table: 5.5.5 Percent 65-74 year olds by reported awareness of oral health problems, their causes & preventive measures, sex & geographical area.

AGE: 65-74 yrs **STATE : Haryana**

	Awareness of Oral Health Problems, Causes and Preventive Measures		MALE						FEMALE						STATE TOTAL
			REGIONS			STATE			REGIONS			STATE			
			1	2	3	R	U	T	1	2	3	R	U	T	
1	**Awareness of Oral Health Problems**	n=	171	154	157	330	152	482	163	147	156	317	149	466	948
	No knowledge		20.3	46.9	31.8	45.7	21.0	37.6	30.8	56.3	36.6	51.0	34.2	45.6	**41.6**
	Tooth decay		66.0	35.0	59.7	40.1	64.7	48.2	60.0	33.3	56.1	41.6	51.4	44.8	**46.5**
	Gum disease		60.3	35.7	38.7	35.8	51.0	40.7	50.2	25.3	27.2	25.1	39.5	29.7	**35.2**
	Bad smell		17.9	20.9	6.4	16.0	13.9	15.3	17.7	8.6	3.8	6.0	13.3	8.4	**11.9**
	Stained teeth		9.3	4.3	6.0	5.1	7.4	5.8	10.1	4.1	4.5	5.2	4.4	5.0	**5.4**
	Others		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	1.2	0.4	**0.2**
2	**Factors that cause Oral Health Problems**		171	154	157	330	152	482	163	147	156	317	149	466	948
	Eating sweets/ice cream		39.5	21.0	32.6	24.9	33.6	27.7	40.3	15.9	29.3	21.7	29.5	24.2	**26.0**
	Not brushing regularly		61.6	30.3	54.8	35.5	60.2	43.6	51.1	22.1	45.9	29.4	45.4	34.6	**39.1**
	Not rinsing		27.8	17.7	14.4	14.5	26.5	18.4	22.5	8.3	15.7	14.9	8.8	12.9	**15.7**
	Consuming tobacco		4.2	10.0	6.6	6.7	12.0	8.4	3.7	0.6	1.9	1.1	2.4	1.5	**5.0**
	Do not know		22.3	53.9	36.1	53.0	21.3	42.6	33.4	65.9	35.8	55.4	40.1	50.4	**46.5**
3	**Reported Preventive Measures**		171	154	157	330	152	482	163	147	156	317	149	466	948
	Not consuming Tobacco		14.1	9.9	13.5	10.0	16.5	12.2	9.9	4.7	9.7	6.7	8.7	7.4	**9.8**
	Cleaning teeth regularly		62.8	30.4	55.1	37.7	54.4	43.2	50.9	19.6	48.3	29.8	42.7	33.9	**38.6**
	Visiting dentist regularly		18.2	16.3	7.0	7.1	29.7	14.5	10.1	15.3	11.6	11.7	17.8	13.7	**14.1**
	Using flouride paste / powder		0.5	0.6	0.7	0.5	1.1	0.7	1.7	0.7	1.1	0.8	1.1	0.9	**0.8**
	Avoid sweet items		30.6	11.3	18.3	13.9	22.1	16.6	24.2	6.5	20.1	13.1	16.1	14.1	**15.4**
	Do not know		24.1	51.8	38.3	53.2	21.1	42.7	38.6	62.0	36.6	56.0	35.2	49.3	**46.0**

5.6 TOBACCO SMOKING AND CHEWING HABITS

Smoking tobacco and chewing pan/pan masala with tobacco have great affects on oral health. Therefore questions related to habits such as tobacco smoking, chewing pan with tobacco etc and drinking alcohol were asked from respondents belonging to ages/age groups 35-44 & 65-74 years, both sexes & places of residence (assuming that negligible fraction of people in younger ages of 5, 12, & 15 years have such habits). The responses thus obtained are presented in Tables 5.6.4 & 5.6.5 and are discussed in this section.

5.6.4 35-44 year olds

About 17percent of the respondents, more males & more in rural reported the habit of smoking tobacco. There were comparatively more smokers in Region-2 than in Region 1 & 3 and were more male smokers in all three regions. About 50 percent of the smokers, more males & more in urban reported smoking Bidis. While other 28 percent across both sexes & more in rural had the habit of smoking hookah.

Other about 13 percent of subjects, more males & more in urban reported smoking cigarettes. Bidi smoking was more popular among females in urban as well as in rural areas of the state. As regard Regions, irrespective of sex, there were more smokers of Bidi followed by Hookah in all the three Regions.

When asked about the frequency of smoking, 79 percent of respondents reported smoking less than ten times in a day in the state as well as in each Region. It was glad to note that there were not many heavy smokers. Only 6 percent reported smoking more than 20 times in a day, in the state. 7 percent of the respondents, more males and across places of residence reported chewing pan/pan masala with tobacco. Most of the respondents who chewed pan or pan masala tobacco (82 percent) reported chewing it for less than five years. About 93 percent of the subjects more in urban reported chewing tobacco less than fives times in a day.

About 13 percent of males and 1 percent of females had the habit of consuming alcohol. Alcohol consumption was seen more among urban males (15 percent) than their rural counterparts (12 percent). Most of them were taking it occasionally (53 percent), followed by those who consumed it daily (23 percent). There were large differentials in the pattern of alcohol consumption among the sexes and place of residence, and across the three Regions.

Table 5. 6. 4 Percent 35-44 year olds by reported smoking, chewing pan & pan masala and alcohol taking habits, sex & geographical area.

AGE: 35-44 yrs STATE : Haryana

	Tobacco Smoking or Chewing with Pan masala and Alcohol taking habits		MALE						FEMALE						STATE TOTAL
			REGIONS			STATE			REGIONS			STATE			
			1	2	3	R	U	T	1	2	3	R	U	T	
1	**Smoking Habits**	n=	179	153	163	328	167	495	163	163	160	328	158	486	981
	Subjects smoking tobacco		21.3	42.7	12.1	28.4	28.9	28.6	4.5	5.6	7.8	7.7	3.1	6.1	17.4
2	**Nature of Smoking**	n=	39	65	20	85	39	124	8	9	12	25	4	29	153
	Chillum		0.0	0.0	18.4	1.3	5.0	2.6	0.0	0.0	32.7	14.1	16.1	14.5	8.6
	Hookah		20.6	31.7	21.9	36.6	12.6	28.1	12.5	34.5	25.9	33.9	0.0	28.1	28.1
	Cigars		0.0	1.6	0.0	1.7	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.6
	Cigarettes		17.5	10.1	32.4	8.1	26.9	14.8	12.5	11.5	8.6	12.1	0.0	10.1	12.5
	Bidis		61.8	55.2	27.3	52.3	51.9	52.2	75.0	54.0	32.7	39.9	83.9	47.3	49.8
3	**Number of times Smoking in a day**														
	< 10 times		73.2	66.3	89.1	71.2	67.7	70.0	37.5	100.0	82.7	84.5	100.0	87.1	78.6
	10-20 times		18.9	22.0	10.9	22.9	13.7	19.7	50.0	0.0	17.3	14.3	0.0	11.9	15.8
	20 + times		7.9	11.8	0.0	5.8	18.6	10.4	12.5	0.0	0.0	1.2	0.0	1.0	5.7
4	**Chewing pan/pan masala habits**	n=	179	153	163	328	167	495	163	163	160	328	158	486	981
	Chew pan or pan masala with tobacco		7.8	12.3	5.8	9.3	9.8	9.5	4.7	6.7	3.4	5.8	4.5	5.3	7.4
5	**Number of years of chewing pan or**														
	pan masala with Tobacco	n=	14	19	9	29	13	42	8	11	5	19	5	24	66
	Less than 5 years		84.9	74.4	65.9	76.5	65.9	72.6	100.0	100.0	60.0	87.5	100.0	91.0	81.8
	5 - 10 years		0.0	14.3	22.8	8.0	31.0	16.3	0.0	0.0	20.0	6.3	0.0	4.5	10.4
	> 10 years		15.1	11.2	11.4	15.5	3.1	11.0	0.0	0.0	40.0	12.5	0.0	9.0	10.0
6	**Number of times of chewing tobacco**														
	in a day														
	Less than 5 times		93.4	94.4	77.2	85.7	100.0	90.9	100.0	100.0	80.0	93.7	100.0	95.5	93.2
	5 - 10 times		6.6	5.6	22.8	14.3	0.0	9.1	0.0	0.0	40.0	12.5	0.0	9.0	9.1
	> 10 times		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	**Alcohol consumption habits**	n=	179	153	163	328	167	495	163	163	160	328	158	486	981
	Consuming alcohol		10.8	20.1	2.5	11.5	14.9	12.7	1.1	0.6	1.9	0.9	1.5	1.1	6.9
8	**Frequency of alcohol consumption**	n=	20	31	4	37	18	55	2	1	3	4	2	6	61
	Daily		4.7	19.1	26.4	16.9	20.5	18.4	50.0	0.0	35.9	50.0	0.0	26.9	22.7
	3 times a week		14.2	2.9	26.4	5.8	6.8	6.2	0.0	0.0	64.1	39.8	32.1	36.3	21.3
	Occasionally		76.3	71.6	47.2	72.2	65.9	69.6	50.0	100.0	0.0	10.2	67.9	36.8	53.2

5.6.5 65-74 year olds

About 22 percent of the respondents more males & more in rural had the habit of smoking tobaco. Comparatively more males as well as females reported the habit of smoking in Region-2 than in Region 1 & 3. As regard nature of smoking, 48 percent reported smoking the hookah. This followed by other 34 percent who had the habit of smoking Bidis. Bidi smoking was more popular in rural areas while cigarette smoking in urban areas. Only about 12 percent of subjects reported smoking cigarettes, more in urban (25 percent) than rural areas (7 percent). It was surprising to find that more females (15 percent) reported smoking cigarettes than males (8 percent). Perhaps, this trend might be due to influence of media and other emergent social pressures and life style in urban setting. Overall, there was observed large differentials between genders and place of residence, and across the three regions.

About 75 percent of the subjects reported smoking less than ten times in a day, while other 22 percent had smoked 10-20 times in a day. It was glad to note that the proportion of heavy smokers i.e. more than 20 times in a day was very low (3 percent) and only among males, more in Region 1& 2 (8 percent) than in Region-1 (5 percent).

6 percent of subjects, more males, across places of residence reported the habit of chewing pan/ pan masala with tobacco. About 62 percent of the subjects reported chewing pan/pan masala with tobacco for the past 5-10 years. While other 27 percent more females & more in rural had this habit for less than five years. About 93 percent of the respondents across both sexes and places of residence reported chewing tobacco less than five times in a day.

11 percent of the males and 1 percent of the females reported consuming alcohol. Comparatively more reported consuming alcohol in Region-1(9 percent) than Region-2 (8 percent) and Region-3 (3 percent). About 65 percent subjects reported consuming alcohol occasionally, followed by 30 percent subjects reported consuming it daily. There were large differentials in the pattern of alcohol consumption among the genders and place of residence, and across the three Regions.

TOBACCO SMOKING AND CHEWING HABITS ACROSS AGE GROUPS (SUMMING UP)

1. About 17 & 22 percent aged the 35-44 & 65-74 year, more in rural areas respectively had the habit of smoking. There was observed large differences among the three regions. About one half of the subjects aged 35-44 years & 34 percent aged 65-74 years had the habit of smoking Bidis. They were more in the rural areas.

   28 percent & 48 percent of 35-44 year & 65-74 year olds more in rural & more males reported smoking Hookah in the state as well as across Regions. Three fourths of the smokers across both sexes and places of residence reported smoking less than ten times in a day.

2. About 6-7 percent of subjects, across ages, and more in rural areas reported chewing pan/pan masala with tobacco. 62 percent of subjects aged 65-74 reported chewing for 5-10 years.

3. Around 6-7 percent subjects across age groups, more males than females, in the state & across the three regions, had the habit of consuming alcohol.

Table 5. 6. 5 Percent 65-74 year olds by reported smoking, chewing pan & pan masala and alcohol taking habits, sex & geographical area.

AGE: 65-74 yrs STATE : Haryana

	Tobacco Smoking or Chewing with Pan masala and Alcohol taking habits		MALE						FEMALE						STATE TOTAL
			REGIONS			STATE			REGIONS			STATE			
			1	2	3	R	U	T	1	2	3	R	U	T	
1	**Smoking Habits**	n=	171	154	157	330	152	482	163	147	156	317	149	466	948
	Subjects smoking tobacco		34.3	47.8	18.2	37.9	29.8	35.2	5.4	10.4	6.4	9.2	5.8	8.1	21.7
2	**Nature of Smoking**	n=	60	73	28	122	39	161	9	15	10	26	8	34	195
	Chillum		3.2	0.0	7.5	2.4	0.0	1.8	10.5	0.0	27.5	5.1	18.9	8.3	5.1
	Hookah		52.0	52.6	37.7	54.0	37.5	49.4	34.3	59.8	21.4	47.6	45.8	47.2	48.3
	Cigars		0.0	1.2	0.0	0.0	3.7	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
	Cigarettes		8.3	4.9	16.4	2.9	21.3	8.0	0.0	19.6	8.4	10.7	29.4	15.0	11.5
	Bidis		36.5	40.1	38.3	40.6	33.8	38.7	55.2	20.6	42.7	36.5	5.9	29.5	34.1
3	**Number of times Smoking in a day**														
	< 10 times		72.3	58.9	78.2	63.3	66.3	64.2	89.5	93.1	67.9	81.4	100.0	85.7	75.0
	10-20 times		23.0	33.0	21.8	30.8	26.3	29.6	10.5	6.9	32.1	18.6	0.0	14.3	22.0
	20 + times		4.7	8.1	0.0	5.8	7.4	6.3	0.0	0.0	0.0	0.0	0.0	0.0	3.2
4	**Chewing pan/pan masala habits**	n=	171	154	157	330	152	482	163	147	156	317	149	466	948
	Chew pan or pan masala with tobacco		8.6	7.8	5.3	7.6	5.9	7.0	5.2	4.6	2.7	3.8	5.0	4.2	5.6
5	**Number of years of chewing pan or**														
	pan masala with Tobacco	n=	15	12	8	27	8	35	9	7	4	15	5	20	55
	Less than 5 years		19.0	33.8	12.8	27.7	18.6	25.2	21.6	42.2	0.0	18.3	46.5	29.2	27.2
	5 - 10 years		58.6	66.2	48.6	56.4	70.3	60.3	78.4	42.2	100.0	68.6	53.5	62.8	61.6
	> 10 years		22.4	0.0	38.5	15.9	11.1	14.5	0.0	15.6	0.0	13.1	0.0	8.0	11.3
6	**Number of times of chewing tobacco**														
	in a day														
	Less than 5 times		87.4	100.0	87.2	92.6	100.0	94.7	100.0	84.4	100.0	86.9	100.0	92.0	93.4
	5 - 10 times		6.3	0.0	12.8	6.1	0.0	4.4	0.0	0.0	0.0	0.0	0.0	0.0	2.2
	> 10 times		6.3	0.0	0.0	1.2	0.0	0.9	0.0	15.6	0.0	13.1	0.0	8.0	4.5
7	**Alcohol consumption habits**	n=	171	154	157	330	152	482	163	147	156	317	149	466	948
	Consuming alcohol		16.6	13.7	5.2	11.6	9.7	11.0	0.7	1.4	0.7	1.4	0.3	1.0	6.0
8	**Frequency of alcohol consumption**	n=	29	21	8	44	14	58	1	2	1	3	1	4	62
	Daily		29.7	14.9	10.4	15.7	19.1	16.7	100.0	50.0	0.0	36.2	100.0	43.0	29.9
	3 times a week		13.1	9.9	26.4	17.9	0.0	12.7	0.0	0.0	0.0	0.0	0.0	0.0	6.4
	Occasionally		57.3	80.1	63.2	70.5	80.9	73.5	0.0	50.0	100.0	63.8	0.0	57.0	65.3

CHAPTER VI
ORAL HEALTH STATUS

6.0 CLINICAL FINDINGS

The clinical findings are presented under the following broad heads:

1. Dental Caries status & Treatment Need
2. Periodontal Disease status
3. Malocclusion Status
4. Oral Cancers and other oral mucosal conditions
5. Dental Fluorosis status
6. Other conditions:

   Extra Oral Lesions; TMJ Assessment; Enamel Opacities and Hypoplasia; Prosthetic Status & Need; and Community need for immediate Care and Referrals.

Tables (tabulated data) and Figures (charts and graphs) accompany the narrative report. The tables present a detailed picture of the findings (male and female subjects) while figures present the high points of the prevalence patterns based on totals (percentages combined for male and female subjects). The tables are numbered based on the chapter and section they represent while the figures are similarly numbered and represent the tables from which the data is drawn. The figures are only selectively prepared and do not always follow a table. The consistency of numbering is maintained and therefore, certain numbers of figures may be absent. A complete list of tables and figures is separately included in the report.

6.1 DENTAL CARIES STATUS

This section presents a review of data for both coronal (crown) caries and root caries. Coronal caries is of interest in all index age groups and was reported using a) the conventional dmft/ DMFT index for primary and permanent teeth and b) the Significant Caries Index (SIC). The dmft values can range from 0 to 20 (primary teeth) and DMFT values from 0 to 32 (permanent teeth). The range of dmft/DMFT values has been grouped in such a way so as to provide some indication of decayed, missing and/or filled teeth expressed as a percentage of the normally present teeth in an average mouth. The number of normally present teeth is taken as 20 (age 5 years); 28 (age 12 and 15 years); and 32 (age 35-44 and 65-74 years).

The WHO Significant Caries Index (SIC) helps identify the high-risk groups in the surveyed population. The SIC Index is represented by the mean dmft/DMFT score of one-third of the population with the highest mean dmft/DMFT scores.

Root caries develops in the higher age groups and is, therefore, assessed for the 35-44 and 65-74 age groups; its greatest significance lies in the aging population in the 50-60 years or higher age groups.

6.1.1 Coronal caries

Tables 6.01 and Figure 6.01 present the prevalence proportion of subjects by age and gender who were caries-free and those with caries experience, using a range of dmft (deft)/ DMFT values. The range of values has been grouped in such a way as to provide some indication of the proportion of dentition affected with caries out of the normally present (28 or 32) in an average mouth. The dmft (deft)/and DMFT values indicate the number of teeth in a mouth which have had caries experience until the time of examination.

Table 6.02 and Figure 6.02 present the mean number of teeth decayed, missing and filled (mean dmft and mean DMFT) in the surveyed population and includes the Significant Caries (SIC) Index. The table also gives the mean number of teeth present in the mouth and the percent subjects who were edentulous.

Table 6.03 presents the breakup of the per cent subjects with missing teeth, due to caries and due to other reasons. This is presented for age groups 35-44 and 65-74 years.

The prevalence proportion of caries experience 5 year old subjects (primary teeth) was 40.7 percent. The dmft value of 1 to 3 was most prevalent (21.2 percent), while the prevalence of caries with higher dmft values of 4-5 was seen in 10.3 percent of the children (11.5 percent males and 8.2 percent females) had dmft value of 6-10. The caries experience was higher in Region-1 (60.5 percent) compared to Region-2 (34.8 percent) and Region-3 (24.7 percent).

The proportion of subjects with caries experience (permanent teeth) having one or more decayed, missing or filled teeth (dmft.0) was around 49.3 and 57.7 percent among 12 and 15 year olds, respectively, and DMFT values of 1-3, was maximum for these age groups, among 28.7 and 26.1 percent subjects, respectively. The proportion of subjects with caries experience appeared to rise rapidly in the age groups 35-44 and 65-74 years, with 77.2 and 79.5 percent subjects being affected, respectively.

The DMFT value of 4-8 was the highest (34.4 percent) in 35-44 year age group. The higher DMFT values of 25-28 were the highest (19 percent) in the 65-74 year age group. There were no major differences in the caries experience in urban/rural areas and among the genders, but significant differences were seen across the three regions.

Among the 5 year olds, the mean dmft (deft) for male and female subjects was 1.3 teeth and 1.2 teeth, respectively. The decayed teeth (dt) component contributed to the whole of dmft in this age group.

The mean DMFT value for the 12 and 15 year olds was about 1.5 teeth and 2.1 teeth, respectively. The mean DMFT for the 35-44 and 65-74 year age groups was 4.4 teeth and 12.8 teeth, respectively. The DT component

Fig 6.01. Percent subjects with caries experience in Haryana

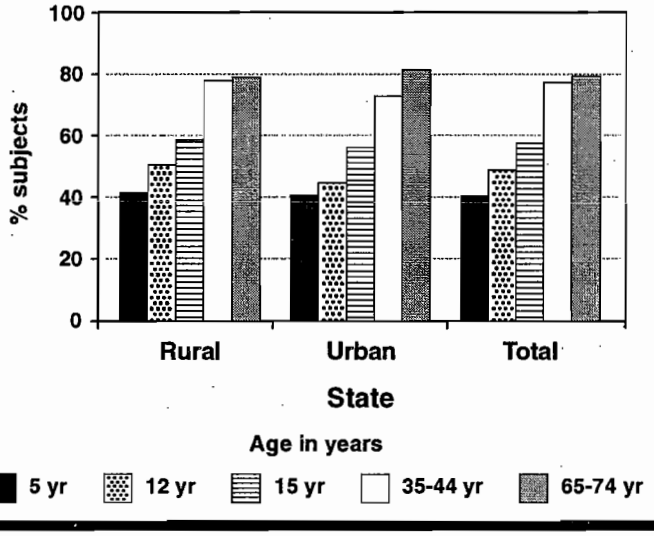


Table 6.01. Percent subjects with caries experience and with dmft/ DMFT values by age, sex and geographical area. State : Haryana

Decayed, Missing, Filled Teeth		5 years			Decayed, Missing, Filled Teeth		12 years			15 years			35-44 years			65-74 years		
		M	F	T			M	F	T	M	F	T	M	F	T	M	F	T
Region 1	n=	178	167	345	**Region 1**	n=	172	172	344	174	166	340	179	163	342	171	163	334
With caries experience		63.5	57.5	60.5	With caries experience		68.6	68.6	68.6	80.5	73.5	77.0	92.2	92.0	92.1	96.5	94.5	95.5
dmft value 1-3		25.3	25.7	25.5	DMFT value 1-3		36.6	36.0	36.3	23.0	22.9	23.0	10.6	11.0	10.8	1.8	0.6	1.2
dmft value 4-5		19.7	15.6	17.7	DMFT level 4-7; 4-8		24.4	26.7	25.6	43.1	33.7	38.4	40.8	49.1	45.0	10.5	6.1	8.3
dmft value 6-10		17.4	15.0	16.2	DMFT value 8-14; 9-16		7.6	5.8	6.7	13.8	16.9	15.4	38.5	28.2	33.4	24.6	26.4	25.5
dmft value 11-15		1.1	0.6	0.9	DMFT value 15-21; 17-24		0.0	0.0	0.0	0.6	0.0	0.3	1.7	3.7	2.7	14.0	12.9	13.5
dmft value 16 or more		0.0	0.6	0.3	DMFT value 22-28; 25-28		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.3	23.9	21.6
					DMFT value 29 or more		0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.3	26.3	24.5	25.4
Region 2	n=	140	121	261	**Region 2**	n=	147	147	294	151	144	295	153	163	316	154	147	301
With caries experience		38.7	30.8	34.8	With caries experience		52.4	51.7	52.1	66.2	61.1	63.7	69.3	81.0	75.2	49.4	58.5	54.0
dmft value 1-3		27.1	16.5	21.8	DMFT value 1-3		36.7	32.0	34.4	40.4	32.6	36.5	23.5	29.4	26.5	8.4	10.2	9.3
dmft value 4-5		7.7	7.5	7.6	DMFT level 4-7; 4-8		12.2	15.0	13.6	18.5	21.5	20.0	27.5	34.4	31.0	7.8	10.2	9.0
dmft value 6-10		3.9	6.0	5.0	DMFT value 8-14; 9-16		3.4	4.1	3.8	6.6	5.6	6.1	15.7	16.0	15.9	10.4	12.2	11.3
dmft value 11-15		0.0	0.0	0.0	DMFT value 15-21; 17-24		0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.6	1.6	7.8	8.2	8.0
dmft value 16 or more		0.0	0.8	0.4	DMFT value 22-28; 25-28		0.0	0.7	0.4	0.7	1.4	1.1	0.0	0.0	0.0	13.0	15.0	14.0
					DMFT value 29 or more		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.3	1.9	2.7	2.3
Region 3	n=	172	148	320	**Region 3**	n=	157	161	318	164	160	324	163	160	323	157	156	313
With caries experience		23.8	25.5	24.7	With caries experience		26.1	25.5	25.8	31.7	32.5	32.1	62.0	64.4	63.2	85.4	88.5	87.0
dmft value 1-3		12.2	19.5	15.9	DMFT value 1-3		14.0	16.1	15.1	18.3	21.3	19.8	27.6	30.6	29.1	9.6	7.1	8.4
dmft value 4-5		6.4	3.4	4.9	DMFT level 4-7; 4-8		10.8	5.6	8.2	12.2	10.0	11.1	28.8	24.4	26.6	10.8	15.4	13.1
dmft value 6-10		5.2	2.7	4.0	DMFT value 8-14; 9-16		1.3	3.7	2.5	1.2	1.3	1.3	4.3	8.1	6.2	18.5	14.7	16.6
dmft value 11-15		0.0	0.0	0.0	DMFT value 15-21; 17-24		0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.6	0.9	3.2	9.0	6.1
dmft value 16 or more		0.0	0.0	0.0	DMFT value 22-28; 25-28		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.3	21.7	20.5	21.1
					DMFT value 29 or more		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.7	21.8	21.8
State Rural	n=	320	291	611	**State Rural**	n=	315	324	639	329	310	639	328	328	656	330	317	647
With caries experience		44.8	37.3	41.1	With caries experience		51.1	52.5	51.8	59.6	57.1	58.4	77.4	79.6	78.5	76.1	81.4	78.8
dmft value 1-3		23.0	21.1	22.1	DMFT value 1-3		32.1	30.2	31.2	28.0	28.1	28.1	21.6	21.3	21.5	5.5	5.4	5.5
dmft value 4-5		12.5	6.6	9.6	DMFT level 4-7; 4-8		14.9	17.6	16.3	25.2	21.0	23.1	32.6	35.4	34.0	10.0	8.2	9.1
dmft value 6-10		9.0	8.6	8.8	DMFT value 8-14; 9-16		4.1	4.3	4.2	5.8	7.4	6.6	21.3	20.7	21.0	17.9	18.6	18.3
dmft value 11-15		0.3	0.3	0.3	DMFT value 15-21; 17-24		0.0	0.0	0.0	0.3	0.0	0.2	1.5	1.5	1.5	9.4	10.4	9.9
dmft value 16 or more		0.0	0.7	0.4	DMFT value 22-28; 25-28		0.0	0.3	0.2	0.3	0.6	0.5	0.0	0.3	0.2	16.7	20.8	18.8
					DMFT value 29 or more		0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	16.7	18.0	17.4
State Urban	n=	170	145	315	**State Urban**	n=	161	156	317	160	160	320	167	158	325	152	149	301
With caries experience		37.6	42.5	40.1	With caries experience		46.6	41.7	44.2	60.0	53.1	56.6	70.7	78.5	74.6	81.6	80.5	81.1
dmft value 1-3		18.2	20.5	19.4	DMFT value 1-3		23.6	23.7	23.7	24.4	20.0	22.2	17.4	28.5	23.0	8.6	6.7	7.7
dmft value 4-5		9.4	14.4	11.9	DMFT level 4-7; 4-8		18.6	12.8	15.7	25.0	23.8	24.4	32.9	37.3	35.1	9.2	15.4	12.3
dmft value 6-10		9.4	7.5	8.5	DMFT value 8-14; 9-16		4.3	5.1	4.7	10.6	9.4	10.0	18.0	10.8	14.4	18.4	16.8	17.6
dmft value 11-15		0.6	0.0	0.3	DMFT value 15-21; 17-24		0.0	0.0	0.0	0.0	0.0	0.0	2.4	1.9	2.2	6.6	9.4	8.0
dmft value 16 or more		0.0	0.0	0.0	DMFT value 22-28; 25-28		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.1	18.1	19.6
					DMFT value 29 or more		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.8	14.1	16.0
State Total	n=	490	436	926	**State Total**	n=	476	480	956	489	470	959	495	486	981	482	466	948
With caries experience		42.4	39.0	40.7	With caries experience		49.6	49.0	49.3	59.7	55.7	57.7	75.2	79.2	77.2	77.8	81.1	79.5
dmft value 1-3		21.4	20.9	21.2	DMFT value 1-3		29.2	28.1	28.7	26.8	25.3	26.1	20.2	23.7	22.0	6.4	5.8	6.1
dmft value 4-5		11.5	9.1	10.3	DMFT level 4-7; 4-8		16.2	16.0	16.1	25.2	21.9	23.6	32.7	36.0	34.4	9.8	10.5	10.2
dmft value 6-10		9.1	8.2	8.7	DMFT value 8-14; 9-16		4.2	4.6	4.4	7.4	8.1	7.8	20.2	17.5	18.9	18.0	18.0	18.0
dmft value 11-15		0.4	0.2	0.3	DMFT value 15-21; 17-24		0.0	0.0	0.0	0.2	0.0	0.1	1.8	1.6	1.7	8.5	10.1	9.3
dmft value 16 or more		0.0	0.4	0.2	DMFT value 22-28; 25-28		0.0	0.2	0.1	0.2	0.4	0.3	0.0	0.2	0.1	18.0	20.0	19.0
					DMFT value 29 or more		0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	17.0	16.7	16.9

Note: The categories of DMFT values of 4-7, 8-14, 15-21 and 22-28 have been computed and apply to subjects aged 12 and 15 years only. In age groups 35-44 yr and 65-74 yr, the 'M' (Missing) component includes both missing due to caries and missing due to other reasons. Associated Tables :**6.02 and 6.03.**

Table 6.02 Mean number of teeth decayed, missng, filled by age, sex and geographical area. **State : Haryana**

Decayed, Missing, Filled Teeth		5 years			12 years			15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Region 1	n=	178	167	***345***	171	172	***343***	174	166	***340***	179	163	***342***	168	160	***328***
Mean no. of teeth present (mnt/MNT)		20.0	20.0	***20.0***	27.6	27.7	***27.7***	27.9	27.9	***27.9***	29.8	30.1	***30.0***	13.2	12.8	***13.0***
Mean dmft and Mean DMFT		2.8	2.5	***2.7***	2.6	2.6	***2.6***	4.1	3.9	***4.0***	7.5	7.2	***7.4***	20.3	20.7	***20.5***
Mean no. of Decayed teeth (dt/DT)		2.7	2.4	***2.6***	2.2	2.4	***2.3***	4.0	3.8	***3.9***	5.2	5.3	***5.3***	1.5	1.5	***1.5***
Mean no. of Missing teeth (mt/MT)		0.0	0.0	***0.0***	0.3	0.2	***0.3***	0.1	0.1	***0.1***	2.2	1.9	***2.1***	18.8	19.2	***19.0***
Mean no. of Filled teeth (ft/FT)		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.1	0.0	***0.1***	0.0	0.0	***0.0***
SIC Index		6.1	5.9	***6.0***	5.7	5.6	***5.7***	7.6	7.5	***7.6***	12.5	11.9	***12.2***	30.9	30.8	***30.9***
No. of subjects edentulous		0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	38	37	***75***
Region 2	n=	140	121	***261***	147	144	***291***	147	141	***288***	151	155	***306***	97	93	***190***
Mean no. of teeth present (mnt/MNT)		20.0	19.8	***19.9***	27.3	27.3	***27.3***	27.9	27.9	***27.9***	30.5	30.5	***30.5***	25.4	23.8	***24.6***
Mean dmft and Mean DMFT		1.2	1.3	***1.3***	1.5	1.9	***1.7***	2.4	2.5	***2.5***	4.3	4.5	***4.4***	7.7	8.8	***8.3***
Mean no. of Decayed teeth (dt/DT)		1.2	1.3	***1.3***	1.5	1.9	***1.7***	2.3	2.4	***2.4***	2.7	3.0	***2.9***	0.9	0.6	***0.8***
Mean no. of Missing teeth (mt/MT)		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.1	0.1	***0.1***	1.5	1.5	***1.5***	6.6	8.2	***7.4***
Mean no. of Filled teeth (ft/FT)		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.1	0.0	***0.1***	0.1	0.0	***0.1***
SIC Index		3.1	3.6	***3.4***	3.8	5.0	***4.4***	5.6	5.9	***5.8***	10.1	9.7	***9.9***	21.4	22.9	***22.2***
No. of subjects edentulous		0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	2	3	***5***
Region 3	n=	172	148	***320***	156	161	***317***	163	160	***323***	163	160	***323***	155	156	***311***
Mean no. of teeth present (mnt/MNT)		19.9	20.0	***20.0***	25.2	25.2	***25.2***	28.0	28.0	***28.0***	30.6	30.4	***30.5***	17.1	15.8	***16.5***
Mean dmft and Mean DMFT		0.9	0.7	***0.8***	0.8	0.9	***0.9***	1.0	1.0	***1.0***	2.9	3.1	***3.0***	15.9	17.1	***16.5***
Mean no. of Decayed teeth (dt/DT)		0.8	0.6	***0.7***	0.8	0.9	***0.9***	0.9	1.0	***1.0***	1.5	1.4	***1.5***	1.0	0.9	***1.0***
Mean no. of Missing teeth (mt/MT)		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	1.4	1.6	***1.5***	14.9	16.2	***15.6***
Mean no. of Filled teeth (ft/FT)		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.1	***0.1***	0.0	0.0	***0.0***
SIC Index		2.6	2.0	***2.3***	2.7	2.9	***2.8***	3.2	3.2	***3.2***	6.8	7.2	***7.0***	30.2	29.9	***30.1***
No. of subjects edentulous		0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	28	29	***57***
State Rural	n=	320	291	***611***	315	321	***636***	327	308	***635***	327	321	***648***	281	274	***555***
Mean no. of teeth present (mnt/MNT)		19.9	19.9	***19.9***	26.4	26.3	***26.4***	27.9	28.0	***28.0***	30.3	30.2	***30.3***	21.1	18.7	***19.9***
Mean dmft and Mean DMFT		1.3	1.2	***1.3***	1.3	1.8	***1.6***	2.0	2.1	***2.1***	4.5	4.6	***4.6***	12.1	14.2	***13.2***
Mean no. of Decayed teeth (dt/DT)		1.3	1.2	***1.3***	1.3	1.8	***1.6***	2.0	2.0	***2.0***	2.7	2.8	***2.8***	1.2	0.8	***1.0***
Mean no. of Missing teeth (mt/MT)		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	1.7	1.8	***1.8***	10.9	13.3	***12.1***
Mean no. of Filled teeth (ft/FT)		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.1	0.1	***0.1***	0.1	0.0	***0.1***
SIC Index		4.4	4.2	***4.3***	4.2	5.0	***4.6***	5.9	6.0	***6.0***	10.8	10.6	***10.7***	29.4	29.8	***29.6***
No. of subjects edentulous		0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	45	50	***95***
State Urban	n=	170	145	***315***	159	156	***315***	157	159	***316***	166	157	***323***	139	135	***274***
Mean no. of teeth present (mnt/MNT)		20.0	20.0	***20.0***	27.0	27.2	***27.1***	27.9	27.9	***27.9***	30.7	30.8	***30.8***	20.4	21.3	***20.9***
Mean dmft and Mean DMFT		1.3	1.4	***1.4***	1.6	1.3	***1.5***	2.3	2.2	***2.3***	3.9	3.8	***3.9***	12.3	11.6	***12.0***
Mean no. of Decayed teeth (dt/DT)		1.3	1.3	***1.3***	1.5	1.3	***1.4***	2.2	2.1	***2.2***	2.4	2.6	***2.5***	0.7	0.8	***0.8***
Mean no. of Missing teeth (mt/MT)		0.0	0.0	***0.0***	0.1	0.0	***0.1***	0.1	0.1	***0.1***	1.3	1.2	***1.3***	11.6	10.7	***11.2***
Mean no. of Filled teeth (ft/FT)		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.1	0.0	***0.1***	0.0	0.0	***0.0***
SIC Index		4.5	4.3	***4.4***	4.9	4.4	***4.7***	6.4	6.1	***6.3***	10.1	9.0	***9.6***	29.9	28.9	***29.***
No. of subjects edentulous		0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	23	19	***42***
State Total	n=	490	436	***926***	474	477	***951***	484	467	***951***	493	478	***971***	420	409	***829***
Mean no. of teeth present (mnt/MNT)		19.9	19.9	***19.9***	26.5	26.5	***26.5***	27.9	28.0	***28.0***	30.4	30.4	***30.4***	20.9	19.4	***20.2***
Mean dmft and Mean DMFT		1.3	1.2	***1.3***	1.4	1.6	***1.5***	2.1	2.1	***2.1***	4.3	4.4	***4.4***	12.2	13.4	***12.8***
Mean no. of Decayed teeth (dt/DT)		1.3	1.2	***1.3***	1.3	1.6	***1.5***	2.0	2.1	***2.1***	2.6	2.7	***2.7***	1.0	0.8	***0.9***
Mean no. of Missing teeth (mt/MT)		0.0	0.0	***0.0***	0.1	0.0	***0.1***	0.0	0.0	***0.0***	1.6	1.6	***1.6***	11.1	12.6	***11.9***
Mean no. of Filled teeth (ft/FT)		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.1	0.1	***0.1***	0.1	0.0	***0.1***
SIC Index		4.5	4.3	***4.4***	4.4	4.8	***4.6***	6.1	6.0	***6.1***	10.6	10.1	***10.4***	29.6	29.6	***29.6***
No. of subjects edentulous		0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	68	69	***137***

Note: In age groups 35-44 yr and 65-74 yr, the 'MT' (Missing Teeth) component includes both missing due to caries and missing due to other reasons. For detailed breakup, please refer to and co-relate with Table No. 6.03. Associated Tables : **6.01 and 6.03.**

contributed the most (1.5 - 2.7 teeth) to DMFT for all age groups, except for the 65 -74 year age group where the MT component contributed the most (11.9 teeth) to DMFT scores.

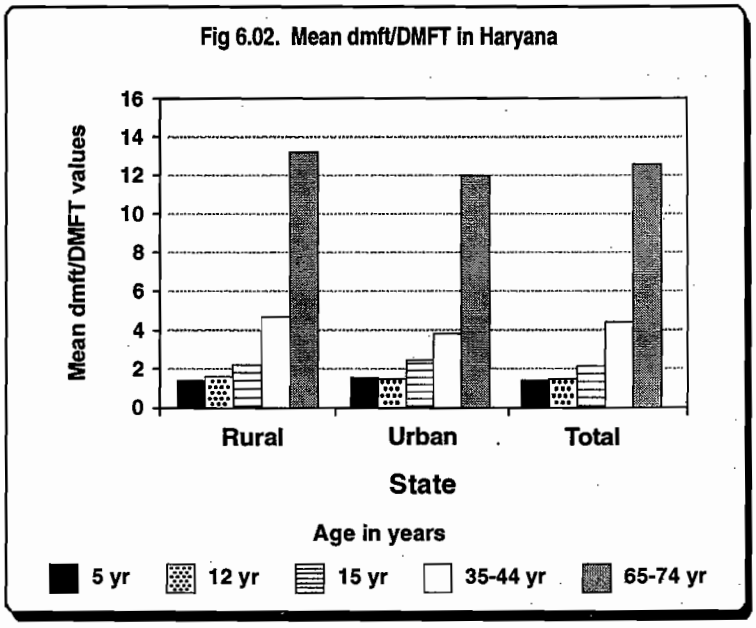
It was seen that the Significant Caries Index (SIC) was consistently high across all age groups and was highest for the age group of 65-74 years (29.6 teeth).

The pattern of distribution of DMFT scores was almost similar between the genders and place of residence. The mean DMFT value appeared to rise steadily with age and was highest for the 65-74 year age group. This indicated a high cumulative level of caries experience as age advanced in the subjects surveyed. The figures were slightly higher in urban areas for the ages 15 years and below. For the age groups 35 years and above, the figures were slightly higher in rural areas than urban areas.

The number of teeth present in the mouth of individuals increased as age advanced except for the 65-74 year age group. While almost the full complement of teeth were present in subjects 5, 12, and 15 years, 1.6 teeth were missing on an average among subjects of the 35-44 year age group. However, in the 65-74 year age group the mean number of teeth present apparently dropped to 20.2 teeth, indicating a loss of almost one third of that normally present 32 teeth in an average mouth. These findings suggest a cumulative high tooth mortality due to dental caries, periodontal disease, orthodontic reasons or other causes as age advance?

The mean number of missing teeth was 1.6 teeth among the 35-44 year age group, about 0.9 tooth missing due to caries and 0.7 tooth missing due to reason other than caries.

The mean number of missing teeth was 11.9 teeth among the 65-74 year age group, about 2.2 teeth missing due to dental caries and 9.7 teeth missing due to other reasons.



There was no difference in the mean number of missing teeth among males and females, and in urban/rural areas, for the 35-44 year age group. Most of the missing teeth were due to dental caries (0.9 tooth) seen more in rural (1 tooth) than urban areas (0.8 tooth), and more in Region-1 (1.3 teeth) than Region-2 (0.9 tooth) and Region-3 (0.8 tooth).

There was no difference in the mean number of missing teeth among the genders and place of residence, for the 65-74 year age group. In contrast to the earlier age group, most of the missing teeth among the 65-74 year age group were due to reasons other than dental caries (9.7 teeth), seen more in rural (9.8 teeth) than urban areas (9.3 teeth), and more in Region-1 (15.3 teeth) than Region-3 (14.3 teeth) and Region-2 (5.1 teeth).

The high levels of mean number of teeth decayed and missing, together with negligible numbers of filled teeth indicated that either there was scant priority for treatment of decayed teeth or it was

not affordable for most people. Another possibility was the inaccessibility (difficult to reach dental facilities) or non-availability (23.1 percent) of dental services in the area where the subjects resided. Lack of priority on the part of subjects to avail the services appeared to be the primary cause for their neglect of dental health. Intensive motivational health education might perhaps, help in raising the sense of priority of oral health care in the peoples mind.

Table 6.03 Mean number of teeth missng due to caries or other reasons by age, sex and geographical area. State : Haryana

Missing Teeth		35-44 years			65-74 years		
		M	F	T	M	F	T
Region 1	**n=**	**179**	**163**	***342***	**168**	**160**	***328***
Mean no. of teeth missing due to caries		1.2	1.4	***1.3***	3.4	4.2	***3.8***
Mean no. of teeth missing due to other reasons		1.0	0.5	***0.8***	15.4	15.1	***15.3***
Region 2	**n=**	**151**	**155**	***306***	**97**	**93**	***190***
Mean no. of teeth missing due to caries		0.8	1.0	***0.9***	2.2	2.5	***2.4***
Mean no. of teeth missing due to other reasons		0.8	0.5	***0.7***	4.4	5.7	***5.1***
Region 3	**n=**	**163**	**160**	***323***	**155**	**156**	***311***
Mean no. of teeth missing due to caries		0.8	0.8	***0.8***	1.2	1.3	***1.3***
Mean no. of teeth missing due to other reasons		0.6	0.7	***0.7***	13.7	14.9	***14.3***
State Rural	**n=**	**327**	**321**	***648***	**281**	**274**	***555***
Mean no. of teeth missing due to caries		0.9	1.0	***1.0***	2.1	2.4	***2.3***
Mean no. of teeth missing due to other reasons		0.8	0.7	***0.8***	8.7	10.9	***9.8***
State Urban	**n=**	**166**	**157**	***323***	**139**	**135**	***274***
Mean no. of teeth missing due to caries		0.7	0.9	***0.8***	1.8	2.0	***1.9***
Mean no. of teeth missing due to other reasons		0.7	0.3	***0.5***	9.8	8.8	***9.3***
State Total	**n=**	**493**	**478**	***971***	**420**	**409**	***829***
Mean no. of teeth missing due to caries		0.8	1.0	***0.9***	2.0	2.3	***2.2***
Mean no. of teeth missing due to other reasons		0.7	0.6	***0.7***	9.1	10.3	***9.7***

Note: In age groups 35-44 yr and 65-74 yr, the 'M' (Missing) component in DMF includes both missing due to caries and missing due to other reasons. Related **Tables : 6.01 and 6.02.**

6.1.2 Root caries

The data on the percent subjects with root caries and fillings, if any, and the mean number of teeth with root caries and fillings, if any, are presented in Table 6.04. Since root caries does not appear in children and young adults, the data on root caries is presented only for the two age groups of 35-44 and 65-74 years.

The proportion of subjects with root caries was 7.7 (7.4 percent for males and 7.9 percent for females) in the 35-44 year age group and it was about 7.2 percent for subjects in the 65-74 year age group.

Region-2 had a higher prevalence of root caries (10.2 percent) than Region-1 (7.7 percent) and Region-3 (4.6 percent).

There were no subjects with root fillings among the surveyed population.

There were only slight differentials among the genders and place of residence across the three regions.

Table 6.04 Percent subjects and mean no. of teeth with root caries and fillings by age, sex and geographical area. State : Haryana

Root Caries		35-44 years			65-74 years		
		M	F	T	M	F	T
Region 1	**n=**	**179**	**163**	***342***	**171**	**163**	***334***
% Subjects with Root caries		8.0	8.4	***8.2***	6.7	7.4	***7.1***
Mean nos of teeth with Root Caries		0.2	0.3	***0.3***	0.6	0.5	***0.6***
% Subjects with Root fillings		0.0	0.0	***0.0***	0.0	0.0	***0.0***
Mean nos of teeth with Root fillings		0.0	0.0	***0.0***	0.0	0.0	***0.0***
Region 2	**n=**	**153**	**163**	***316***	**154**	**147**	***301***
% Subjects with Root caries		8.7	9.8	***9.3***	13.4	8.8	***11.1***
Mean nos of teeth with Root Caries		1.4	1.1	***1.3***	2.5	1.6	***2.1***
% Subjects with Root fillings		0.0	0.0	***0.0***	0.0	0.0	***0.0***
Mean nos of teeth with Root fillings		0.0	0.0	***0.0***	0.0	0.0	***0.0***
Region 3	**n=**	**163**	**160**	***323***	**157**	**156**	***313***
% Subjects with Root caries		5.6	5.6	***5.6***	1.8	5.2	***3.5***
Mean nos of teeth with Root Caries		0.5	0.3	***0.4***	0.2	0.5	***0.4***
% Subjects with Root fillings		0.0	0.0	***0.0***	0.0	0.0	***0.0***
Mean nos of teeth with Root fillings		0.0	0.0	***0.0***	0.0	0.0	***0.0***
State Rural	**n=**	**328**	**328**	***656***	**330**	**317**	***647***
% Subjects with Root caries		7.7	8.1	***7.9***	7.1	5.5	***6.3***
Mean nos of teeth with Root Caries		0.6	0.4	***0.5***	1.1	0.6	***0.9***
% Subjects with Root fillings		0.0	0.0	***0.0***	0.0	0.0	***0.0***
Mean nos of teeth with Root fillings		0.0	0.0	***0.0***	0.0	0.0	***0.0***
State Urban	**n=**	**167**	**158**	***325***	**152**	**149**	***301***
% Subjects with Root caries		6.9	7.5	***7.2***	7.6	10.5	***9.1***
Mean nos of teeth with Root Caries		0.9	0.8	***0.9***	1.1	1.5	***1.3***
% Subjects with Root fillings		0.0	0.0	***0.0***	0.0	0.0	***0.0***
Mean nos of teeth with Root fillings		0.0	0.0	***0.0***	0.0	0.0	***0.0***
State Total	**n=**	**495**	**486**	***981***	**482**	**466**	***948***
% Subjects with Root caries		7.4	7.9	***7.7***	7.2	7.1	***7.2***
Mean nos of teeth with Root Caries		0.7	0.6	***0.7***	1.1	0.9	***1.0***
% Subjects with Root fillings		0.0	0.0	***0.0***	0.0	0.0	***0.0***
Mean nos of teeth with Root fillings		0.0	0.0	***0.0***	0.0	0.0	***0.0***

6.1.3 Treatment need

Table 6.05 and Figure 6.05 present the percent subjects requiring preventive and curative care by type of treatment needed and Table 6.06 and Figure 6.06 present the mean number of teeth requiring treatment, by type of treatment.

The subjects were clinically assessed for their need for both preventive and curative care, based on their caries experience and dentition status. Preventive care need included caries arresting care and fissure sealing. Treatment need included the need for one, two or more surface fillings, extraction of teeth, pulp care, crowns and veneers.

Overall, a direct correlation existed between age and treatment need, except for the 65-74 year age group. The 5 year olds had the least treatment need (40.4 percent), while the need was highest for the 35-44 year age group (83.8 percent). The need for treatment was more in rural than urban areas for the 15 year olds and below age groups. There was no significant difference in the pattern of need by type of need between male and female subjects.

Region-1 had a higher need for treatment (74.9 percent) followed by Region-2 (68.8 percent) and Region-3 (46.1 percent), except for the 65-74 year age group, where the need for treatment was higher in Region-3 (88.6 percent) followed by Region-1 (61.9 percent) and Region-2 (44 percent).

The type of treatment needed varied with age. The need for one or more surface filling was the highest for all the age groups except for the 65-74 year age group, where the need for extractions was higher. Perventive care and fissure sealant was recommended by the examining dentists for only 0.7 per cent, 2.7 per cent and 2.8 per cent children aged 5,12 and 15 years. The need for pulp care was seen more in the 15 and 35-44 year age group (4.1 and 5.1 per cent respectively) than any other age group. There was a significant proportion of subjects among the 35 year and above age groups who were indicated for other, but unspecified treatment care, which was predominantly a need for prosthesis (partial or full mouth dentures). The 'need for other care' rose gradually across the age groups from 2.8 percent to 49.6 percent.

Fig 6.05. Percent subjects with treatment need in Haryana

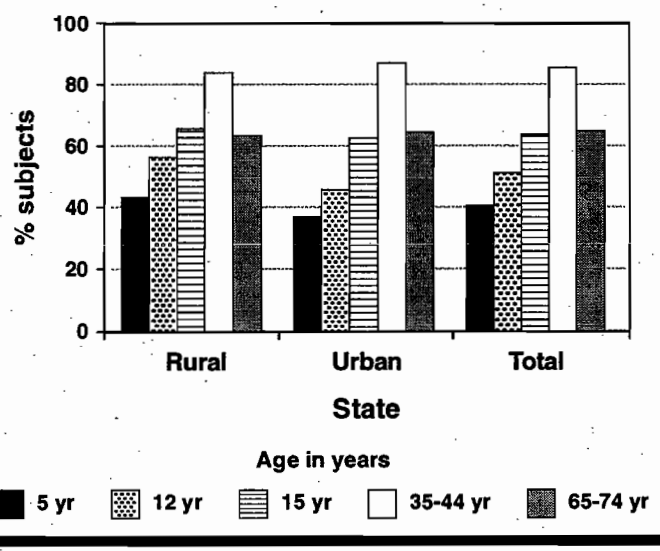


Table 6.05 Percent subjects with treatment need by age, sex and geographical area. **State : Haryana**

Treatment Need		5 years			12 years			15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Region 1	n=	178	167	345	172	172	344	174	166	340	179	163	342	171	163	334
Treatment needed		60.0	56.3	58.2	68.0	69.8	68.9	81.5	74.4	78.0	94.4	94.2	94.3	63.7	60.0	61.9
Preventive care & fissure sealant		2.1	0.6	1.4	1.1	0.0	0.6	0.5	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Filling one or more surfaces		59.0	54.1	56.6	63.6	65.8	64.7	79.2	71.5	75.4	80.5	79.0	79.8	27.1	24.0	25.6
Crown & Veneer		0.0	0.6	0.3	2.1	3.2	2.7	1.6	2.9	2.3	2.2	2.3	2.3	1.2	1.3	1.3
Pulp care		0.7	2.0	1.4	1.9	2.3	2.1	5.2	3.8	4.5	8.5	9.6	9.1	4.1	5.7	4.9
Extraction		5.1	4.6	4.9	8.2	12.3	10.3	1.9	3.9	2.9	18.6	15.7	17.2	21.2	19.0	20.1
Need for other care		2.5	2.5	2.5	7.8	3.9	5.9	6.3	6.6	6.5	42.3	48.3	45.3	53.7	53.2	53.5
Region 2	n=	155	133	288	147	147	294	151	144	295	153	163	316	154	147	301
Treatment needed		50.3	44.6	47.5	67.1	68.9	68.0	78.0	71.6	74.8	83.4	86.4	84.9	44.5	43.4	44.0
Preventive care & fissure sealant		0.0	0.0	0.0	4.8	3.4	4.1	5.4	2.8	4.1	1.3	1.3	1.3	0.0	0.7	0.4
Filling one or more surfaces		45.7	40.1	42.9	54.5	56.6	55.6	58.8	57.0	57.9	58.7	65.2	62.0	17.6	16.9	17.3
Crown & Veneer		0.7	0.0	0.4	0.6	0.7	0.7	2.6	0.7	1.7	1.4	2.5	2.0	0.6	1.3	1.0
Pulp care		3.8	5.3	4.6	5.3	0.6	3.0	8.1	4.0	6.1	5.4	5.1	5.3	1.8	1.3	1.6
Extraction		1.4	0.8	1.1	2.8	1.4	2.1	0.7	4.0	2.4	14.1	19.0	16.6	23.0	19.8	21.4
Need for other care		2.6	3.7	3.2	12.1	14.2	13.2	24.2	18.0	21.1	35.9	39.9	37.9	26.7	29.3	28.0
Region 3	n=	172	149	321	157	161	318	164	160	324	163	160	323	157	156	313
Treatment needed		23.8	26.9	25.4	38.8	36.3	37.6	43.4	44.6	44.0	75.9	79.0	77.5	84.6	92.6	88.6
Preventive care & fissure sealant		1.7	1.3	1.5	3.2	1.1	2.2	3.1	2.1	2.6	1.2	0.7	1.0	0.0	0.0	0.0
Filling one or more surfaces		21.5	22.8	22.2	27.9	28.4	28.2	26.7	30.0	28.4	38.6	37.6	38.1	13.9	13.1	13.5
Crown & Veneer		0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.6	3.2	3.2	3.2	0.7	0.7	0.7
Pulp care		0.0	0.0	0.0	0.5	1.2	0.9	1.2	1.3	1.3	5.1	2.3	3.7	1.4	2.5	2.0
Extraction		1.9	1.4	1.7	1.4	0.7	1.1	1.3	1.9	1.6	6.0	13.7	9.9	9.3	26.4	17.9
Need for other care		1.3	2.9	2.1	7.5	8.0	7.8	18.3	17.4	17.9	49.3	54.1	51.7	75.7	80.9	78.3
State Rural	n=	335	303	638	315	324	639	329	310	639	328	328	656	330	317	647
Treatment needed		43.5	39.9	41.7	56.3	60.7	58.5	65.5	64.2	64.9	82.9	82.9	82.9	61.1	63.4	62.3
Preventive care & fissure sealant		1.1	0.5	0.8	2.8	1.5	2.2	3.0	1.6	2.3	0.9	1.3	1.1	0.0	0.5	0.3
Filling one or more surfaces		39.9	35.3	37.6	46.3	49.8	48.1	48.6	50.2	49.4	54.0	55.8	54.9	18.2	14.9	16.6
Crown & Veneer		0.5	0.1	0.3	0.4	1.1	0.8	1.2	1.3	1.3	2.8	3.3	3.1	0.5	1.0	0.8
Pulp care		1.4	2.8	2.1	2.1	0.7	1.4	5.3	2.1	3.7	5.0	4.4	4.7	1.7	1.7	1.7
Extraction		2.6	2.1	2.4	3.2	2.7	3.0	1.3	2.6	2.0	12.6	17.9	15.3	15.0	22.9	19.0
Need for other care		2.2	3.5	2.9	10.6	11.4	11.0	19.7	17.4	18.6	43.3	45.2	44.3	48.9	52.6	50.8
State Urban	n=	170	146	316	161	156	317	160	160	320	167	158	325	152	149	301
Treatment needed		37.0	39.0	38.0	56.8	47.5	52.2	65.1	56.7	61	80.1	88.5	84.3	61.4	63.3	62.4
Preventive care & fissure sealant		0.5	0.6	0.6	5.0	3.3	4.2	5.2	3.0	4.1	1.5	0.0	0.8	0.0	0.0	0.0
Filling one or more surfaces		34.5	36.1	35.3	43.6	40.7	42.2	50.6	45.3	48.0	53.8	59.5	56.7	15.4	19.8	17.6
Crown & Veneer		0.0	0.0	0.0	1.0	0.0	0.5	2.1	0.8	1.5	0.8	1.5	1.2	1.4	1.5	1.5
Pulp care		3.3	3.0	3.2	5.3	2.0	3.7	4.7	5.0	4.9	6.6	4.7	5.7	2.9	3.6	3.3
Extraction		0.9	0.3	0.6	2.6	2.3	2.5	0.6	4.6	2.6	9.6	14.7	12.2	25.0	20.4	22.7
Need for other care		1.9	3.0	2.5	8.9	9.3	9.1	20.6	14.7	17.7	39.1	47.1	43.1	44.0	47.8	45.9
State Total	n=	505	449	954	476	480	956	489	470	959	495	486	981	482	466	948
Treatment needed		41.2	39.5	40.4	56.1	56.6	56.4	65.1	61.7	63.4	81.9	84.6	83.3	61.1	63.7	62.4
Preventive care & fissure sealant		0.9	0.5	0.7	3.4	2.0	2.7	3.6	2.0	2.8	1.1	0.9	1.0	0.0	0.3	0.2
Filling one or more surfaces		37.9	35.4	36.7	45.1	46.8	46.0	48.9	48.5	48.7	53.7	56.6	55.2	17.1	16.3	16.7
Crown & Veneer		0.3	0.1	0.2	0.6	0.7	0.7	1.5	1.1	1.3	2.1	2.7	2.4	0.8	1.1	1.0
Pulp care		2.0	2.9	2.5	3.2	1.0	2.1	5.1	3.1	4.1	5.6	4.5	5.1	2.0	2.3	2.2
Extraction		2.1	1.5	1.8	3.0	2.6	2.8	1.2	3.1	2.2	11.6	16.9	14.3	17.8	22.2	20.0
Need for other care		2.2	3.4	2.8	10.1	10.8	10.5	20.1	16.6	18.4	42.2	45.9	44.1	47.6	51.5	49.6

Table 6.06 Mean number of teeth with treatment need by age, sex and geographical area. **State : Haryana**

Treatment Need		5 years			12 years			15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Region 1	n=	178	167	345	171	172	343	174	166	340	179	163	342	114	105	219
Treatment needed		2.8	2.5	2.7	1.6	1.9	1.8	2.8	2.6	2.7	8.8	10.2	9.5	11.3	10.9	11.1
Preventive care/ fissure sealant		0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Filling one or more surfaces		2.6	2.2	2.4	1.1	1.3	1.2	2.2	2.1	2.2	4.4	4.5	4.5	1.1	1.1	1.1
Crown/ Veneer		0.0	0.0	0.0	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pulp care		0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.1
Extraction		0.1	0.1	0.1	0.1	0.2	0.2	0.0	0.0	0.0	0.5	0.6	0.6	1.2	0.8	1.0
Need for other care		0.0	0.0	0.0	0.2	0.2	0.2	0.4	0.4	0.4	3.7	4.8	4.3	8.9	8.9	8.9
Region 2	n=	146	123	269	143	144	287	145	137	282	150	155	305	82	76	158
Treatment needed		2.0	2.5	2.3	4.7	6.0	5.4	8.3	7.1	7.7	12.0	10.5	11.3	7.5	6.9	7.2
Preventive care/ fissure sealant		0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Filling one or more surfaces		1.4	1.7	1.6	1.5	2.0	1.8	2.2	2.5	2.4	2.7	2.5	2.6	0.7	0.5	0.6
Crown/ Veneer		0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Pulp care		0.2	0.1	0.2	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Extraction		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.6	0.8	0.7	1.2	1.2	1.2
Need for other care		0.4	0.7	0.6	3.0	3.9	3.5	5.7	4.4	5.1	8.5	7.0	7.8	5.5	5.2	5.4
Region 3	n=	172	148	320	156	161	317	162	160	322	163	159	322	147	154	301
Treatment needed		1.0	1.0	1.0	1.5	1.7	1.6	3.4	3.1	3.3	12.2	11.8	12.0	20.0	21.3	20.7
Preventive care/ fissure sealant		0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Filling one or more surfaces		0.8	0.5	0.7	0.8	0.7	0.8	0.7	0.7	0.7	1.2	1.0	1.1	0.7	0.3	0.5
Crown/ Veneer		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0
Pulp care		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.2	0.1
Extraction		0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.5	0.4	0.6	1.4	1.0
Need for other care		0.2	0.4	0.3	0.6	0.9	0.8	2.6	2.3	2.5	10.6	10.2	10.4	18.7	19.3	19.0
State Rural	n=	328	297	625	314	321	635	324	308	632	327	320	647	234	224	458
Treatment needed		1.8	1.9	1.9	3.2	4.2	3.7	6.1	5.7	5.9	11.8	10.6	11.2	12.8	13.2	13.0
Preventive care/ fissure sealant		0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Filling one or more surfaces		1.3	1.3	1.3	1.3	1.7	1.5	1.8	2.0	1.9	2.3	2.2	2.3	0.8	0.4	0.6
Crown/ Veneer		0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Pulp care		0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.1
Extraction		0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.5	0.6	0.6	1.0	1.2	1.1
Need for other care		0.3	0.5	0.4	1.8	2.4	2.1	4.1	3.5	3.8	8.8	7.7	8.3	11.0	11.4	11.2
State Urban	n=	168	141	309	156	156	312	157	155	312	165	157	322	109	111	220
Treatment needed		1.7	1.9	1.8	3.5	3.9	3.7	6.4	5.0	5.7	11.4	11.2	11.3	11.4	11.5	11.5
Preventive care/ fissure sealant		0.0	0.0	0.0	0.2	0.1	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Filling one or more surfaces		1.3	1.4	1.4	1.4	1.3	1.4	2.1	1.9	2.0	2.5	2.3	2.4	0.7	0.7	0.7
Crown/ Veneer		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
Pulp care		0.2	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Extraction		0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.3	0.9	0.6	1.0	1.2	1.1
Need for other care		0.2	0.5	0.4	1.8	2.4	2.1	4.1	2.7	3.4	8.4	7.9	8.2	9.6	9.4	9.5
State Total	n=	496	438	934	470	477	947	481	463	944	492	477	969	343	335	678
Treatment needed		1.7	1.9	1.8	3.3	4.1	3.7	6.2	5.5	5.9	11.7	10.8	11.3	12.5	12.7	12.6
Preventive care/ fissure sealant		0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Filling one or more surfaces		1.3	1.3	1.3	1.3	1.6	1.5	1.8	2.0	1.9	2.4	2.2	2.3	0.7	0.5	0.6
Crown/ Veneer		0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Pulp care		0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.1
Extraction		0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.4	0.7	0.6	1.0	1.2	1.1
Need for other care		0.3	0.5	0.4	1.8	2.4	2.1	4.1	3.3	3.7	8.7	7.8	8.3	10.7	10.9	10.8

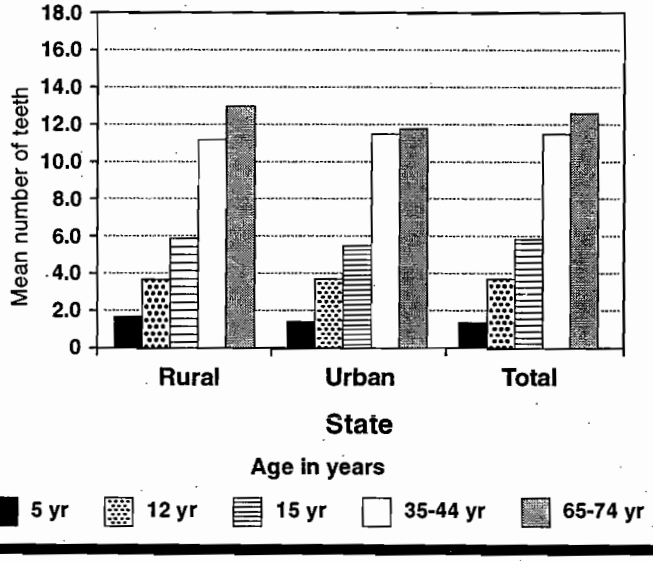
The mean number of teeth requiring treatment was lowest in subjects aged 5 years and was 1.8 teeth (1.7 teeth for males and 1.9 teeth for females). The mean number of teeth requiring treatment was highest in the 65-74 year age group and was 12.6 teeth (12.5 for males and 12.7 for females).

The type of treatment needed varied with age. The mean number of teeth needing fillings ranged from 0.6 in 65-74 year age group and was highest (2.3 teeth) in the 35-44 year age group (2.4 teeth for males and 2.2 teeth for females).

Among the 65-74 year age group, the need for fillings was low (0.6 tooth). The mean number of teeth indicated for extraction were 0.6 tooth and 1.1 teeth for the 35-44 and 65-74 year age groups, respectively.

The need for other, but unspecified care, which was mainly prosthetic need gradually rose from 0.4 tooth to 10.8 teeth across the age groups. The pattern was similar for the genders and place of residence. However, there were marked differentials across the three regions.

Fig. 6.06. Mean number of teeth with treatment need in Haryana



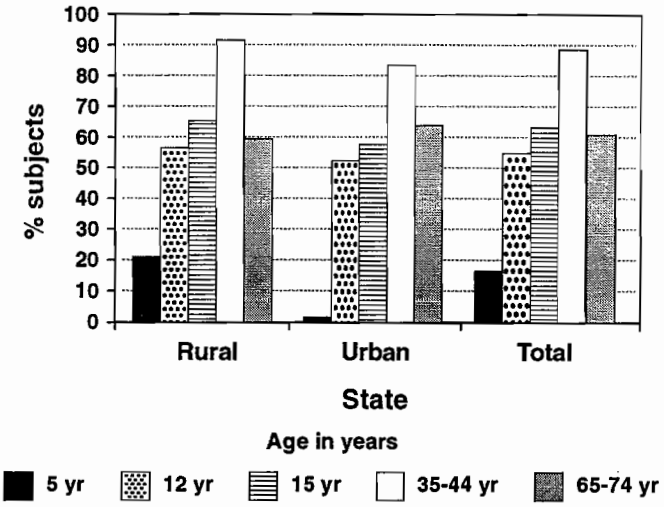
6.2 PERIODONTAL STATUS

6.2.1 Bleeding, calculus and pockets

The periodontal status was assessed using the Community Periodontal Index (CPI) with its three indicators of gingival bleeding, calculus and periodontal pockets. In addition, the loss of epithelial attachment was also measured to provide an indication of the status of periodontal health.

Table 6.07 and Figure 6.07 present the percent subjects with their periodontal status (bleeding, calculus and pockets) by level of severity and Table 6.08 and Figure 6.08 presents the mean number of teeth with bleeding, calculus and pockets.

Fig 6.07. Percent subjects with bleeding, calculus & pockets in Haryana



The prevalence of periodontal disease was highest in the age group of 35-44 years (88.9 percent) and was lowest among the 5 year olds (16.9 percent). It was almost the same among the 15 year and 65-74 year age group, 63 percent and 60.3 percent, respectively.

Invariably, across all age groups except the 65-74 year age group, bleeding and calculus emerged as the most prevalent condition to be followed by 'with bleeding or higher' score, except among the 35-44 year age group where it was 'with calculus or higher' score.

Among the 5 and 12 year olds, 'bleeding or higher' score emerged as the most prevalent condition among 14.9 and 43.2 percent, respectively. Among the 15 year olds, subjects with calculus score was more (38.5 percent), and the percent subjects with calculus was also more (69.4 percent) in the 35-44 year age group, followed by 'calculus or higher' score (51.9 percent). Pockets with depth 4-5 mm was observed among 23.2 percent of the subjects followed by 3.4 percent of the subjects with pockets of depth 6mm or more.

In the 65-74 year age group the percent subjects with calculus was around 42.2 percent, followed by 34.7 percent subjects with 'calculus or higher' scores. Pockets of depth 4-5mm was seen among 18.6 percent of the subjects followed by 10.8 percent subjects with pockets of depth 6mm or more. The prevalence of periodontal disease was higher in rural (58.4 percent) than urban areas (49.2 percent) for the age groups 15 years and below, and for the 35 years and above age groups, the prevalence was higher in urban (63.2 percent) than rural areas (59.5 percent).

There were slight differences observed between the genders. The prevalence of periodontal disease was high in Region-2 (65.8 percent) followed by Region-3 (52.1 percent) and Region-1 (40.6 percent). Periodontal disease increased across the 5 to 35-44 year age group from 16.9 percent to 88.9 percent, and dipped for the 65-74 year age group (60.3 percent).

Table: 6.07 Percent subjects with bleeding, calculus and/ or pockets by age, sex, and geographical area. State : Haryana

Periodontal Disease		5 years			12 years			15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Region 1	n=	166	156	322	165	168	333	174	166	340	178	163	341	140	136	276
With bleeding,calculus, or pockets		0.6	1.8	1.2	16.8	15.7	16.3	39.6	45.3	42.5	86.5	87.6	87.1	60.0	51.9	56.0
with bleeding		0.6	0.6	0.6	11.5	9.4	10.5	5.0	11.7	8.4	5.5	5.4	5.5	2.6	1.3	2.0
with calculus		0.0	0.6	0.3	4.1	5.8	5.0	29.6	27.3	28.4	36.3	41.0	38.7	23.6	27.1	25.4
with pockets 4-5 mm		NA	NA	NA	NA	NA	NA	0.0	1.7	0.9	6.6	6.0	6.3	8.7	3.0	5.9
with pockets 6 mm		NA	NA	NA	NA	NA	NA	0.0	0.0	0.0	0.5	0.0	0.3	2.6	3.0	2.8
with bleeding or higher		0.6	1.2	0.9	12.7	9.4	11.1	8.4	15.2	11.8	22.5	27.3	24.9	14.8	5.7	10.3
with calculus or higher		0.0	0.6	0.3	4.1	6.3	5.2	31.2	28.4	29.8	53.5	53.7	53.6	33.1	38.8	36.0
with pockets 4-5 mm or higher		NA	NA	NA	NA	NA	NA	0.0	1.7	0.9	9.9	6.6	8.3	9.4	4.4	6.9
with pockets 6mm		NA	NA	NA	NA	NA	NA	0.0	0.0	0.0	0.5	0.0	0.3	2.6	3.0	2.8
Region 2	n=	65	44	109	118	122	240	143	142	285	150	155	305	100	96	196
With bleeding,calculus, or pockets		32.8	27.5	30.2	65.0	75.8	70.4	78.0	69.1	73.6	91.8	87.6	89.7	69.7	60.7	65.2
with bleeding		28.1	23.2	25.7	43.9	47.7	45.8	27.3	24.9	26.1	6.5	5.0	5.8	0.9	2.0	1.5
with calculus		3.1	4.3	3.7	15.9	21.7	18.8	40.4	34.2	37.3	45.3	46.7	46.0	33.7	24.6	29.2
with pockets 4-5 mm		NA	NA	NA	NA	NA	NA	0.7	0.6	0.7	5.4	4.8	5.1	5.1	5.3	5.2
with pockets 6 mm		NA	NA	NA	NA	NA	NA	0.0	0.0	0.0	0.7	0.0	0.4	9.1	8.5	8.8
with bleeding or higher		29.7	23.2	26.5	49.2	54.1	51.7	35.4	34.2	34.8	19.8	21.2	20.5	8.6	11.9	10.3
with calculus or higher		3.1	4.3	3.7	15.9	21.7	18.8	41.9	34.2	38.1	64.5	61.1	62.8	44.8	31.9	38.4
with pockets 4-5 mm or higher		NA	NA	NA	NA	NA	NA	0.7	0.6	0.7	6.8	5.4	6.1	7.3	8.5	7.9
with pockets 6mm		NA	NA	NA	NA	NA	NA	0.0	0.0	0.0	0.7	0.0	0.4	9.1	8.5	8.8
Region 3	n=	21	20	41	118	111	229	162	157	319	163	160	323	141	148	289
With bleeding,calculus, or pockets		14.6	0.0	7.3	54.3	46.8	50.6	57.6	56.8	57.2	89.2	88.2	88.7	58.1	55.7	56.9
with bleeding		9.7	0.0	4.9	35.2	31.4	33.3	25.9	23.9	24.9	17.1	24.2	20.7	3.0	2.2	2.6
with calculus		0.0	0.0	0.0	7.0	2.7	4.9	12.4	15.9	14.1	28.9	25.1	27.0	21.4	24.5	23.0
with pockets 4-5 mm		NA	NA	NA	NA	NA	NA	0.0	0.0	0.0	6.7	2.9	4.8	8.3	8.9	8.6
with pockets 6 mm		NA	NA	NA	NA	NA	NA	0.0	0.0	0.0	1.3	3.4	2.4	5.8	4.1	4.9
with bleeding or higher		14.6	0.0	7.3	47.3	44.1	45.7	45.2	41.0	43.1	38.6	49.4	44.0	11.5	9.9	10.7
with calculus or higher		0.0	0.0	0.0	7.0	2.7	4.9	12.4	15.9	14.2	40.9	31.2	36.1	29.9	30.7	30.3
with pockets 4-5 mm or higher		NA	NA	NA	NA	NA	NA	0.0	0.0	0.0	8.4	4.3	6.4	11.0	10.9	11.0
with pockets 6mm		NA	NA	NA	NA	NA	NA	0.0	0.0	0.0	1.3	3.4	2.4	5.8	4.1	4.9
State Rural	n=	192	160	352	272	276	548	321	305	626	326	321	647	252	252	504
With bleeding,calculus, or pockets		24.7	16.3	20.5	54.0	58.3	56.2	68.2	62.4	65.3	92.7	90.3	91.5	65.0	54.0	59.5
with bleeding		22.6	14.6	18.6	43.7	44.2	44.0	36.9	32.9	34.9	24.8	28.1	26.5	9.8	9.6	9.7
with calculus		4.0	2.0	3.0	17.2	19.8	18.5	42.1	37.0	39.5	73.4	69.7	71.6	44.9	35.2	40.1
with pockets 4-5 mm		NA	NA	NA	NA	NA	NA	2.2	0.6	1.4	26.0	20.8	23.4	21.4	18.2	19.8
with pockets 6 mm		NA	NA	NA	NA	NA	NA	0.0	0.0	0.0	5.0	3.1	4.1	10.6	10.6	10.6
with bleeding or higher		22.6	14.6	18.6	43.7	44.2	44.0	36.9	32.9	34.9	24.8	28.1	26.5	9.8	9.6	9.7
with calculus or higher		2.1	1.7	1.9	10.3	14.1	12.2	30.8	29.1	30.0	58.3	54.5	56.4	37.7	29.7	33.7
with pockets 4-5 mm or higher		NA	NA	NA	NA	NA	NA	0.5	0.3	0.4	8.3	5.8	7.0	10.0	10.1	10.1
with pockets 6mm		NA	NA	NA	NA	NA	NA	0.0	0.0	0.0	1.3	1.9	1.6	7.4	4.5	5.9
State Urban	n=	60	60	120	129	125	254	158	160	318	165	157	322	129	128	257
With bleeding,calculus, or pockets		0.0	4.4	2.2	53.2	52.1	52.7	57.8	59.3	58.6	84.3	81.8	83.1	61.1	65.2	63.2
with bleeding		0.0	0.0	0.0	40.3	42.2	41.3	33.5	36.4	35.0	31.5	41.0	36.3	13.2	12.9	13.1
with calculus		0.0	4.4	2.20	19.0	20.7	19.9	37.3	36.7	37.0	65.1	64.7	64.9	48.1	46.4	47.3
with pockets 4-5 mm		NA	NA	NA	NA	NA	NA	2.2	4.1	3.15	28.7	17.4	23.1	16.9	15.5	16.2
with pockets 6 mm		NA	NA	NA	NA	NA	NA	0.0	1.0	0.5	1.6	1.9	1.7	8.0	15.2	11.6
with bleeding or higher		0.0	0.0	0.0	40.3	42.2	41.3	33.5	36.4	35.0	31.5	41.0	36.3	13.2	12.9	13.1
with calculus or higher		0.0	4.4	2.2	12.9	9.8	11.4	24.4	21.8	23.10	46.6	37.6	42.1	36.3	38.2	37.3
with pockets 4-5 mm or higher		NA	NA	NA	NA	NA	NA	0.0	1.0	0.5	6.2	3.2	4.7	6.3	6.4	6.3
with pockets 6mm		NA	NA	NA	NA	NA	NA	0.0	0.0	0.0	0.0	0.0	0.0	5.4	7.7	6.6
State Total	n=	252	220	472	401	401	802	479	465	944	491	478	969	381	380	761
With bleeding,calculus, or pockets		20.2	13.5	16.9	53.7	56.4	55.1	64.8	61.2	63.0	90.1	87.6	88.9	63.4	57.2	60.3
with bleeding		18.5	11.2	14.9	42.6	43.7	43.2	36.2	34.1	35.2	27.1	32.2	29.7	10.9	10.6	10.8
with calculus		3.3	2.5	2.9	17.8	19.9	18.9	40.2	36.7	38.5	70.7	68.1	69.4	45.8	38.5	42.2
with pockets 4-5 mm		NA	NA	NA	NA	NA	NA	2.1	1.7	1.9	26.7	19.6	23.2	19.7	17.4	18.6
with pockets 6 mm		NA	NA	NA	NA	NA	NA	0.0	0.3	0.15	3.9	2.8	3.35	9.7	11.9	10.8
with bleeding or higher		18.5	11.2	14.9	42.6	43.7	43.2	36.2	34.1	35.2	27.1	32.2	29.7	10.9	10.6	10.8
with calculus or higher		1.7	2.3	2.0	11.1	12.7	11.9	28.3	26.6	27.5	54.6	49.1	51.9	37.2	32.1	34.7
with pockets 4-5 mm or higher		NA	NA	NA	NA	NA	NA	0.3	0.5	0.4	7.6	4.9	6.3	8.7	9.0	8.9
with pockets 6mm		NA	NA	NA	NA	NA	NA	0.0	0.0	0.0	0.9	1.3	1.1	6.7	5.4	6.0

Table: 6.08 Mean no. of sextants with bleeding, calculus and pockets by age, sex and geographical area. State : Haryana

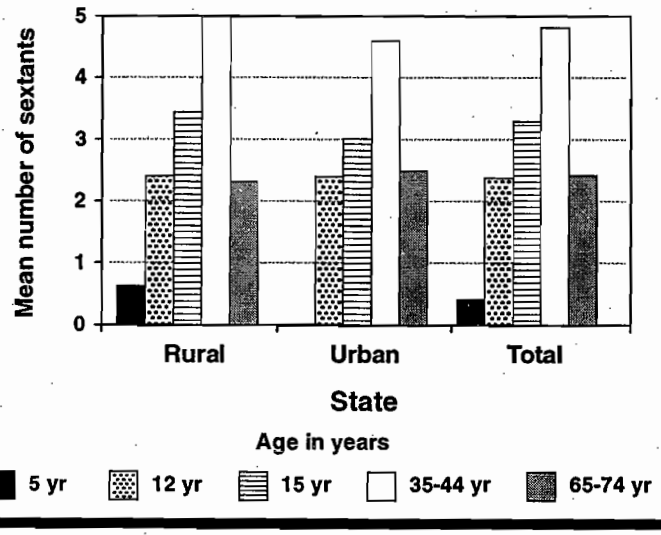
Periodontal Disease		12 years			15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T	M	F	T
Region 1	n=	172	172	*344*	174	166	*340*	179	163	*342*	171	163	*334*
Mean no. of healthy sextants		4.9	5.1	*5.0*	4.2	3.9	*4.1*	1.2	1.3	*1.3*	0.4	0.7	*0.6*
With bleeding, calculus, pockets		0.8	0.7	*0.8*	1.8	2.1	*2.0*	4.6	4.7	*4.7*	2.4	2.1	*2.3*
with bleeding		0.6	0.5	*0.6*	0.3	0.6	*0.5*	0.7	0.8	*0.8*	0.2	0.1	*0.2*
with calculus		0.1	0.2	*0.2*	1.5	1.3	*1.4*	2.6	3.0	*2.8*	1.4	1.4	*1.4*
with pockets(4-5 mm)		NA	NA	*NA*	0.0	0.1	*0.1*	1.0	0.8	*0.9*	0.6	0.3	*0.5*
with pockets (6mm or more)		NA	NA	*NA*	0.0	0.0	*0.0*	0.2	0.0	*0.1*	0.1	0.2	*0.2*
Excluded sextants		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.1	0.0	*0.1*	2.0	2.1	*2.1*
Not recorded		0.2	0.1	*0.2*	0.0	0.0	*0.0*	0.1	0.0	*0.1*	1.2	1.1	*1.2*
Region 2	n=	147	147	*294*	151	144	*295*	153	163	*316*	154	147	*301*
Mean no. of healthy sextants		1.8	1.3	*1.6*	1.5	2.1	*1.8*	0.8	1.0	*0.9*	0.3	0.4	*0.4*
With bleeding, calculus, pockets		3.0	3.6	*3.3*	4.2	3.8	*4.0*	4.9	4.6	*4.8*	2.1	1.9	*2.0*
with bleeding		2.1	2.4	*2.3*	1.7	1.5	*1.6*	0.5	0.6	*0.6*	0.1	0.1	*0.1*
with calculus		0.9	1.2	*1.1*	2.4	2.2	*2.3*	3.4	3.3	*3.4*	1.4	1.0	*1.2*
with pockets(4-5 mm)		NA	NA	*NA*	0.0	0.1	*0.1*	0.9	0.7	*0.8*	0.3	0.3	*0.3*
with pockets (6mm or more)		NA	NA	*NA*	0.0	0.0	*0.0*	0.1	0.0	*0.1*	0.3	0.4	*0.4*
Excluded sextants		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.1	0.1	*0.1*	1.3	1.6	*1.5*
Not recorded		1.2	1.0	*1.1*	0.3	0.1	*0.2*	0.1	0.4	*0.3*	2.3	2.2	*2.3*
Region 3	n=	157	161	*318*	164	160	*324*	163	160	*323*	157	156	*313*
Mean no. of healthy sextants		2.7	2.6	*2.7*	3.1	3.1	*3.1*	0.9	1.0	*1.0*	0.3	0.2	*0.3*
With bleeding, calculus, pockets		1.9	1.6	*1.8*	2.8	2.8	*2.8*	5.0	4.8	*4.9*	2.7	2.6	*2.7*
with bleeding		1.6	1.3	*1.5*	2.0	1.8	*1.9*	1.6	2.0	*1.8*	0.3	0.2	*0.3*
with calculus		0.3	0.2	*0.3*	0.8	1.0	*0.9*	2.4	2.2	*2.3*	1.4	1.4	*1.4*
with pockets(4-5 mm)		NA	NA	*NA*	0.0	0.0	*0.0*	0.8	0.4	*0.6*	0.7	0.7	*0.7*
with pockets (6mm or more)		NA	NA	*NA*	0.0	0.0	*0.0*	0.1	0.2	*0.2*	0.3	0.2	*0.3*
Excluded sextants		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.1	0.1	*0.1*	2.4	2.8	*2.6*
Not recorded		1.4	1.8	*1.6*	0.1	0.1	*0.1*	0.0	0.0	*0.0*	0.6	0.4	*0.5*
State Rural	n=	315	324	*639*	329	310	*639*	328	328	*656*	330	317	*647*
Mean no. of healthy sextants		2.7	2.3	*2.5*	2.3	2.6	*2.5*	0.7	0.9	*0.8*	0.2	0.3	*0.3*
With bleeding, calculus, pockets		2.3	2.5	*2.4*	3.5	3.3	*3.4*	5.1	4.8	*5.0*	2.3	2.1	*2.2*
with bleeding		1.7	1.8	*1.8*	1.7	1.6	*1.7*	0.8	1.0	*0.9*	0.2	0.2	*0.2*
with calculus		0.5	0.7	*0.6*	1.8	1.7	*1.8*	3.2	3.0	*3.1*	1.3	1.1	*1.2*
with pockets(4-5 mm)		NA	NA	*NA*	0.0	0.0	*0.0*	0.9	0.7	*0.8*	0.5	0.5	*0.5*
with pockets (6mm or more)		NA	NA	*NA*	0.0	0.0	*0.0*	0.1	0.1	*0.1*	0.3	0.3	*0.3*
Excluded sextants		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.1	0.1	*0.1*	1.7	2.3	*2.0*
Not recorded		1.1	1.2	*1.2*	0.2	0.1	*0.2*	0.1	0.2	*0.2*	1.7	1.4	*1.6*
State Urban	n=	161	156	*317*	160	160	*320*	167	158	*325*	152	149	*301*
Mean no. of healthy sextants		2.3	2.4	*2.4*	2.9	3.0	*3.0*	1.4	1.5	*1.5*	0.5	0.6	*0.6*
With bleeding, calculus, pockets		2.3	2.4	*2.4*	3.0	3.0	*3.0*	4.5	4.4	*4.5*	2.5	2.5	*2.5*
with bleeding		1.7	1.7	*1.7*	1.6	1.4	*1.5*	1.1	1.4	*1.3*	0.2	0.2	*0.2*
with calculus		0.7	0.6	*0.7*	1.4	1.5	*1.5*	2.4	2.6	*2.5*	1.7	1.5	*1.6*
with pockets(4-5 mm)		NA	NA	*NA*	0.0	0.1	*0.1*	0.9	0.5	*0.7*	0.4	0.4	*0.4*
with pockets (6mm or more)		NA	NA	*NA*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.2	0.5	*0.4*
Excluded sextants		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.1	*0.1*	1.9	1.6	*1.8*
Not recorded		1.3	1.2	*1.3*	0.1	0.0	*0.1*	0.1	0.1	*0.1*	1.1	1.3	*1.2*
State Total	n=	476	480	*956*	489	470	*959*	495	486	*981*	482	466	*948*
Mean no. of healthy sextants		2.6	2.3	*2.5*	2.5	2.7	*2.6*	0.9	1.0	*1.0*	0.3	0.4	*0.4*
With bleeding, calculus, pockets		2.3	2.5	*2.4*	3.3	3.2	*3.3*	4.9	4.7	*4.8*	2.4	2.2	*2.3*
with bleeding		1.7	1.8	*1.8*	1.6	1.5	*1.6*	0.9	1.1	*1.0*	0.2	0.2	*0.2*
with calculus		0.6	0.7	*0.7*	1.7	1.6	*1.7*	3.0	2.9	*3.0*	1.4	1.2	*1.3*
with pockets(4-5 mm)		NA	NA	*NA*	0.0	0.1	*0.1*	0.9	0.6	*0.8*	0.5	0.5	*0.5*
with pockets (6mm or more)		NA	NA	*NA*	0.0	0.0	*0.0*	0.1	0.1	*0.1*	0.3	0.3	*0.3*
Excluded sextants		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.1	0.1	*0.1*	1.8	2.1	*2.0*
Not recorded		1.1	1.2	*1.2*	0.2	0.1	*0.2*	0.1	0.2	*0.2*	1.5	1.3	*1.4*

The dentition is divided into six sextants, three upper and three lower, for assessments of the periodontal status. The mean number of healthy sextants (those sextants with no bleeding, calculus or pockets) was highest for the 15 year olds (2.6 sextants) with 2.5 sextants for males and 2.7 sextants for females, seen more in urban (3 sextants) than rural areas (2.5 sextants), and lowest for the 65-74 year age group (0.4 sextants).

The mean number of sextants with bleeding, calculus and pockets was highest for the 35-44 year age group (4.8 sextants) with 4.9 sextants for males and 4.7 sextants for females. The mean number of sextants with bleeding, calculus and pockets was 3.3 sextants for males and 3.2 sextants for females among the 15 year olds.

Assessment of the sextants for signs of periodontal disease showed that while gingival bleeding was a more prevalent condition among the lower age groups, accumulated calculus became an increasingly high problem as the age advanced.

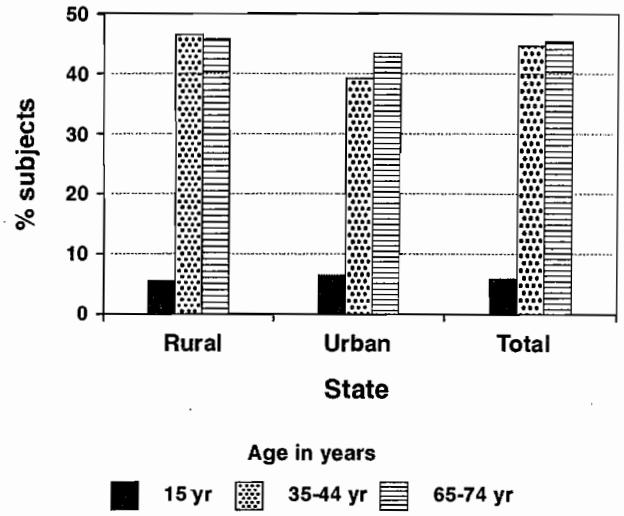
Fig 6.08. Mean number of sextants with periodontal disease in Haryana



6.2.2 Loss of attachment

Table 6.09 and Figure 6.09 present the percent subjects with loss of epithelial attachment by severity and Table 6.10 and Figure 6.10 present the mean number of teeth with loss of attachment by severity. The destructive and degenerative nature of periodontal disease was assessed, in addition to the CPI scores, with the measurement of loss of attachment for 15, 35-44 and 65-74 year age groups only. The CPI probe was used to measure pocket depth.

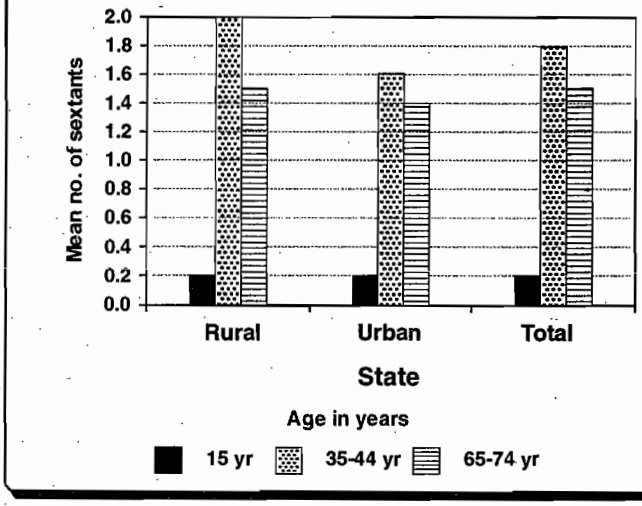
Fig. 6.09. Percent subjects with Loss of Attachment in Haryana



Overall, the prevalence proportion of subjects with Loss of attachment in one or more sextants was lowest among the 15 year olds (5.8 percent) and highest among the 65-74 year age group (45.6 percent). The most prevalent form of loss of attachment was 4-5 mm in depth, across the ages 15 years (4.8 percent), 35-44 year age group (34.3 percent) and 65-74 year age group (26 percent). There were differentials observed between the genders in the age groups of 35 years and above.

A loss of attachment of 6-8 mm in depth was seen to increase as age advanced, from 1 percent among 15 year olds to 15 percent among the 65-74 year age group. Overall, for the 35 year and above age groups rural residents had higher levels of loss of attachment (47.4 percent among 35-44 year age group and 47.1 percent among 65-74 year age group) than urbanites (39.2 percent for 35-44 year age group and 42.9 percent for 65-74 year age group), but the pattern of distribution of severity of the condition remained similar in urban and rural areas, and Region-3 had a higher prevalence (55.5 percent) of the condition than Region-1 (40.6 percent) followed by Region-2 (38.7 percent).

Fig. 6.10. Mean number of sextants with Loss of Attachment in Haryana



The prevalence proportion of subjects with Loss of attachment in one or more sextants was least among the 15 year olds (0.2 sextants) and it was 1.8 sextants and 1.5 sextants for the 35-44 and 65-74 year age groups, respectively.

The least severe form of loss of attachment (4-5mm) was prevalent across all age groups, 0.2, 1.4 and 0.9 sextants among the 15, 35-44 and 65-74 year age groups, respectively. This was followed by the more severe form of loss of attachment (6-8 mm) with 0.1, 0.4 and 0.5 sextants among the 15, 35-44 and 65-74 year age groups, respectively.

There were no major differentials in the pattern of distribution of loss of attachment among the genders and place of residence, across the three regions.

Table 6.09 Percent distribution of subjects with highest scores of loss of attachment by age, sex, and geographical area. State : Haryana

Loss of Attachment (LOA)		15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T
Region 1	**n=**	**174**	**166**	***340***	**177**	**162**	***339***	**139**	**136**	***275***
With loss of attachment		8.2	8.2	***8.2***	49.2	40.1	***44.7***	39.6	33.4	***36.5***
with LOA 4-5 mm only		6.3	6.4	***6.4***	30.1	21.9	***26.0***	24.5	20.0	***22.3***
with LOA 4-5 mm & 6-8 mm		1.9	1.8	***1.9***	17.5	15.6	***16.6***	13.7	8.9	***11.3***
with LOA 4-5 mm & 6-8 mm & 9-11 mm		0.0	0.0	***0.0***	1.7	2.6	***2.2***	1.3	3.5	***2.4***
with LOA 4-5 mm & 6-8 mm & 9-11 mm & 12 mm or higher		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.9	***0.5***
Region 2	**n=**	**130**	**129**	***259***	**145**	**148**	***293***	**101**	**93**	***194***
With loss of attachment		4.5	5.0	***4.8***	42.4	28.1	***35.3***	42.6	41.6	***42.1***
with LOA 4-5 mm only		2.9	4.3	***3.6***	35.9	23.5	***29.7***	21.4	26.4	***23.9***
with LOA 4-5 mm & 6-8 mm		1.6	0.7	***1.2***	5.8	4.6	***5.2***	16.3	8.4	***12.4***
with LOA 4-5 mm & 6-8 mm & 9-11 mm		0.0	0.0	***0.0***	0.7	0.0	***0.4***	3.9	4.5	***4.2***
with LOA 4-5 mm & 6-8 mm & 9-11 mm & 12 mm or higher		0.0	0.0	***0.0***	0.0	0.0	***0.0***	1.0	2.3	***1.7***
Region 3	**n=**	**162**	**156**	***318***	**162**	**160**	***322***	**141**	**148**	***289***
With loss of attachment		7.0	4.7	***5.9***	58.9	58.2	***58.6***	55.4	49.4	***52.4***
with LOA 4-5 mm only		6.4	4.7	***5.6***	44.2	44.1	***44.2***	29.9	28.6	***29.3***
with LOA 4-5 mm & 6-8 mm		0.7	0.0	***0.4***	13.4	12.2	***12.8***	22.5	19.4	***21.0***
with LOA 4-5 mm & 6-8 mm & 9-11 mm		0.0	0.0	***0.0***	1.3	0.5	***0.9***	3.0	1.4	***2.2***
with LOA 4-5 mm & 6-8 mm & 9-11 mm & 12 mm or higher		0.0	0.0	***0.0***	0.0	1.3	***0.7***	0.0	0.0	***0.0***
State Rural	**n=**	**314**	**298**	***612***	**322**	**316**	***638***	**253**	**250**	***503***
With loss of attachment		6.5	4.3	***5.4***	52.5	42.2	***47.4***	51.7	42.4	***47.1***
with LOA 4-5 mm only		4.9	4.1	***4.5***	38.0	31.9	***35.0***	26.7	24.3	***25.5***
with LOA 4-5 mm & 6-8 mm		1.5	0.2	***0.9***	13.0	9.3	***11.2***	20.8	12.8	***16.8***
with LOA 4-5 mm & 6-8 mm & 9-11 mm		0.0	0.0	***0.0***	1.5	0.2	***0.9***	3.5	4.1	***3.8***
with LOA 4-5 mm & 6-8 mm & 9-11 mm & 12 mm or higher		0.0	0.0	***0.0***	0.0	0.8	***0.4***	0.6	1.3	***1.0***
State Urban	**n=**	**152**	**153**	***305***	**162**	**154**	***316***	**128**	**127**	***255***
With loss of attachment		5.3	8.2	***6.8***	42.4	36.0	***39.2***	39.0	46.8	***42.9***
with LOA 4-5 mm only		4.6	6.7	***5.7***	38.1	26.8	***32.5***	23.7	31.2	***27.5***
with LOA 4-5 mm & 6-8 mm		0.7	1.4	***1.1***	3.9	8.0	***6.0***	12.5	14.7	***13.6***
with LOA 4-5 mm & 6-8 mm & 9-11 mm		0.0	0.0	***0.0***	0.3	1.2	***0.8***	2.8	0.4	***1.6***
with LOA 4-5 mm & 6-8 mm & 9-11 mm & 12 mm or higher		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.4	***0.2***
State Total	**n=**	**466**	**451**	***917***	**484**	**470**	***954***	**381**	**377**	***758***
With loss of attachment		6.0	5.5	***5.8***	49.4	40.4	***44.9***	47.6	43.6	***45.6***
with LOA 4-5 mm only		4.7	4.9	***4.8***	38.1	30.5	***34.3***	25.8	26.2	***26.0***
with LOA 4-5 mm & 6-8 mm		1.3	0.6	***1.0***	10.1	8.9	***9.5***	18.2	13.4	***15.8***
with LOA 4-5 mm & 6-8 mm & 9-11 mm		0.0	0.0	***0.0***	1.1	0.5	***0.8***	3.3	2.9	***3.1***
with LOA 4-5 mm & 6-8 mm & 9-11 mm & 12 mm or higher		0.0	0.0	***0.0***	0.0	0.6	***0.3***	0.4	1.0	***0.7***

Table 6.10 Mean no. of sextants with loss of attachment by age, sex, and geographical area. **State : Haryana**

Loss of Attachment (LOA)		15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T
Region 1	n=	**174**	**166**	***340***	**179**	**163**	***342***	**171**	**163**	***334***
With no loss of attachment (0-3 mm)		5.6	5.7	***5.7***	3.6	4.0	***3.8***	1.5	1.8	***1.7***
With loss of attachment		0.4	0.3	***0.4***	2.3	1.9	***2.1***	1.2	1.1	***1.2***
with loss of attachment 4-5 mm		0.3	0.2	***0.3***	1.5	1.1	***1.3***	0.7	0.6	***0.7***
with loss of attachment 6-8 mm		0.1	0.1	***0.1***	0.7	0.7	***0.7***	0.5	0.4	***0.5***
with loss of attachment 9-11 mm		0.0	0.0	***0.0***	0.0	0.1	***0.1***	0.0	0.1	***0.1***
with loss of attachment 12 mm or more		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
Excluded sextants		0.0	0.0	***0.0***	0.0	0.0	***0.0***	2.0	2.1	***2.1***
Not recorded		0.0	0.0	***0.0***	0.1	0.1	***0.1***	1.3	1.1	***1.2***
Region 2	n=	**151**	**144**	***295***	**153**	**163**	***316***	**154**	**147**	***301***
With no loss of attachment (0-3 mm)		5.0	5.2	***5.1***	4.0	4.4	***4.2***	1.5	1.2	***1.4***
With loss of attachment		0.1	0.1	***0.1***	1.6	0.9	***1.3***	1.0	1.1	***1.1***
with loss of attachment 4-5 mm		0.0	0.1	***0.1***	1.4	0.8	***1.1***	0.6	0.7	***0.7***
with loss of attachment 6-8 mm		0.1	0.0	***0.1***	0.2	0.1	***0.2***	0.3	0.2	***0.3***
with loss of attachment 9-11 mm		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.1	***0.1***
with loss of attachment 12 mm or more		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.1	***0.1***
Excluded sextants		0.0	0.0	***0.0***	0.1	0.0	***0.1***	1.2	1.5	***1.4***
Not recorded		0.8	0.6	***0.7***	0.3	0.6	***0.5***	2.3	2.3	***2.3***
Region 3	n=	**164**	**160**	***324***	**163**	**160**	***323***	**157**	**156**	***313***
With no loss of attachment (0-3 mm)		5.7	5.6	***5.7***	3.3	3.2	***3.3***	0.7	0.8	***0.8***
With loss of attachment		0.3	0.2	***0.3***	2.6	2.6	***2.6***	2.3	2.0	***2.2***
with loss of attachment 4-5 mm		0.2	0.2	***0.2***	2.1	2.0	***2.1***	1.3	1.4	***1.4***
with loss of attachment 6-8 mm		0.0	0.0	***0.0***	0.5	0.6	***0.6***	0.9	0.6	***0.8***
with loss of attachment 9-11 mm		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.1	0.0	***0.1***
with loss of attachment 12 mm or more		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
Excluded sextants		0.0	0.0	***0.0***	0.1	0.1	***0.1***	2.3	2.8	***2.6***
Not recorded		0.1	0.2	***0.2***	0.0	0.0	***0.0***	0.6	0.4	***0.5***
State Rural	n=	**329**	**310**	***639***	**328**	**328**	***656***	**330**	**317**	***647***
With no loss of attachment (0-3 mm)		5.3	5.5	***5.4***	3.5	3.9	***3.7***	0.9	0.9	***0.9***
With loss of attachment		0.2	0.2	***0.2***	2.2	1.7	***2.0***	1.6	1.4	***1.5***
with loss of attachment 4-5 mm		0.2	0.2	***0.2***	1.7	1.3	***1.5***	0.9	0.9	***0.9***
with loss of attachment 6-8 mm		0.1	0.0	***0.1***	0.4	0.4	***0.4***	0.6	0.3	***0.5***
with loss of attachment 9-11 mm		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.1	0.1	***0.1***
with loss of attachment 12 mm or more		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
Excluded sextants		0.0	0.0	***0.0***	0.1	0.1	***0.1***	1.7	2.3	***2.0***
Not recorded		0.4	0.3	***0.4***	0.1	0.4	***0.3***	1.7	1.4	***1.6***
State Urban	n=	**160**	**160**	***320***	**167**	**158**	***325***	**152**	**149**	***301***
With no loss of attachment (0-3 mm)		5.3	5.4	***5.4***	4.0	4.2	***4.1***	1.9	1.7	***1.8***
With loss of attachment		0.2	0.2	***0.2***	1.7	1.5	***1.6***	1.2	1.5	***1.4***
with loss of attachment 4-5 mm		0.1	0.2	***0.2***	1.5	1.1	***1.3***	0.7	1.0	***0.9***
with loss of attachment 6-8 mm		0.0	0.0	***0.0***	0.2	0.3	***0.3***	0.4	0.5	***0.5***
with loss of attachment 9-11 mm		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
with loss of attachment 12 mm or more		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
Excluded sextants		0.0	0.0	***0.0***	0.0	0.0	***0.0***	1.6	1.4	***1.5***
Not recorded		0.5	0.4	***0.5***	0.3	0.3	***0.3***	1.3	1.4	***1.4***
State Total	n=	**489**	**470**	***959***	**495**	**486**	***981***	**482**	**466**	***948***
With no loss of attachment (0-3 mm)		5.3	5.4	***5.4***	3.7	4.0	***3.9***	1.2	1.2	***1.2***
With loss of attachment		0.2	0.2	***0.2***	2.0	1.6	***1.8***	1.5	1.4	***1.5***
with loss of attachment 4-5 mm		0.2	0.2	***0.2***	1.6	1.2	***1.4***	0.9	0.9	***0.9***
with loss of attachment 6-8 mm		0.1	0.0	***0.1***	0.4	0.3	***0.4***	0.5	0.4	***0.5***
with loss of attachment 9-11 mm		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.1	0.1	***0.1***
with loss of attachment 12 mm or more		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
Excluded sextants		0.0	0.0	***0.0***	0.1	0.1	***0.1***	1.7	2.0	***1.9***
Not recorded		0.4	0.4	***0.4***	0.2	0.3	***0.3***	1.5	1.4	***1.5***

6.3 MALOCCLUSION STATUS

Table 6.11 and Figure 6.11 present the malocclusion status of the subjects as measured by the Dental Aesthetics of Index scores. This index recommended by the WHO, was used to analyse the severity of malocclusion in the surveyed population. In calculating percent subjects with malocclusion, only those subjects with a DAI score of 2.6 or higher were included.

No form of malocclusion was reported among the 5 year olds where only primary teeth are present. The proportion of subjects with malocclusion increased as age advanced, from 10.1 percent among 12 year olds to 20.2 percent among the 35-44 year age group, with a slight dip among the 15 year olds (8.1 percent).

Cent percent of the children among the 5 year olds had none or minor malocclusion (DAI scores < 25) while only 79.9 percent of the subjects in the 35-44 year age group had none or minor malocclusion. The prevalence of malocclusion as measured by the DAI scores was 5.3, 5.2 and 6.7 percent for the 12, 15 and 35-44 year age groups, and was predominantly definite malocclusion (DAI scores 26-30). Severe forms of malocclusion (DAI scores 31-35) were reported for 2.5, 1.7 and 5.2 percent among the 12, 15 and 35-44 year age groups.

The very severe (handicapping) form of malocclusion (DAI scores 36 or more) was observed in 2.4, 1.3 and 8.3 percent of the subjects among the 12, 15 and 35-44 year age groups.

There were no significant differences in the prevalence of malocclusion among the genders. The urban areas reported a higher prevalence (11.1 percent) than the rural areas (8.2 percent), except for the 35-44 year age group, where the rural residents had a higher prevalence (21 percent) than the urbanites (18.1 percent). Region-1 had a higher prevalence of malocclusion (17.2 percent) than Region-3 (14.2 percent), followed by Region-2 (10.2 percent).

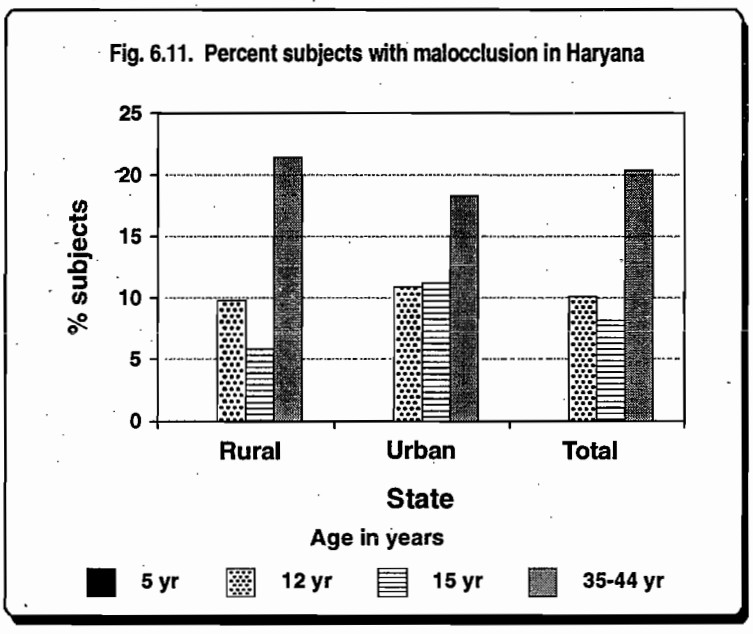


Table 6.11 Percent subjects with malocclusion by age, sex and geographical areas. **State : Haryana**

Malocclusion (DAI Score)		5 years			12 years			15 years			35-44 years		
		M	F	T	M	F	T	M	F	T	M	F	T
Region 1	**n=**	**178**	**167**	***345***	**172**	**172**	***344***	**174**	**166**	***340***	**179**	**163**	***342***
No malocclusion (<25)		100	100	***100.0***	85.3	84	***84.8***	87.9	89.8	***88.9***	77.8	71.9	***74.9***
Malocclusion present		0.0	0.0	***0.0***	14.7	15.8	***15.3***	12.1	10.2	***11.2***	22.2	28.1	***25.2***
Definite malocclusion (26 -30)		0.0	0.0	***0.0***	5.6	2.7	***4.2***	2.3	4.0	***3.2***	6.2	9.4	***7.8***
Severe malocclusion (31 - 35)		0.0	0.0	***0.0***	2.6	4.0	***3.3***	2.8	4.0	***3.4***	2.1	5.7	***3.9***
V Severe malocclusion (36 or more)		0.0	0.0	***0.0***	6.5	9.0	***7.8***	7.1	2.1	***4.6***	14.0	13.0	***13.5***
Region 2	**n=**	**155**	**133**	***288***	**147**	**147**	***294***	**151**	**144**	***295***	**153**	**163**	***316***
No malocclusion (<25)		100	100	***100.0***	93.2	94	***93.5***	91.8	93.1	***92.5***	83.1	84.3	***83.7***
Malocclusion present		0.0	0.0	***0.0***	6.8	6.3	***6.6***	8.2	6.9	***7.6***	16.9	15.7	***16.3***
Definite malocclusion (26 -30)		0.0	0.0	***0.0***	2.8	4.4	***3.6***	5.2	4.2	***4.7***	5.8	4.3	***5.1***
Severe malocclusion (31 - 35)		0.0	0.0	***0.0***	1.9	1.2	***1.6***	2.5	2.0	***2.3***	3.3	4.8	***4.1***
V Severe malocclusion (36 or more)		0.0	0.0	***0.0***	2.1	0.7	***1.4***	0.6	0.7	***0.7***	7.9	6.5	***7.2***
Region 3	**n=**	**172**	**149**	***321***	**157**	**161**	***318***	**164**	**160**	***324***	**163**	**160**	***323***
No malocclusion (<25)		100	100	***100.0***	86.9	89	***87.9***	91.3	93.2	***92.3***	80.8	73.6	***77.2***
Malocclusion present		0.0	0.0	***0.0***	13.1	11.1	***12.1***	8.7	6.8	***7.8***	19.2	26.4	***22.8***
Definite malocclusion (26 -30)		0.0	0.0	***0.0***	8.5	6.7	***7.6***	7.0	6.3	***6.7***	9.0	8.0	***8.5***
Severe malocclusion (31 - 35)		0.0	0.0	***0.0***	2.1	3.9	***3.0***	0.5	0.0	***0.3***	5.0	9.1	***7.1***
V Severe malocclusion (36 or more)		0.0	0.0	***0.0***	2.6	0.5	***1.6***	1.2	0.5	***0.9***	5.3	9.3	***7.3***
State Rural	**n=**	**335**	**303**	***638***	**315**	**324**	***639***	**329**	**310**	***639***	**328**	**328**	***656***
No malocclusion (<25)		100	100	***100.0***	89.1	92	***90.4***	93.7	92.8	***93.3***	79.7	78.3	***79.0***
Malocclusion present		0.0	0.0	***0.0***	10.9	8.3	***9.6***	6.3	7.2	***6.8***	20.3	21.7	***21.0***
Definite malocclusion (26 -30)		0.0	0.0	***0.0***	6.3	4.7	***5.5***	4.4	5.5	***5.0***	7.6	6.6	***7.1***
Severe malocclusion (31 - 35)		0.0	0.0	***0.0***	1.8	2.3	***2.1***	0.9	1.1	***1.0***	4.1	6.7	***5.4***
V Severe malocclusion (36 or more)		0.0	0.0	***0.0***	2.9	1.3	***2.1***	1.0	0.5	***0.8***	8.5	8.4	***8.5***
State Urban	**n=**	**170**	**146**	***316***	**161**	**156**	***317***	**160**	**160**	***320***	**167**	**158**	***325***
No malocclusion (<25)		100	100	***100.0***	91.1	87	***89.1***	85.2	92.4	***88.8***	84.3	79.6	***82.0***
Malocclusion present		0.0	0.0	***0.0***	8.9	13.0	***11.0***	14.8	7.6	***11.2***	15.7	20.4	***18.1***
Definite malocclusion (26 -30)		0.0	0.0	***0.0***	3.1	6.7	***4.9***	7.6	3.8	***5.7***	6.2	5.1	***5.7***
Severe malocclusion (31 - 35)		0.0	0.0	***0.0***	3.0	3.4	***3.2***	4.0	2.4	***3.2***	3.0	6.4	***4.7***
V Severe malocclusion (36 or more)		0.0	0.0	***0.0***	2.8	2.9	***2.9***	3.2	1.4	***2.3***	6.5	8.9	***7.7***
State Total	**n=**	**505**	**449**	***954***	**476**	**480**	***956***	**489**	**470**	***959***	**495**	**486**	***981***
No malocclusion (<25)		100	100	***100.0***	89.6	90	***90.0***	91.2	92.7	***92.0***	81.1	78.6	***79.9***
Malocclusion present		0.0	0.0	***0.0***	10.4	9.7	***10.1***	8.8	7.3	***8.1***	18.9	21.4	***20.2***
Definite malocclusion (26 -30)		0.0	0.0	***0.0***	5.3	5.3	***5.3***	5.4	4.9	***5.2***	7.2	6.1	***6.7***
Severe malocclusion (31 - 35)		0.0	0.0	***0.0***	2.3	2.7	***2.5***	1.8	1.5	***1.7***	3.7	6.7	***5.2***
V Severe malocclusion (36 or more)		0.0	0.0	***0.0***	2.9	1.8	***2.4***	1.7	0.9	***1.3***	7.9	8.6	***8.3***

Note: 'No malocclusion (<25)' includes minor malocclusion.

6.4 ORAL CANCER AND ORAL MUCOSAL LESIONS

Table 6.12 and Figure 6.12 present the proportion of subjects with oral cancer and other mucosal lesions and Table 6.13 present the number of lesions by their location in the mouth of affected subjects.

The prevalence of oral mucosal lesions was quite low. Among the 5, 12, and 15 year olds, only 2, 4 and 3 subjects, respectively had oral mucosal lesions. These were distributed in the form of ulceration (6 subjects), candidiasis (2 subjects) and a single case of leukoplakia. About 12 subjects in the 35-44 year age group had oral mucosal lesions and a majority of these were ulcerations (6 subjects), followed by leukoplakia (2 subjects) and single cases of lichen planus and acute necrotizing ulcerative gingivitis (ANUG).

About 12 subjects (6 males and females each) in the age group of 65-74 years had oral mucosal lesions, the most prevalent being ulceration (5 subjects) followed by 3 cases each of leukoplakia and other unspecified lesions.

Oral cancer was not detected in any of the subjects examined, across all ages.

Leukoplakia is the most common precancerous lesion while lichen planus is categorized as a probable precancerous condition (Mehta and Hammer, 1993). Leukoplakia was detected in a 12 year old female and 2 males in the 35-44 year age group. In the 65-74 year age group 3 males were detected with leukoplakia. These lesions were predominantly seen on the lips.

The prevalence of oral mucosal lesions was high in rural areas (23 cases) than urban areas (7 cases), and higher in Region-2 (16 cases) than Region-3 (8 cases) followed by Region-1 (4 cases).

A broad analysis of the lesions by location on the oral mucosa showed that the most prevalent condition was ulceration, appearing on the buccal mucosa (12 cases) and tongue (4 cases).

Leukoplakia was distributed predominantly on the lips (8 cases). The other more prevalent but still a very rare condition was candidiasis occurring predominantly on the tongue (2 cases), and Lichen planus was observed mainly on the buccal mucosa (3 cases).

Fig 6.12 Number of subjects with oral mucosal conditions in Haryana

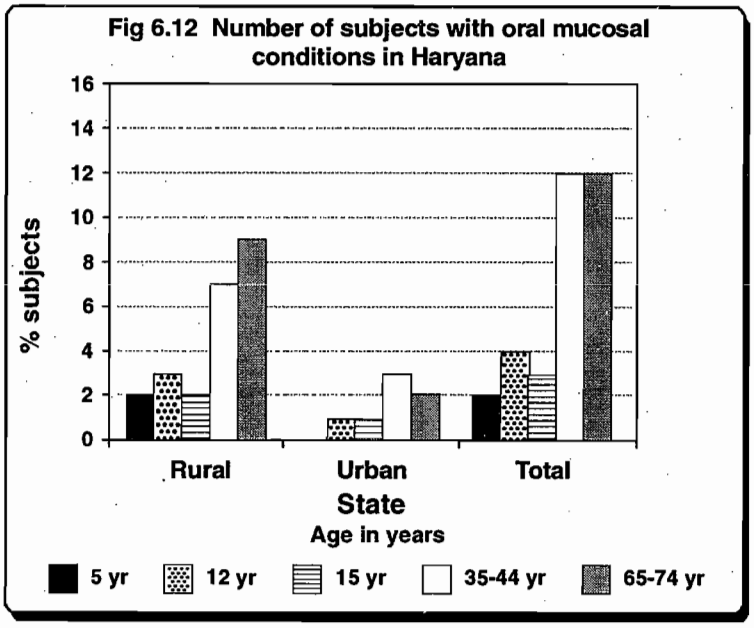


Table 6.12 Numbers of subjects with oral mucosal lesions and type of lesions by age, sex and geographical area. State : Haryana

Oral Mucosal Lesions		5 years			12 years			15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Region 1	n=	178	165	*343*	170	172	*342*	172	166	*338*	179	163	*342*	169	162	*331*
Oral mucosal lesions present		0	0	*0*	0	0	*0*	1	1	*2*	1	0	*1*	0	1	*1*
Oral Cancer		0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*
Leukoplakia		0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*
Lichen planus		0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*
Ulceration		0	0	*0*	0	0	*0*	1	1	*2*	1	0	*1*	0	1	*1*
ANUG		0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*
Candidiasis		0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*
Abscess		0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*
Any other condition		0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*
Region 2	n=	140	118	*258*	134	137	*271*	133	135	*268*	138	147	*285*	137	129	*266*
Oral mucosal lesions present		0	0	*0*	1	0	*1*	1	0	*1*	5	1	*6*	5	3	*8*
Oral Cancer		0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*
Leukoplakia		0	0	*0*	0	0	*0*	0	0	*0*	2	0	*2*	2	0	*2*
Lichen planus		0	0	*0*	0	0	*0*	0	0	*0*	1	0	*1*	0	2	*2*
Ulceration		0	0	*0*	0	0	*0*	1	0	*1*	1	0	*1*	2	1	*3*
ANUG		0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*
Candidiasis		0	0	*0*	1	0	*1*	0	0	*0*	0	0	*0*	0	0	*0*
Abscess		0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*
Any other condition		0	0	*0*	0	0	*0*	0	0	*0*	1	1	*2*	2	0	*2*
Region 3	n=	171	147	*318*	157	161	*318*	162	158	*320*	163	158	*321*	155	155	*310*
Oral mucosal lesions present		1	1	*1*	0	3	*2*	0	0	*0*	4	1	*3*	1	2	*2*
Oral Cancer		0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*
Leukoplakia		0	0	*0*	0	1	*1*	0	0	*0*	0	0	*0*	1	0	*1*
Lichen planus		0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*
Ulceration		1	0	*1*	0	2	*1*	0	0	*0*	3	1	*2*	0	1	*1*
ANUG		0	0	*0*	0	0	*0*	0	0	*0*	1	0	*1*	0	0	*0*
Candidiasis		0	1	*1*	0	0	*0*	0	0	*0*	0	0	*0*	0	1	*1*
Abscess		0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*
Any other condition		0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	0	1	*1*
State Rural	n=	324	287	*611*	302	314	*616*	311	299	*610*	316	319	*635*	313	307	*620*
Oral mucosal lesions present		1	1	*2*	1	2	*3*	2	0	*2*	6	1	*7*	4	5	*9*
Oral Cancer		0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*
Leukoplakia		0	0	*0*	0	1	*1*	0	0	*0*	1	0	*1*	2	0	*2*
Lichen planus		0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	0	2	*2*
Ulceration		1	0	*1*	0	1	*1*	2	0	*2*	4	1	*5*	2	2	*4*
ANUG		0	0	*0*	0	0	*0*	0	0	*0*	1	0	*1*	0	0	*0*
Candidiasis		0	1	*1*	1	0	*1*	0	0	*0*	0	0	*0*	0	1	*1*
Abscess		0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*
Any other condition		0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	1	1	*2*
State Urban	n=	165	143	*308*	159	156	*315*	156	160	*316*	164	149	*313*	148	139	*287*
Oral mucosal lesions present		0	0	*0*	0	1	*1*	0	1	*1*	4	1	*3*	2	1	*2*
Oral Cancer		0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*
Leukoplakia		0	0	*0*	0	0	*0*	0	0	*0*	1	0	*1*	1	0	*1*
Lichen planus		0	0	*0*	0	0	*0*	0	0	*0*	1	0	*1*	0	0	*0*
Ulceration		0	0	*0*	0	1	*1*	0	1	*1*	1	0	*1*	0	1	*1*
ANUG		0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*
Candidiasis		0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*
Abscess		0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*
Any other condition		0	0	*0*	0	0	*0*	0	0	*0*	1	1	*1*	1	0	*1*
State Total	n=	489	430	*919*	461	470	*931*	467	459	*926*	480	468	*948*	461	446	*907*
Oral mucosal lesions present		1	1	*2*	1	3	*4*	2	1	*3*	10	2	*12*	6	6	*12*
Oral Cancer		0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*
Leukoplakia		0	0	*0*	0	1	*1*	0	0	*0*	2	0	*2*	3	0	*3*
Lichen planus		0	0	*0*	0	0	*0*	0	0	*0*	1	0	*1*	0	2	*2*
Ulceration		1	0	*1*	0	2	*2*	2	1	*3*	5	1	*6*	2	3	*5*
ANUG		0	0	*0*	0	0	*0*	0	0	*0*	1	0	*1*	0	0	*0*
Candidiasis		0	1	*1*	1	0	*1*	0	0	*0*	0	0	*0*	0	1	*1*
Abscess		0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*
Any other condition		0	0	*0*	0	0	*0*	0	0	*0*	1	1	*2*	2	1	*3*

Table 6.13 Distibution of subjects with oral mucosal conditions by location of conditions in the mouth. State : Haryana

Location	Oral Mucosal Condition																	
	Oral Cancer		Leuko-plakia		Lichen Planus		Ulceration		ANUG		Candi-diasis		Abscess		Others		Total by Location	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
State Rural																		
Vermilion Border	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
Commissures	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
Lips	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	**2**	**1**
Sulci	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	**2**	**0**
Buccal mucosa	0	0	1	0	0	2	4	4	0	0	0	0	0	0	1	0	**6**	**6**
Floor of mouth	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	**2**	**0**
Tongue	0	0	1	0	0	0	4	0	0	0	1	1	0	0	0	2	**6**	**3**
Hard/Soft palate	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	**0**	**1**
Alv ridges/ Gingiva	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	**0**	**1**
Rural Total	**0**	**0**	**3**	**1**	**0**	**2**	**12**	**5**	**1**	**0**	**1**	**2**	**0**	**0**	**1**	**2**	**18**	**12**
State Urban																		
Vermilion Border	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
Commissures	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	**0**	**1**
Lips	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	**6**	**0**
Sulci	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
Buccal mucosa	0	0	0	0	1	0	2	2	0	0	0	0	0	0	2	1	**5**	**3**
Floor of mouth	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	**0**	**1**
Tongue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
Hard/Soft palate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
Alv ridges/ Gingiva	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
Urban Total	**0**	**0**	**6**	**0**	**1**	**0**	**2**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**11**	**5**
State Total																		
Vermilion Border	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
Commissures	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	**0**	**1**
Lips	0	0	7	1	0	0	1	0	0	0	0	0	0	0	0	0	**8**	**1**
Sulci	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	**2**	**0**
Buccal mucosa	0	0	1	0	1	2	6	6	0	0	0	0	0	0	3	1	**11**	**9**
Floor of mouth	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	**2**	**1**
Tongue	0	0	1	0	0	0	4	0	0	0	1	1	0	0	0	2	**6**	**3**
Hard/Soft palate	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	**0**	**1**
Alv ridges/ Gingiva	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	**0**	**1**
State Total	**0**	**0**	**9**	**1**	**1**	**2**	**14**	**9**	**1**	**0**	**1**	**2**	**0**	**0**	**3**	**3**	**29**	**17**

6.5 DENTAL FLUOROSIS STATUS

Table 6.14 and Figure 6.14 present the percentage subjects with dental fluorosis by level of severity.

The prevalence of fluorosis was high and was observed across all age groups. It was slightly less among the 5 year olds (29.8 percent) compared to other age groups, where it was seen among 38-45 percent of the subjects with slight differentials observed among the genders.

A high proportion of subjects across all age groups had very mild to mild fluorosis (15 to 26 percent), followed by subjects with questionable fluorosis (11 to 18 percent). A small proportion of subjects with moderate fluorosis (1 to 3 percent) was seen across all age groups. Severe forms of dental fluorosis was virtually absent except for 0.1 to 1 percent subjects across all age groups.

Dental fluorosis was consistently high in Region-3 (35 to 61 percent) compared to Region-2 (29 to 44 percent) followed by Region-1 (8 to 12 percent). The prevalence of dental fluorosis was higher in rural areas (34 to 49 percent) compared to urban areas (21 to 37 percent). Overall, there were only slight differences in the prevalence of dental fluorosis among the genders.

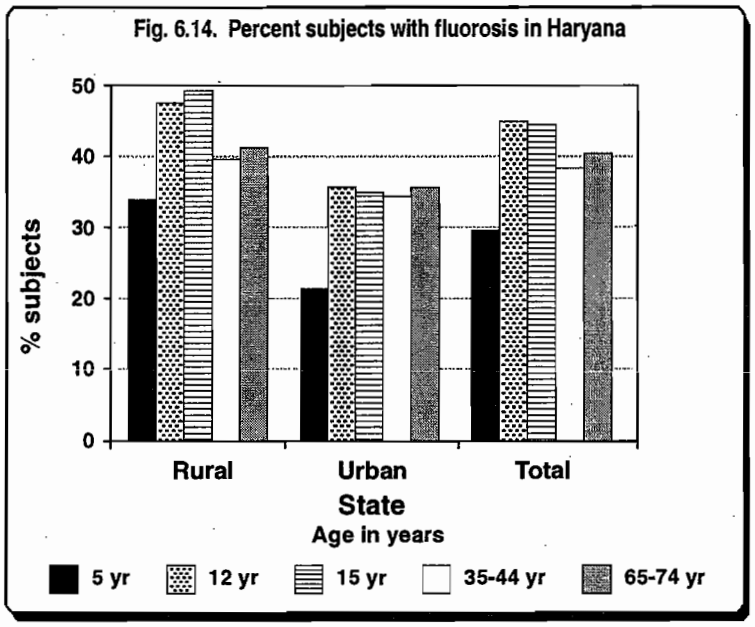


Table 6.14 Percent distribution of subjects with severity of dental fluorosis by age, sex and geographical area. State : Haryana

Dental Fluorosis		5 years			12 years			15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Region 1	n=	178	167	345	170	172	342	174	166	340	177	159	336	99	88	187
With Fluorosis		7.0	8.3	7.7	11.4	12.2	11.8	9.1	7.9	8.5	11.0	7.2	9.1	6.9	12.3	9.6
Questionable		4.8	3.3	4.1	2.7	3.4	3.1	1.6	2.4	2.0	2.9	1.2	2.1	1.0	2.4	1.7
V Mild & Mild		1.7	5.0	3.4	6.4	6.7	6.6	6.3	4.5	5.4	7.6	4.2	5.9	4.1	9.9	7.0
Moderate		0.5	0.0	0.3	2.3	0.5	1.4	1.2	1.1	1.2	0.5	1.2	0.9	1.0	0.0	0.5
Severe		0.0	0.0	0.0	0.0	1.6	0.8	0.0	0.0	0.0	0.0	0.6	0.3	1.0	0.0	0.5
Region 2	n=	141	122	263	145	142	287	145	137	282	148	151	299	81	72	153
With Fluorosis		38.3	24.8	31.6	42.4	44.9	43.7	39.8	44.6	42.2	32.9	24.3	28.6	39.1	33.0	36.1
Questionable		20.5	10.3	15.4	12.4	14.6	13.5	10.6	14.9	12.8	6.6	8.5	7.6	7.1	11.0	9.1
V Mild & Mild		17.2	14.5	15.9	27.8	25.4	26.6	25.6	26.9	26.3	22.1	14.5	18.3	30.7	16.3	23.5
Moderate		0.6	0.0	0.3	2.2	4.2	3.2	2.9	1.4	2.2	3.5	1.3	2.4	1.3	4.2	2.8
Severe		0.0	0.0	0.0	0.0	0.7	0.4	0.7	1.3	1.0	0.7	0.0	0.4	0.0	1.5	0.8
Region 3	n=	135	123	258	157	156	313	162	156	318	162	158	320	91	84	175
With Fluorosis		30.2	40.3	35.3	59.2	57.4	58.3	55.1	65.9	60.5	61.9	58.5	60.2	56.6	53.7	55.2
Questionable		15.7	16.1	15.9	30.8	27.5	29.2	20.6	29.9	25.3	22.6	21.0	21.8	14.0	18.5	16.3
V Mild & Mild		13.9	22.4	18.2	25.0	25.8	25.4	32.5	30.0	31.3	34.7	34.1	34.4	35.5	32.9	34.2
Moderate		0.0	1.7	0.9	2.1	3.3	2.7	0.7	4.7	2.7	4.7	2.7	3.7	5.9	1.0	3.5
Severe		0.6	0.0	0.3	1.4	0.7	1.1	1.3	1.2	1.3	0.0	0.7	0.4	1.2	1.3	1.3
State Rural	n=	306	280	586	312	316	628	324	302	626	323	316	639	188	154	342
With Fluorosis		34.3	32.7	33.5	47.5	49.8	48.7	45.3	52.6	49.0	41.5	37.6	39.6	44.5	39.3	41.9
Questionable		21.5	15.2	18.4	19.7	19.3	19.5	13.8	20.9	17.4	11.6	10.9	11.3	7.5	11.7	9.6
V Mild & Mild		12.7	16.6	14.7	24.0	25.6	24.8	27.8	28.0	27.9	24.7	24.0	24.4	31.7	23.7	27.7
Moderate		0.1	0.9	0.5	3.0	3.7	3.4	2.4	3.2	2.8	4.8	2.2	3.5	4.5	2.1	3.3
Severe		0.0	0.0	0.0	0.8	1.2	1.0	1.2	0.4	0.8	0.5	0.5	0.5	0.9	1.9	1.4
State Urban	n=	148	132	280	160	154	314	157	157	314	164	152	316	83	90	173
With Fluorosis		24.9	17.1	21.0	39.7	33.5	36.6	31.6	38.7	35.2	39.0	29.0	34.0	37.0	36.1	36.6
Questionable		5.5	2.5	4.0	14.2	12.8	13.5	10.6	14.1	12.4	12.7	14.3	13.5	12.1	14.1	13.1
V Mild & Mild		17.6	14.6	16.1	25.2	18.0	21.6	20.6	20.4	20.5	25.3	13.7	19.5	25.0	19.3	22.2
Moderate		1.2	0.0	0.6	0.3	2.8	1.6	0.3	1.6	1.0	1.0	1.1	1.1	0.0	2.7	1.4
Severe		0.5	0.0	0.3	0.0	0.0	0.0	0.0	2.6	1.3	0.0	0.0	0.0	0.0	0.0	0.0
State Total	n=	454	412	866	472	470	942	481	459	940	487	468	955	271	244	515
With Fluorosis		31.5	28.0	29.8	45.3	45.0	45.2	41.3	48.3	44.8	41.0	35.3	38.2	42.7	38.3	40.5
Questionable		16.6	11.3	14.0	18.0	17.4	17.7	12.8	18.8	15.8	12.0	12.0	12.0	9.0	12.6	10.8
V Mild & Mild		14.3	16.0	15.2	24.5	23.4	24.0	25.7	25.7	25.7	25.1	21.1	23.1	30.0	22.2	26.1
Moderate		0.4	0.7	0.6	2.2	3.4	2.8	1.8	2.7	2.3	3.6	1.9	2.8	3.2	2.3	2.8
Severe		0.2	0.0	0.1	0.6	0.8	0.7	0.9	1.1	1.0	0.3	0.3	0.3	0.6	1.2	0.9

6.6 OTHER LESIONS

6.6.1 Extra oral lesions

Table 6.15 and Figure 6.15 present the percent subjects with extra oral lesions by type of lesions.

The prevalence of extra oral lesions was very low, 0.5 percent among the 15 year olds, 0.7 percent among the 5 and 35-44 year age groups, and 1.1 percent among the 12 and 65-74 year age groups.

The lesions were mostly ulceration, sores, erosions and fissures, located predominantly on the commissures and vermillion border among the 5 and 12 year olds, and on the head, neck, limbs and nose, cheeks, chin among the 15, 35-44 and 65-74 year age groups.

Only about 0.4 percent of the 12 year old males had abnormalities of upper and lower lips. Enlarged lymph nodes (head and neck) was seen only among 12 year old females (0.2 percent) and 65-74 year males (0.4 percent).

The prevalence of extra oral lesions was higher in urban areas (2.1 percent) compared to rural areas (0.42 percent), except for the 5 year olds where rural prevalence was higher (0.9 percent) as against zero percent among the urbanites. There were gender and regional differentials in the pattern of distribution of extra oral lesions.

Fig. 6.15. Percent subjects with extra oral lesions inHaryana

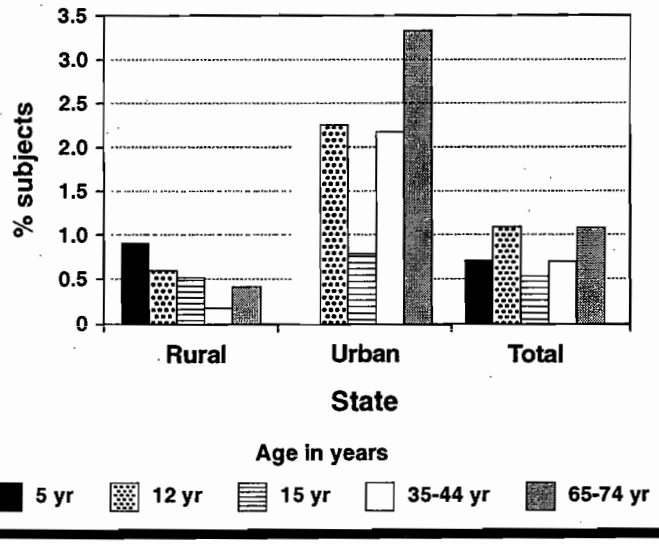


Table 6.15 Percent distribution of subjects with extra oral lesions by age, sex and geographical area. **State : Haryana**

Extra Oral Lesions		5 years			12 years			15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Region 1	n=	174	162	336	167	169	336	170	161	331	174	158	332	167	159	326
With extra oral lesions		0.0	0.6	0.3	0.0	0.5	0.3	0.5	1.1	0.8	2.3	0.0	1.2	1.1	0.6	0.9
Ulceration,sores,erosions,fissures		0.0	0.6	0.3	0.0	0.5	0.3	0.5	1.1	0.8	2.3	0.0	1.2	1.1	0.6	0.9
head, neck, limbs		0.0	0.6	0.3	0.0	0.5	0.3	0.0	0.6	0.3	0.0	0.0	0.0	0.0	0.6	0.3
nose, cheeks, chin		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.3	0.6	0.0	0.3
commissures		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
vermilion border		0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.6	0.6	1.7	0.0	0.9	0.6	0.0	0.3
Cancrum oris		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Abnormalities of upper & lower lips		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Enlarged lymph nodes(head & neck)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Region 2	n=	97	89	186	90	98	188	94	97	191	103	104	207	107	98	205
With extra oral lesions		0.0	1.2	0.6	2.1	0.9	1.5	0.9	0.0	0.5	0.9	0.9	0.9	1.6	1.8	1.7
Ulceration,sores,erosions,fissures		0.0	1.2	0.6	2.1	0.9	1.5	0.0	0.0	0.0	0.9	0.9	0.9	0.8	0.0	0.4
head, neck, limbs		0.0	0.0	0.0	1.2	0.0	0.6	0.0	0.0	0.0	0.9	0.0	0.5	0.8	0.0	0.4
nose, cheeks, chin		0.0	1.2	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.5	0.0	0.0	0.0
commissures		0.0	0.0	0.0	1.0	0.9	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
vermilion border		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cancrum oris		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Abnormalities of upper & lower lips		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Enlarged lymph nodes(head & neck)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.4
Region 3	n=	148	128	276	132	139	271	142	137	279	144	141	285	137	141	278
With extra oral lesions		1.5	0.0	0.8	1.5	0.6	1.1	0.0	0.8	0.4	0.0	0.6	0.3	0.8	0.0	0.4
Ulceration,sores,erosions,fissures		1.5	0.0	0.8	0.6	0.0	0.3	0.0	0.8	0.4	0.0	0.6	0.3	0.8	0.0	0.4
head, neck, limbs		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.4	0.0	0.6	0.3	0.0	0.0	0.0
nose, cheeks, chin		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
commissures		0.0	0.0	0.0	0.6	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.4
vermilion border		1.5	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cancrum oris		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Abnormalities of upper & lower lips		0.0	0.0	0.0	0.8	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Enlarged lymph nodes(head & neck)		0.0	0.0	0.0	0.0	0.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
State Rural	n=	286	263	549	269	275	544	279	265	544	285	280	565	290	278	568
With extra oral lesions		0.9	0.8	0.9	1.1	0.1	0.6	0.1	0.8	0.5	0.4	0.0	0.2	0.7	0.1	0.4
Ulceration,sores,erosions,fissures		0.9	0.8	0.9	0.6	0.1	0.4	0.1	0.8	0.5	0.4	0.0	0.2	0.7	0.1	0.4
head, neck, limbs		0.0	0.1	0.1	0.6	0.1	0.4	0.0	0.6	0.3	0.0	0.0	0.0	0.0	0.1	0.1
nose, cheeks, chin		0.0	0.7	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.1
commissures		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.2
vermilion border		0.9	0.0	0.5	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.0	0.1	0.1	0.0	0.1
Cancrum oris		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Abnormalities of upper & lower lips		0.0	0.0	0.0	0.5	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Enlarged lymph nodes(head & neck)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
State Urban	n=	133	116	249	120	131	251	127	130	257	136	123	259	121	120	241
With extra oral lesions		0.0	0.0	0.0	2.4	2.2	2.3	1.6	0.0	0.8	1.8	2.3	2.1	3.2	3.3	3.3
Ulceration,sores,erosions,fissures		0.0	0.0	0.0	2.4	1.5	2.0	0.0	0.0	0.0	1.8	2.3	2.1	1.6	0.0	0.8
head, neck, limbs		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.7	1.1	1.6	0.0	0.8
nose, cheeks, chin		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.8	0.0	0.0	0.0
commissures		0.0	0.0	0.0	2.4	1.5	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
vermilion border		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.2	0.0	0.0	0.0
Cancrum oris		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Abnormalities of upper & lower lips		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Enlarged lymph nodes(head & neck)		0.0	0.0	0.0	0.0	0.7	0.4	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.8
State Total	n=	419	379	798	389	406	795	406	395	801	421	403	824	411	398	809
With extra oral lesions		0.7	0.6	0.7	1.5	0.7	1.1	0.5	0.5	0.5	0.8	0.6	0.7	1.3	0.9	1.1
Ulceration,sores,erosions,fissures		0.7	0.6	0.7	1.1	0.5	0.8	0.1	0.5	0.3	0.8	0.6	0.7	0.9	0.1	0.5
head, neck, limbs		0.0	0.1	0.1	0.5	0.1	0.3	0.0	0.4	0.2	0.4	0.2	0.3	0.4	0.1	0.3
nose, cheeks, chin		0.0	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.3	0.1	0.0	0.1
commissures		0.0	0.0	0.0	0.6	0.4	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.2
vermilion border		0.7	0.0	0.4	0.0	0.0	0.0	0.1	0.1	0.1	0.3	0.0	0.2	0.1	0.0	0.1
Cancrum oris		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Abnormalities of upper & lower lips		0.0	0.0	0.0	0.4	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Enlarged lymph nodes(head & neck)		0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.2

6.6.2 T M joint symptoms and signs

Table 6.16 and Figure 6.16 present the percent subjects with temporo mandibular joint (TM joint) symptoms and signs.

Among the 5 year olds, none of the male and female subjects had TM joint symptoms and only about 0.2 percent subjects had presence of the clicking sign.

T. M. Joint symptoms were reported by less than 1 percent of the subjects among the 12 and 15 year olds. It was present in 1.1 and 1.6 percent subjects, among the 35-44 and 65-74 year age groups, respectively.

T. M. Joint signs were elicited among 2.5 percent of the subjects (3.2 percent males and 1.8 percent females) in the 35-44 year age group, where clicking (1.5 percent) was the most commonly elicited sign. Among the 65-74 year age group, 8.6 percent of the subjects (7.8 percent males and 9.4 percent females) demonstrated signs and the most prominent sign was clicking of the TM Joint (5.7 percent). The clicking sign was followed by the tenderness sign in most of the subjects ranging from 0.3 to 4.3 percent, except among the 5 year olds. The sign of reduced jaw mobility was quite low ranging from 0.1 to 0.6 percent.

The TM Joint symptoms were unevenly distributed among the genders. Region-2 had a higher prevalence of symptoms (1.5 percent) compared to Region-1 (1.3 percent) followed by Region-3 (0.8 percent). The urban areas had higher prevalence (1.7 percent) compared to rural areas (0.8 percent), except for the 65-74 year age group.

The TM Joint signs were also unevenly distributed among the genders. Region-2 had a higher prevalence of signs (5.2 percent) compared to Region-1 (1.7 percent) followed by Regions-3 (1.5 percent). The urban areas had a higher prevalence (6.3 percent) than the rural areas (1.9 percent).

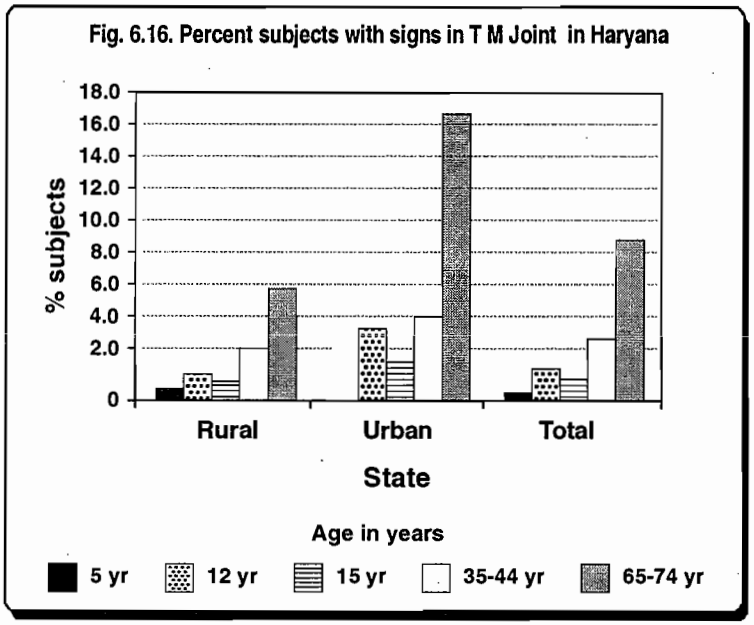


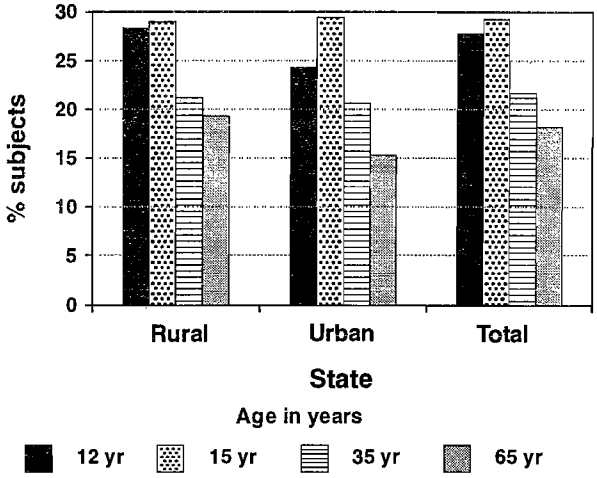
Table 6.16 Percent subjects with symptoms and signs in the tempromandibular joints by age, sex and geographical area State : Haryana

T M Joints Assessment		5 years			12 years			15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Region 1	*n=*	**176**	**165**	***341***	**170**	**169**	***339***	**169**	**165**	***334***	**178**	**161**	***339***	**170**	**162**	***332***
Symptoms present		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	1.1	***0.6***	0.5	2.3	***1.4***	1.1	2.8	***2.0***
Signs present		0.0	0.6	***0.3***	1.6	0.5	***1.1***	0.5	2.2	***1.4***	1.0	2.3	***1.7***	3.6	4.1	***3.9***
Clicking		0.0	0.6	***0.3***	1.1	0.0	***0.6***	0.0	1.7	***0.9***	0.5	1.7	***1.1***	3.6	4.1	***3.9***
Tenderness		0.0	0.0	***0.0***	0.5	0.0	***0.3***	0.0	2.2	***1.1***	0.5	0.6	***0.6***	0.5	2.3	***1.4***
Reduced jaw mobility		0.0	0.0	***0.0***	0.5	0.5	***0.5***	0.5	2.2	***1.4***	0.0	0.0	***0.0***	0.5	0.0	***0.3***
Region 2	*n=*	**139**	**124**	***263***	**136**	**135**	***271***	**141**	**133**	***274***	**147**	**147**	***294***	**141**	**134**	***275***
Symptoms present		0.0	0.0	***0.0***	1.4	2.1	***1.8***	0.6	0.7	***0.7***	1.3	0.6	***1.0***	2.1	3.1	***2.6***
Signs present		0.0	0.0	***0.0***	0.7	5.0	***2.9***	2.0	0.0	***1.0***	5.3	2.0	***3.7***	11.6	14.4	***13.0***
Clicking		0.0	0.0	***0.0***	0.7	1.3	***1.0***	1.4	0.0	***0.7***	4.1	1.4	***2.8***	9.7	10.2	***10.0***
Tenderness		0.0	0.0	***0.0***	0.0	3.7	***1.9***	0.6	0.0	***0.3***	1.2	0.6	***0.9***	4.0	7.1	***5.6***
Reduced jaw mobility		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	1.6	***0.8***
Region 3	*n=*	**168**	**146**	***314***	**148**	**158**	***306***	**154**	**157**	***311***	**160**	**159**	***319***	**154**	**152**	***306***
Symptoms present		0.0	0.0	***0.0***	0.0	0.0	***0.0***	1.1	0.0	***0.6***	1.1	1.7	***1.4***	0.0	0.6	***0.3***
Signs present		0.6	0.0	***0.3***	0.6	0.0	***0.3***	0.6	0.0	***0.3***	1.6	1.7	***1.7***	4.2	5.3	***4.8***
Clicking		0.6	0.0	***0.3***	0.6	0.0	***0.3***	0.6	0.0	***0.3***	0.0	0.0	***0.0***	0.0	1.3	***0.7***
Tenderness		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	1.6	1.1	***1.4***	4.2	4.0	***4.1***
Reduced jaw mobility		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.7	***0.4***	0.0	0.7	***0.4***
State Rural	*n=*	**326**	**296**	***622***	**307**	**312**	***619***	**314**	**303**	***617***	**322**	**320**	***642***	**324**	**312**	***636***
Symptoms present		0.0	0.0	***0.0***	0.5	0.5	***0.5***	0.0	0.2	***0.1***	0.6	0.8	***0.7***	1.2	2.5	***1.9***
Signs present		0.4	0.1	***0.3***	0.3	1.6	***1.0***	0.6	0.4	***0.5***	2.2	1.7	***2.0***	5.1	6.4	***5.8***
Clicking		0.4	0.1	***0.3***	0.2	0.0	***0.1***	0.5	0.3	***0.4***	2.1	1.3	***1.7***	4.4	5.0	***4.7***
Tenderness		0.0	0.0	***0.0***	0.1	1.5	***0.8***	0.0	0.4	***0.2***	0.1	0.1	***0.1***	1.8	2.8	***2.3***
Reduced jaw mobility		0.0	0.0	***0.0***	0.1	0.1	***0.1***	0.1	0.4	***0.3***	0.0	0.4	***0.2***	0.1	1.4	***0.8***
State Urban	*n=*	**157**	**139**	***296***	**147**	**150**	***297***	**150**	**152**	***302***	**163**	**147**	***310***	**141**	**136**	***277***
Symptoms present		0.0	0.0	***0.0***	1.2	2.4	***1.8***	2.3	1.1	***1.7***	2.0	2.3	***2.2***	1.3	0.6	***1.0***
Signs present		0.0	0.0	***0.0***	1.8	4.8	***3.3***	2.9	0.0	***1.5***	5.7	2.3	***4.0***	15.0	18.0	***16.5***
Clicking		0.0	0.0	***0.0***	1.8	2.4	***2.1***	1.7	0.0	***0.9***	2.1	0.0	***1.1***	8.3	9.0	***8.7***
Tenderness		0.0	0.0	***0.0***	0.0	2.4	***1.2***	1.2	0.0	***0.6***	3.6	2.3	***3.0***	8.0	11.7	***9.9***
Reduced jaw mobility		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
State Total	*n=*	**483**	**435**	***918***	**454**	**462**	***916***	**464**	**455**	***919***	**485**	**467**	***952***	**465**	**448**	***913***
Symptoms present		0.0	0.0	***0.0***	0.7	1.1	***0.9***	0.7	0.5	***0.6***	1.0	1.1	***1.1***	1.2	1.9	***1.6***
Signs present		0.3	0.1	***0.2***	0.7	2.5	***1.6***	1.3	0.2	***0.8***	3.2	1.8	***2.5***	7.8	9.4	***8.6***
Clicking		0.3	0.1	***0.2***	0.6	0.7	***0.7***	0.9	0.2	***0.6***	2.1	0.9	***1.5***	5.4	6.0	***5.7***
Tenderness		0.0	0.0	***0.0***	0.1	1.8	***1.0***	0.3	0.2	***0.3***	1.2	0.7	***1.0***	3.5	5.1	***4.3***
Reduced jaw mobility		0.0	0.0	***0.0***	0.1	0.1	***0.1***	0.1	0.2	***0.2***	0.0	0.3	***0.2***	0.1	1.0	***0.6***

6.6.3 Enamel defects (opacities and hypoplasia)

Table 6.17 and Figure 6.17 present the percent subjects with enamel defects by type of defect and Table 6.18 and Figure 6.18 present the mean number of teeth affected with enamel defects by type of defects. Structural enamel defects in teeth were recorded in terms of opacities and hypoplsia, types of opacities and combinations of both. The lower age group of 5 years was excluded form the examination.

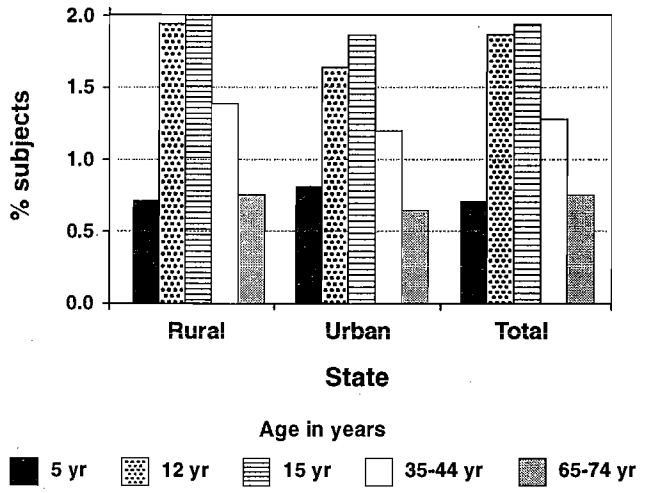
Fig. 6.17. Percent subjects with enamel defects in Haryana



The enamel defects appeared to be distributed among all the age groups. The percent distribution of subjects with enamel defect was about 18 to 30 percent and was highest among the 25 year olds (29.6 percent). The most prevalent enamel defect was demarcated opacity (12.6 percent) followed be diffuse opacity (11.3 percent) across all the age groups. About 1.7 percent of the subjects had combinations of opacities and hypoplasia, across the age group.

The presence of all the three conditions was very low, seen among 35-44 year age group (0.2 percent) and 65-74 year age group (0.3 percent). The prevalence of enamel defects was higher among rural residents (24.9 percent) compared to urbanites (22.8 percent). Region-3 had a higher prevalence of enamel defects (39 percent) compared to Region-2 (17 percent) followed by Region-1 (7.7 percent). There were differentials observed among the genders.

Fig. 6.18. Mean number of teeth with enamel defects in Haryana



A total of ten index teeth were utilized for assessing the mean number of teeth with enamel defects percent individual. The defects appeared to be evenly distributed for all the age groups. The mean number of teeth affected by enamel defects was about 0.7 teeth for 5 and 65-74 year age group and was 1.8, 1.9 and 1.3 teeth for the 12, 15 and 35-44 year age groups, respectively.

The most prevalent enamel defect was diffuse opacity (0.6 tooth) followed by demarcated opacity (0.6 tooth). Combinations of opacities and hypoplasia were recorded in only 0.1 tooth.

The prevalence of enamel defects was higher in Region-3 (2.1 teeth) than Region-2 (0.8 tooth) followed by Region-1 (0.3 tooth). There were no major urban/rural or gender differentials observed in the pattern of distribution of enamel defects by type.

Table 6.17 Percent distribution of subjects with enamel defects (opacities/ hypoplasia) by age, sex & geographical area. State : Haryana

Enamel Opacities/Hypoplasia		12 years			15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T	M	F	T
Region 1	n=	171	172	*343*	174	166	*340*	178	162	*340*	101	91	*192*
With enamel defects		7.7	6.7	*7.2*	10.1	7.8	*9.0*	5.4	6.6	*6.0*	4.0	13.4	*8.7*
with demarcated opacity		4.5	2.3	*3.4*	1.6	3.6	*2.6*	3.6	3.6	*3.6*	2.1	3.3	*2.7*
with diffuse opacity		0.0	0.0	*0.0*	1.2	1.1	*1.2*	1.8	2.4	*2.1*	0.9	5.9	*3.4*
with hypoplasia		3.3	3.9	*3.6*	7.3	3.1	*5.2*	1.2	1.9	*1.6*	0.0	1.3	*0.7*
with other defects		0.0	0.5	*0.3*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	2.3	*1.2*
with combinations of opacities and hypoplasia		0.0	0.0	*0.0*	0.5	0.0	*0.3*	0.0	0.0	*0.0*	0.9	4.6	*2.8*
with all three conditions		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
Region 2	n=	145	142	*287*	147	141	*288*	148	151	*299*	84	78	*162*
With enamel defects		22.0	23.2	*22.6*	21.7	24.9	*23.3*	17.7	6.8	*12.3*	9.6	9.7	*9.7*
with demarcated opacity		11.9	17.8	*14.9*	15.5	16.8	*16.2*	10.5	5.5	*8.0*	4.9	4.7	*4.8*
with diffuse opacity		10.2	8.9	*9.6*	8.8	8.4	*8.6*	7.9	3.2	*5.6*	7.2	2.5	*4.9*
with hypoplasia		0.6	1.4	*1.0*	1.2	4.0	*2.6*	1.8	0.6	*1.2*	1.3	1.2	*1.3*
with other defects		0.0	0.0	*0.0*	0.7	0.0	*0.4*	0.0	0.0	*0.0*	0.0	1.4	*0.7*
with combinations of opacities and hypoplasia		0.0	0.0	*0.0*	0.0	0.6	*0.3*	0.6	0.0	*0.3*	0.0	0.0	*0.0*
with all three conditions		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.7	*0.4*	0.0	0.0	*0.0*
Region 3	n=	157	157	*314*	164	159	*323*	163	160	*323*	95	90	*185*
With enamel defects		43.3	38.1	*40.7*	38.6	50.3	*44.5*	39.6	39.4	*39.5*	35.5	27.1	*31.3*
with demarcated opacity		19.0	15.1	*17.1*	21.6	25.9	*23.8*	17.5	17.5	*17.5*	17.2	6.6	*11.9*
with diffuse opacity		21.4	22.3	*21.9*	16.1	22.9	*19.5*	20.2	19.6	*19.9*	17.4	15.4	*16.4*
with hypoplasia		1.2	2.1	*1.7*	1.8	1.4	*1.6*	4.0	2.0	*3.0*	1.1	0.0	*0.6*
with other defects		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
with combinations of opacities and hypoplasia		4.8	2.7	*3.8*	2.0	4.7	*3.4*	2.6	4.0	*3.3*	3.2	4.8	*4.0*
with all three conditions		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.5	0.0	*0.3*	0.0	1.2	*0.6*
State Rural	n=	313	315	*628*	327	306	*633*	324	321	*645*	191	166	*357*
With enamel defects		31.6	27.0	*29.3*	26.0	32.7	*29.4*	23.9	19.6	*21.8*	21.8	16.6	*19.2*
with demarcated opacity		16.0	13.9	*15.0*	15.3	18.2	*16.8*	12.2	8.1	*10.2*	10.9	3.3	*7.1*
with diffuse opacity		14.0	13.6	*13.8*	10.0	14.0	*12.0*	11.4	9.5	*10.5*	12.5	8.0	*10.3*
with hypoplasia		0.5	2.3	*1.4*	1.7	1.7	*1.7*	2.4	1.3	*1.9*	1.6	0.0	*0.8*
with other defects		0.0	0.1	*0.1*	0.5	0.0	*0.3*	0.0	0.0	*0.0*	0.0	1.2	*0.6*
with combinations of opacities and hypoplasia		2.8	1.6	*2.2*	1.2	2.9	*2.1*	1.5	2.3	*1.9*	1.5	3.3	*2.4*
with all three conditions		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.5	*0.3*	0.0	0.7	*0.4*
State Urban	n=	160	156	*316*	158	160	*318*	165	152	*317*	89	93	*182*
With enamel defects		21.5	27.1	*24.3*	26.8	32.6	*29.7*	25.5	17.8	*21.7*	12.7	18.5	*15.6*
with demarcated opacity		8.5	17.5	*13.0*	17.1	19.3	*18.2*	12.8	13.8	*13.3*	5.7	9.4	*7.6*
with diffuse opacity		11.2	11.5	*11.4*	11.5	11.1	*11.3*	12.2	8.3	*10.3*	6.1	7.6	*6.9*
with hypoplasia		2.8	1.5	*2.2*	3.7	5.8	*4.8*	3.4	1.4	*2.4*	0.0	2.3	*1.2*
with other defects		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.5	*0.3*
with combinations of opacities and hypoplasia		0.0	0.0	*0.0*	0.0	1.0	*0.5*	1.0	0.0	*0.5*	0.8	1.1	*1.0*
with all three conditions		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.5	0.0	*0.3*	0.0	0.0	*0.0*
State Total	n=	473	471	*944*	485	466	*951*	489	473	*962*	280	259	*539*
With enamel defects		28.7	27.3	*28.0*	26.3	32.9	*29.6*	24.5	19.3	*21.9*	19.2	17.4	*18.3*
with demarcated opacity		13.7	15.1	*14.4*	15.9	18.7	*17.3*	12.4	9.9	*11.2*	9.4	5.4	*7.4*
with diffuse opacity		13.3	13.1	*13.2*	10.5	13.2	*11.9*	11.8	9.3	*10.6*	10.6	8.0	*9.3*
with hypoplasia		1.3	2.0	*1.7*	2.2	3.0	*2.6*	2.8	1.4	*2.1*	1.1	0.8	*1.0*
with other defects		0.0	0.1	*0.1*	0.3	0.0	*0.2*	0.0	0.0	*0.0*	0.0	1.0	*0.5*
with combinations of opacities and hypoplasia		1.9	1.1	*1.5*	0.9	2.3	*1.6*	1.4	1.6	*1.5*	1.3	2.7	*2.0*
with all three conditions		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.1	0.3	*0.2*	0.0	0.5	*0.3*

Table 6.18 Mean number of teeth with enamel defects (opacities/ hypoplasia) by age, sex & geographical area. State : Haryana

Enamel Opacities/Hypoplasia		12 years			15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T	M	F	T
Region 1	*n=*	**172**	**172**	***344***	**174**	**166**	***340***	**179**	**163**	***342***	**171**	**163**	***334***
Mean no. of teeth with enamel defects		0.4	0.3	***0.4***	0.6	0.4	***0.5***	0.2	0.2	***0.2***	0.1	0.3	***0.2***
wiith demarcated opacity		0.1	0.1	***0.1***	0.1	0.2	***0.2***	0.1	0.1	***0.1***	0.0	0.1	***0.1***
with diffuse opacity		0.0	0.0	***0.0***	0.0	0.1	***0.1***	0.0	0.1	***0.1***	0.1	0.0	***0.1***
with hypoplasia		0.2	0.2	***0.2***	0.4	0.2	***0.3***	0.0	0.1	***0.1***	0.0	0.0	***0.0***
with other defects		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
with combinations of opacities and hypoplasia		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.1	0.1	***0.1***
wiith all three conditions		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
Region 2	*n=*	**147**	**147**	***294***	**151**	**144**	***295***	**153**	**163**	***316***	**154**	**147**	***301***
Mean no. of teeth with enamel defects		1.4	1.3	***1.4***	1.3	1.5	***1.4***	0.9	0.3	***0.6***	0.3	0.2	***0.3***
wiith demarcated opacity		0.7	0.8	***0.8***	0.9	0.9	***0.9***	0.5	0.2	***0.4***	0.2	0.1	***0.2***
with diffuse opacity		0.7	0.5	***0.6***	0.4	0.5	***0.5***	0.4	0.1	***0.3***	0.1	0.1	***0.1***
with hypoplasia		0.0	0.0	***0.0***	0.0	0.1	***0.1***	0.0	0.0	***0.0***	0.0	0.1	***0.1***
with other defects		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
with combinations of opacities and hypoplasia		0.0	0.0	***0.0***	0.0	0.1	***0.1***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
wiith all three conditions		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
Region 3	*n=*	**157**	**161**	***318***	**164**	**160**	***324***	**163**	**160**	***323***	**157**	**156**	***313***
Mean no. of teeth with enamel defects		3.0	2.4	***2.7***	2.4	3.4	***2.9***	2.8	2.5	***2.7***	1.6	1.0	***1.3***
wiith demarcated opacity		1.0	0.6	***0.8***	1.1	1.5	***1.3***	1.2	0.8	***1.0***	0.6	0.1	***0.4***
with diffuse opacity		1.6	1.6	***1.6***	1.1	1.6	***1.4***	1.3	1.3	***1.3***	0.8	0.7	***0.8***
with hypoplasia		0.1	0.1	***0.1***	0.1	0.1	***0.1***	0.2	0.1	***0.2***	0.1	0.0	***0.1***
with other defects		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
with combinations of opacities and hypoplasia		0.3	0.1	***0.2***	0.1	0.3	***0.2***	0.1	0.3	***0.2***	0.1	0.1	***0.1***
wiith all three conditions		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
State Rural	*n=*	**315**	**324**	***639***	**329**	**310**	***639***	**328**	**328**	***656***	**330**	**317**	***647***
Mean no. of teeth with enamel defects		2.0	1.7	***1.9***	1.7	2.2	***2.0***	1.6	1.2	***1.4***	0.9	0.5	***0.7***
wiith demarcated opacity		0.8	0.6	***0.7***	0.9	1.0	***1.0***	0.8	0.3	***0.6***	0.3	0.1	***0.2***
with diffuse opacity		1.0	0.9	***1.0***	0.7	1.0	***0.9***	0.7	0.6	***0.7***	0.5	0.3	***0.4***
with hypoplasia		0.0	0.1	***0.1***	0.1	0.1	***0.1***	0.1	0.1	***0.1***	0.0	0.0	***0.0***
with other defects		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
with combinations of opacities and hypoplasia		0.2	0.0	***0.1***	0.1	0.2	***0.2***	0.0	0.2	***0.1***	0.0	0.1	***0.1***
wiith all three conditions		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
State Urban	*n=*	**161**	**156**	***317***	**160**	**160**	***320***	**167**	**158**	***325***	**152**	**149**	***301***
Mean no. of teeth with enamel defects		1.5	1.6	***1.6***	1.5	2.1	***1.8***	1.4	0.9	***1.2***	0.4	0.7	***0.6***
wiith demarcated opacity		0.6	0.9	***0.8***	0.8	1.2	***1.0***	0.6	0.6	***0.6***	0.3	0.2	***0.3***
with diffuse opacity		0.8	0.6	***0.7***	0.5	0.7	***0.6***	0.6	0.3	***0.5***	0.1	0.3	***0.2***
with hypoplasia		0.1	0.1	***0.1***	0.2	0.2	***0.2***	0.1	0.0	***0.1***	0.0	0.1	***0.1***
with other defects		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
with combinations of opacities and hypoplasia		0.0	0.0	***0.0***	0.0	0.1	***0.1***	0.1	0.0	***0.1***	0.0	0.0	***0.0***
wiith all three conditions		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
State Total	*n=*	**476**	**480**	***956***	**489**	**470**	***959***	**495**	**486**	***981***	**482**	**466**	***948***
Mean no. of teeth with enamel defects		1.9	1.7	***1.8***	1.6	2.2	***1.9***	1.5	1.1	***1.3***	0.7	0.6	***0.7***
wiith demarcated opacity		0.7	0.7	***0.7***	0.9	1.0	***1.0***	0.7	0.4	***0.6***	0.3	0.1	***0.2***
with diffuse opacity		0.9	0.9	***0.9***	0.6	0.9	***0.8***	0.7	0.5	***0.6***	0.4	0.3	***0.4***
with hypoplasia		0.1	0.1	***0.1***	0.1	0.1	***0.1***	0.1	0.1	***0.1***	0.0	0.0	***0.0***
with other defects		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
with combinations of opacities and hypoplasia		0.1	0.0	***0.1***	0.1	0.2	***0.2***	0.0	0.1	***0.1***	0.0	0.1	***0.1***
wiith all three conditions		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***

6.6.4 Prosthetic status (upper & lower)

The prosthetic status was recorded for subjects 15 years and above. The information was collected to assess the extent to which subjects were wearing dental prostheses including bridge, partial dentures and full mouth dentures. The data was recorded separately for the upper arch (maxillary teeth) and the lower arch (mandibular teeth).

Table 6.19 presents the percent subjects with prosthetic status of upper dental arch by type of prosthesis.

Only 0.7 percent of the subjects (1 percent for males and 0.4 percent for females) were wearing prosthesis among the 15 year olds. The overall proportion of subjects wearing one or the other type of prostheses in the upper arch increased as age advanced.

The percent subjects wearing prosthesis in the age group of 35-44 years was about 4.1 percent while it was 16.9 percent among the age group of 65-74 years. The most prevalent prosthesis among the 65-74 year age group was full removable dentures (12.4 percent) followed by partial dentures (3 percent). Among the 35-44 year age group, partial dentures were seen among 2.8 percent of the subjects. About 0.9 percent of the subjects across all age groups were having one or more bridge.

A slightly higher percentage of urbanites were wearing prosthesis (7.5 percent) than their rural counterparts (7.1 percent). There were differentials observed between he genders and across the three regions.

Table 6.20 presents the percent subjects with prosthetic status of lower dental arch by type of prosthesis. Figures 6.19 and 6.20 present data for Table 6.19 and 6.20 in graph form.

The overall proportion of subjects wearing one or the other type of prostheses in the lower arch increased as age advanced. The proportion of population wearing prosthesis in the lower arch was about 0.4 percent among the 15 year olds. About 4.3 and 17.7 percent in the 35-44 and 65-74 year age groups, respectively, were wearing some type of prosthesis. Overall, more males then females were wearing prosthesis.

Full removable denture was the most common prosthesis (12.7 percent) among the 65-74 year age group, followed by partial dentures (2.6 percent). In the 35-44 year age group, partial dentures were the most common prosthesis (3 percent). About 1.1 percent of the subjects across the ages were having one or more bridge.

The prevalence pattern of subjects wearing prosthesis and their pattern of distribution by type of prosthesis showed that a slightly higher percentage of urbanites (7.9 percent) were wearing prosthesis than their rural counterparts (7.2 percent), with differentials seen in the distribution among the genders. Region-2 had a higher prevalence of prosthesis (7.9 percent) compared to Region-3 (7.3 percent) followed by Region-1 (5.4 percent).

Table 6.21 presents the per cent subjects who were wearing full mouth removable dentures.

There were no subjects aged 15 years who were wearing full mouth removable dentures, and only about 0.2 percent of the subjects in the 35-44 years age group were wearing the same.

Table 6.19 Percent distribution of subjects with their prosthetic status (upper arch) by age, sex, and geographical area. State : Haryana

Prosthetic Status (Upper)		15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T
Region 1	n=	**174**	**166**	***340***	**179**	**163**	***342***	**171**	**163**	***334***
With Prostheses present		1.1	0.0	***0.6***	2.2	1.3	***1.8***	17.9	9.7	***13.8***
Bridge or more than one bridge		1.1	0.0	***0.6***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
Partial denture		0.0	0.0	***0.0***	2.2	1.3	***1.8***	1.8	0.7	***1.3***
Both Bridge and partial denture		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.5	0.0	***0.3***
Full removal Denture		0.0	0.0	***0.0***	0.0	0.0	***0.0***	15.5	9.0	***12.3***
Region 2	n=	**151**	**144**	***295***	**153**	**163**	***316***	**154**	**147**	***301***
With Prostheses present		1.3	0.7	***1.0***	5.5	5.0	***5.3***	19.6	14.1	***16.9***
Bridge or more than one bridge		0.7	0.7	***0.7***	0.7	0.0	***0.4***	0.6	0.0	***0.3***
Partial denture		0.6	0.0	***0.3***	4.8	4.3	***4.6***	2.5	4.5	***3.5***
Both Bridge and partial denture		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.6	***0.3***
Full removal Denture		0.0	0.0	***0.0***	0.0	0.6	***0.3***	16.5	9.0	***12.8***
Region 3	n=	**164**	**160**	***324***	**163**	**160**	***323***	**157**	**156**	***313***
With Prostheses present		0.7	0.0	***0.4***	2.6	3.7	***3.2***	15.7	19.1	***17.4***
Bridge or more than one bridge		0.0	0.0	***0.0***	2.0	3.1	***2.6***	2.1	3.4	***2.8***
Partial denture		0.7	0.0	***0.4***	0.7	0.7	***0.7***	0.7	4.1	***2.4***
Both Bridge and partial denture		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.7	0.7	***0.7***
Full removal Denture		0.0	0.0	***0.0***	0.0	0.0	***0.0***	12.2	10.9	***11.6***
State Rural	n=	**329**	**310**	***639***	**328**	**328**	***656***	**330**	**317**	***647***
With Prostheses present		1.0	0.5	***0.8***	5.7	4.4	***5.1***	16.6	14.2	***15.4***
Bridge or more than one bridge		0.7	0.5	***0.6***	1.6	1.1	***1.4***	1.1	0.4	***0.8***
Partial denture		0.4	0.0	***0.2***	4.1	2.8	***3.5***	1.5	3.3	***2.4***
Both Bridge and partial denture		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.5	0.4	***0.5***
Full removal Denture		0.0	0.0	***0.0***	0.0	0.5	***0.3***	13.5	10.1	***11.8***
State Urban	n=	**160**	**160**	***320***	**167**	**158**	***325***	**152**	**149**	***301***
With Prostheses present		1.1	0.0	***0.6***	0.3	3.4	***1.9***	21.2	18.6	***19.9***
Bridge or more than one bridge		0.0	0.0	***0.0***	0.0	1.0	***0.5***	1.1	2.7	***1.9***
Partial denture		1.1	0.0	***0.6***	0.3	2.4	***1.4***	2.5	6.1	***4.3***
Both Bridge and partial denture		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	1.2	***0.6***
Full removal Denture		0.0	0.0	***0.0***	0.0	0.0	***0.0***	17.5	8.6	***13.1***
State Total	n=	**489**	**470**	***959***	**495**	**486**	***981***	**482**	**466**	***948***
With Prostheses present		1.0	0.4	***0.7***	4.0	4.1	***4.1***	18.2	15.6	***16.9***
Bridge or more than one bridge		0.4	0.4	***0.4***	1.1	1.1	***1.1***	1.1	1.0	***1.1***
Partial denture		0.6	0.0	***0.3***	2.9	2.7	***2.8***	1.8	4.1	***3.0***
Both Bridge and partial denture		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.3	0.6	***0.5***
Full removal Denture		0.0	0.0	***0.0***	0.0	0.3	***0.2***	15.0	9.8	***12.4***

Note: For information on current status and need for full mouth removable dentures, please refer to Tables 6.21 and 6.24 respectively.

Table 6.20 Percent distribution of subjects with their prosthetic status (lower arch) by age, sex, and geographical area. State : Haryana

Prosthetic Status (Lower)		15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T
Region 1	n=	**174**	**166**	***340***	**179**	**163**	***342***	**171**	**163**	***334***
Prostheses present		0.0	0.0	***0.0***	3.7	0.0	***1.9***	17.7	11.0	***14.4***
Bridge or more than one bridge		0.0	0.0	***0.0***	0.5	0.0	***0.3***	0.5	0.6	***0.6***
Partial denture		0.0	0.0	***0.0***	3.2	0.0	***1.6***	1.8	1.4	***1.6***
Both Bridge and partial denture		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.5	0.0	***0.3***
Full removal Denture		0.0	0.0	***0.0***	0.0	0.0	***0.0***	14.8	9.0	***11.9***
Region 2	n=	**151**	**144**	***295***	**153**	**163**	***316***	**154**	**147**	***301***
Prostheses present		0.7	0.7	***0.7***	6.1	4.2	***5.2***	20.9	14.8	***17.9***
Bridge or more than one bridge		0.0	0.7	***0.4***	0.7	0.0	***0.4***	1.9	0.7	***1.3***
Partial denture		0.7	0.0	***0.4***	5.4	3.6	***4.5***	2.5	3.8	***3.2***
Both Bridge and partial denture		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.6	***0.3***
Full removal Denture		0.0	0.0	***0.0***	0.0	0.6	***0.3***	16.5	9.7	***13.1***
Region 3	n=	**164**	**160**	***324***	**163**	**160**	***323***	**157**	**156**	***313***
Prostheses present		0.0	0.0	***0.0***	3.3	4.3	***3.8***	17.3	19.1	***18.2***
Bridge or more than one bridge		0.0	0.0	***0.0***	2.0	3.1	***2.6***	2.4	4.8	***3.6***
Partial denture		0.0	0.0	***0.0***	1.3	1.2	***1.3***	0.7	2.7	***1.7***
Both Bridge and partial denture		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.7	0.7	***0.7***
Full removal Denture		0.0	0.0	***0.0***	0.0	0.0	***0.0***	13.5	10.9	***12.2***
State Rural	n=	**329**	**310**	***639***	**328**	**328**	***656***	**330**	**317**	***647***
Prostheses present		0.5	0.5	***0.5***	6.4	3.4	***4.9***	17.7	14.7	***16.2***
Bridge or more than one bridge		0.0	0.5	***0.3***	1.7	1.1	***1.4***	1.8	1.7	***1.8***
Partial denture		0.5	0.0	***0.3***	4.7	1.8	***3.3***	1.5	2.0	***1.8***
Both Bridge and partial denture		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.5	0.4	***0.5***
Full removal Denture		0.0	0.0	***0.0***	0.0	0.5	***0.3***	13.9	10.6	***12.3***
State Urban		**160**	**160**	***320***	**167**	**158**	***325***	**152**	**149**	***301***
Prostheses present		0.0	0.0	***0.0***	1.3	4.6	***3.0***	22.4	18.9	***20.7***
Bridge or more than one bridge		0.0	0.0	***0.0***	0.0	1.0	***0.5***	2.2	2.7	***2.5***
Partial denture		0.0	0.0	***0.0***	1.3	3.6	***2.5***	2.5	6.5	***4.5***
Both Bridge and partial denture		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	1.2	***0.6***
Full removal Denture		0.0	0.0	***0.0***	0.0	0.0	***0.0***	17.7	8.6	***13.2***
State Total	n=	**489**	**470**	***959***	**495**	**486**	***981***	**482**	**466**	***948***
Prostheses present		0.3	0.4	***0.4***	4.8	3.7	***4.3***	19.3	16.1	***17.7***
Bridge or more than one bridge		0.0	0.4	***0.2***	1.2	1.1	***1.2***	1.9	2.0	***2.0***
Partial denture		0.3	0.0	***0.2***	3.6	2.3	***3.0***	1.8	3.4	***2.6***
Both Bridge and partial denture		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.3	0.6	***0.5***
Full removal Denture		0.0	0.0	***0.0***	0.0	0.3	***0.2***	15.3	10.1	***12.7***

Note: For information on current status and need for full mouth removable dentures, please refer to Tables 6.21 and 6.24 respectively.

Among the 65-74 year age group, 12.8 percent of the subjects (15.2 percent males and 10.4 percent females) were wearing full mouth removable dentures.

Urban areas had a slightly higher prevalence of full dentures (13.8 percent) compared to rural areas (12.5 percent). Region-2 had a higher prevalence (13.2 percent) compared to Region-3 (12.1 percent) followed by Region-1 (12 percent). There were marked differentials in the distribution among the genders.

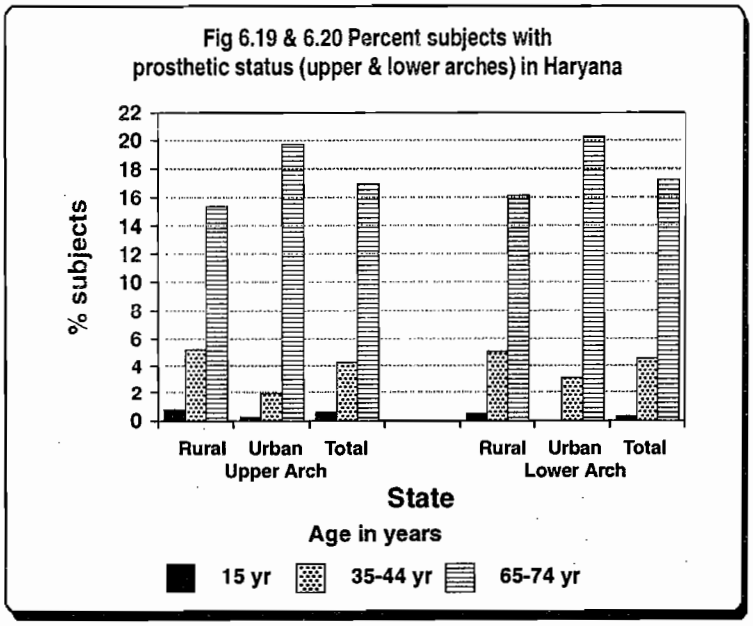


Table 6.21. Percent subjects with need for full mouth removable denture (upper and lower arch) by age, sex and geographical area. State : Haryana

Prosthetic need for full denture (upper & lower arch)		15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T
Region 1										
	n=	174	165	*339*	179	163	*342*	171	161	*332*
% subjects with full mouth removable dentures		0.0	0.0	*0.0*	0.0	0.0	*0.0*	14.8	9.1	*12.0*
Region 2										
	n=	133	134	*267*	139	153	*292*	147	132	*279*
% subjects with full mouth removable dentures		0.0	0.0	*0.0*	0.0	0.7	*0.4*	16.5	9.9	*13.2*
Region 3										
	n=	160	152	*312*	160	157	*317*	149	152	*301*
% subjects with full mouth removable dentures		0.0	0.0	*0.0*	0.0	0.0	*0.0*	12.9	11.2	*12.1*
State Rural										
	n=	313	296	*609*	315	319	*634*	319	306	*625*
% subjects with full mouth removable dentures		0.0	0.0	*0.0*	0.0	0.5	*0.3*	13.7	10.6	*12.2*
State Urban										
	n=	154	155	*309*	163	154	*317*	148	139	*287*
% subjects with full mouth removable dentures		0.0	0.0	*0.0*	0.0	0.0	*0.0*	17.9	9.7	*13.8*
State Total										
	n=	467	451	*918*	478	473	*951*	467	445	*912*
% subjects with full mouth removable dentures		0.0	0.0	*0.0*	0.0	0.3	*0.2*	15.2	10.4	*12.8*

6.6.5 Prosthetic need (upper & lower)

The prosthetic need refers to the unmet need for replacement of lost or missing teeth. Prosthesis may include partial or full removable dentures and fixed prosthesis including bridges. The data on prosthetic need (upper and lower arches) should be correlated with the section on prosthetic status.

Table 6.22 presents the percent subjects with prosthetic need of upper dental arch by type of prosthesis needed.

There was a higher need for prosthesis as age advanced. Only about 2.3 percent of the subjects required prosthesis among the 15 year olds. It was mainly a need for one-unit prosthesis (1.8 percent). Among the 35-44 year age group the prosthetic need was 25.1 percent and the most prevalent need was for one-unit prosthesis (12.5 percent) followed by a need for multi-unit prosthesis (9.9 percent). The prosthetic need was highest for 65-74 year age group (66.8 percent). The most prevalent need was that for full denture prosthesis (36 percent), followed by a need for multi-unit prosthesis (22.1 percent).

Overall, the prevalence pattern and distribution of need by type of prosthesis showed that there was a higher need for prosthesis among females than males. There were no major differences in the need for prosthetic care in the rural (32 percent) and urban areas (30.4 percent). Region-1 had a higher prevalence of the need for prosthetic care (37.8 percent) compared to Region-2 (69.2 percent) followed by Region-3 (61.4 percent).

Table 6.23 present the percent subjects with prosthetic need of lower dental arch by type of prosthesis needed. Figure 6.22 and 6.23 present graphical data for Tables 6.22 and 6.23.

There appeared to be a relatively greater need for prosthesis in the lower arch in subjects compared to the upper arch. As in the case of prosthetic need (upper arch) there was a greater need for prosthesis as age advanced.

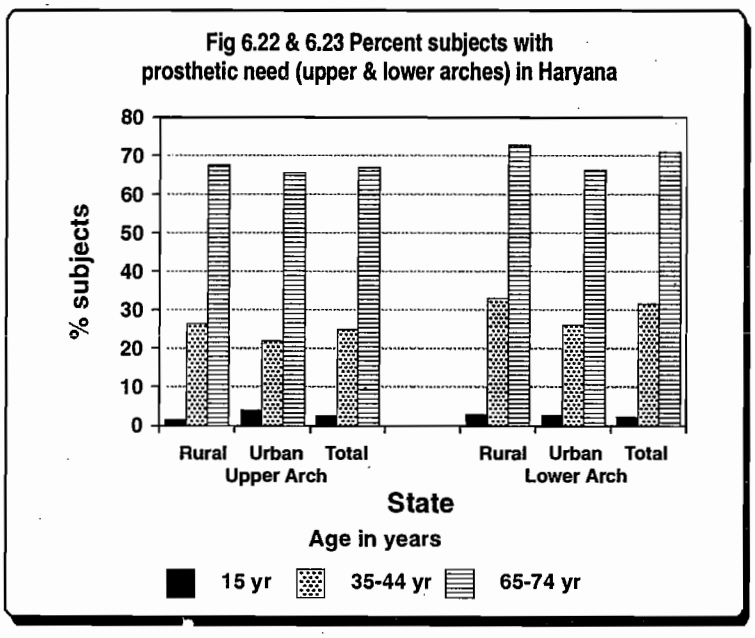


Table 6.22 Percent distribution of subjects with their prosthetic need status (upper arch) by age, sex, and geographical area. State : Haryana

Prosthetic Need (Upper)		15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T
Region 1	n=	174	166	*340*	179	163	*342*	171	163	*334*
With Prosthetic need		2.3	2.4	*2.4*	35.7	31.0	*33.4*	76.9	78.2	*77.6*
Need for one unit prosthesis		2.3	2.4	*2.4*	18.3	18.9	*18.6*	5.3	4.8	*5.1*
Need for multi unit prosthesis		0.0	0.0	*0.0*	16.9	11.0	*14.0*	34.2	32.3	*33.3*
Need for combination of one and/or MUP		0.0	0.0	*0.0*	0.5	0.6	*0.6*	2.3	0.7	*1.5*
Need for full prosthesis		0.0	0.0	*0.0*	0.0	0.6	*0.3*	35.0	40.4	*37.7*
Region 2	n=	151	144	*295*	153	163	*316*	154	147	*301*
With Prosthetic need		3.2	3.4	*3.3*	22.5	30.3	*26.4*	63.2	75.2	*69.2*
Need for one unit prosthesis		2.6	2.0	*2.3*	11.8	14.9	*13.4*	5.4	11.3	*8.4*
Need for multi unit prosthesis		0.6	0.6	*0.6*	6.6	11.0	*8.8*	17.3	18.6	*18.0*
Need for combination of one and/or MUP		0.0	0.7	*0.4*	1.3	1.2	*1.3*	1.2	1.9	*1.6*
Need for full prosthesis		0.0	0.0	*0.0*	2.8	3.2	*3.0*	39.3	43.4	*41.4*
Region 3	n=	164	160	*324*	163	160	*323*	157	156	*313*
With Prosthetic need		1.8	0.0	*0.9*	16.3	22.7	*19.5*	59.0	63.7	*61.4*
Need for one unit prosthesis		1.8	0.0	*0.9*	8.2	9.0	*8.6*	7.1	6.4	*6.8*
Need for multi unit prosthesis		0.0	0.0	*0.0*	7.0	12.0	*9.5*	20.9	26.8	*23.9*
Need for combination of one and/or MUP		0.0	0.0	*0.0*	1.2	0.5	*0.9*	1.1	0.5	*0.8*
Need for full prosthesis		0.0	0.0	*0.0*	0.0	1.2	*0.6*	30.0	29.9	*30.0*
State Rural	n=	329	310	*639*	328	328	*656*	330	317	*647*
With Prosthetic need		2.0	1.4	*1.7*	23.5	29.8	*26.7*	62.9	72.0	*67.5*
Need for one unit prosthesis		2.0	0.8	*1.4*	11.4	13.8	*12.6*	4.5	7.7	*6.1*
Need for multi unit prosthesis		0.0	0.0	*0.0*	9.1	12.6	*10.9*	19.6	21.2	*20.4*
Need for combination of one and/or MUP		0.0	0.5	*0.3*	1.0	0.6	*0.8*	0.3	0.5	*0.4*
Need for full prosthesis		0.0	0.0	*0.0*	2.0	2.8	*2.4*	38.5	42.7	*40.6*
State Urban	n=	160	160	*320*	167	158	*325*	152	149	*301*
With Prosthetic need		4.0	3.4	*3.7*	19.1	23.8	*21.5*	63.2	68.9	*66.1*
Need for one unit prosthesis		3.0	2.4	*2.7*	11.5	12.4	*12.0*	10.3	11.6	*11.0*
Need for multi unit prosthesis		1.1	1.0	*1.1*	6.1	9.3	*7.7*	23.4	29.2	*26.3*
Need for combination of one and/or MUP		0.0	0.0	*0.0*	1.5	1.5	*1.5*	3.6	3.2	*3.4*
Need for full prosthesis		0.0	0.0	*0.0*	0.0	0.5	*0.3*	25.9	25.0	*25.5*
State Total	n=	489	470	*959*	495	486	*981*	482	466	*948*
With Prosthetic need		2.6	2.0	*2.3*	22.0	28.1	*25.1*	62.6	70.9	*66.8*
Need for one unit prosthesis		2.3	1.3	*1.8*	11.5	13.4	*12.5*	6.2	8.8	*7.5*
Need for multi unit prosthesis		0.3	0.3	*0.3*	8.1	11.7	*9.9*	20.6	23.6	*22.1*
Need for combination of one and/or MUP		0.0	0.4	*0.2*	1.1	0.8	*1.0*	1.2	1.3	*1.3*
Need for full prosthesis		0.0	0.0	*0.0*	1.3	2.1	*1.7*	34.6	37.3	*36.0*

Note : For information on current status and need for full mouth removable dentures, please refer to Tables 6.21and 6.24 respectively.

Table 6.23 Percent distribution of subjects with their prosthetic need status (lower arch) by age, sex, and geographical area. State : Haryana

Prosthetic Need (Lower)		15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T
Region 1	n=	174	166	340	179	163	342	171	163	334
With Prosthetic need		3.7	4.5	4.1	41.5	42.8	42.2	77.8	78.2	78.0
Need for one unit prosthesis		3.2	3.3	3.3	18.2	17.0	17.6	3.9	1.4	2.7
Need for multi unit prosthesis		0.5	1.1	0.8	21.2	24.0	22.6	37.5	35.5	36.5
Need for combination of one and/or MUP		0.0	0.0	0.0	2.1	1.3	1.7	2.5	1.8	2.2
Need for full prosthesis		0.0	0.0	0.0	0.0	0.6	0.3	33.9	39.5	36.7
Region 2	n=	151	144	295	153	163	316	154	147	301
With Prosthetic need		3.9	4.1	4.0	22.4	37.9	30.2	66.4	76.8	71.6
Need for one unit prosthesis		3.3	2.1	2.7	8.9	15.1	12.0	9.3	9.6	9.5
Need for multi unit prosthesis		0.6	0.6	0.6	11.4	17.8	14.6	18.0	22.0	20.0
Need for combination of one and/or MUP		0.0	0.7	0.4	0.0	1.1	0.6	1.2	1.2	1.2
Need for full prosthesis		0.0	0.6	0.3	2.1	3.9	3.0	37.9	44.0	41.0
Region 3	n=	164	160	324	163	160	323	157	156	313
With Prosthetic need		3.3	1.2	2.3	25.3	30.8	28.1	62.4	71.3	66.9
Need for one unit prosthesis		3.3	0.7	2.0	8.7	8.8	8.8	5.2	8.0	6.6
Need for multi unit prosthesis		0.0	0.5	0.3	16.1	19.4	17.8	28.6	30.8	29.7
Need for combination of one and/or MUP		0.0	0.0	0.0	0.5	1.9	1.2	1.1	1.9	1.5
Need for full prosthesis		0.0	0.0	0.0	0.0	0.7	0.4	27.5	30.6	29.1
State Rural	n=	329	310	639	328	328	656	330	317	647
With Prosthetic need		4.0	2.8	3.4	28.4	38.6	33.5	66.5	77.7	72.1
Need for one unit prosthesis		3.9	2.1	3.0	9.0	12.2	10.6	5.7	8.7	7.2
Need for multi unit prosthesis		0.1	0.2	0.2	17.6	22.2	19.9	24.0	25.2	24.6
Need for combination of one and/or MUP		0.0	0.5	0.3	0.4	0.8	0.6	0.2	0.9	0.6
Need for full prosthesis		0.0	0.0	0.0	1.5	3.3	2.4	36.6	42.8	39.7
State Urban	n=	160	160	320	167	158	325	152	149	301
With Prosthetic need		3.2	3.6	3.4	21.4	31.8	26.6	65.1	67.7	66.4
Need for one unit prosthesis		2.1	1.0	1.6	12.8	15.5	14.2	11.4	6.4	8.9
Need for multi unit prosthesis		1.1	1.5	1.3	8.1	13.3	10.7	25.0	31.7	28.4
Need for combination of one and/or MUP		0.0	0.0	0.0	0.5	2.9	1.7	3.9	3.2	3.6
Need for full prosthesis		0.0	1.0	0.5	0.0	0.0	0.0	24.8	26.5	25.7
State Total	n=	489	470	959	495	486	981	482	466	948
With Prosthetic need		3.7	2.9	3.3	26.1	36.4	31.3	65.7	74.7	70.2
Need for one unit prosthesis		3.3	1.7	2.5	10.1	13.2	11.7	7.3	8.1	7.7
Need for multi unit prosthesis		0.4	0.6	0.5	14.7	19.5	17.1	24.1	27.1	25.6
Need for combination of one and/or MUP		0.0	0.4	0.2	0.4	1.5	1.0	1.3	1.6	1.5
Need for full prosthesis		0.0	0.3	0.2	1.0	2.3	1.7	32.9	37.9	35.4

Note: For information on current status and need for full mouth removable dentures, please refer to Tables 6.21 and 6.24 respectively.

Table 6.24 Percent subjects with full mouth removable denture (upper and lower arch) by age, sex and geographical area. State : Haryana

Prosthetic status for full denture (upper & lower arch)		15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T
Region 1										
	n=	173	163	*336*	177	163	*340*	170	157	*327*
Percent subjects needing full mouth removable dentures		0.0	0.0	*0.0*	0.0	0.6	*0.3*	32.9	38.9	*35.9*
Region 2										
	n=	132	135	*267*	138	150	*288*	139	131	*270*
Percent subjects needing full mouth removable dentures		0.0	0.0	*0.0*	2.3	3.5	*2.9*	41.2	47.6	*44.4*
Region 3										
	n=	164	154	*318*	160	158	*318*	147	149	*296*
Percent subjects needing full mouth removable dentures		0.0	0.0	*0.0*	0.0	0.7	*0.4*	29.4	30.0	*29.7*
State Rural										
	n=	315	299	*614*	316	317	*633*	313	298	*611*
Percent subjects needing full mouth removable dentures		0.0	0.0	*0.0*	1.5	3.0	*2.3*	38.8	43.7	*41.3*
State Urban										
	n=	154	153	*307*	159	154	*313*	143	139	*282*
Percent subjects needing full mouth removable dentures		0.0	0.0	*0.0*	0.0	0.0	*0.0*	26.5	28.0	*27.3*
State Total										
	n=	469	452	*921*	475	471	*946*	456	437	*893*
Percent subjects needing full mouth removable dentures		0.0	0.0	*0.0*	1.1	2.1	*1.6*	35.0	39.1	*37.1*

The need for prosthesis was about 3.3 percent among 15 year olds and the most prevalent need was that for one-unit prosthesis (2.5 percent). About 31.3 percent of subjects, and the most prevalent need was for multi-unit prosthesis (17.1 percent), followed by a need for one-unit prosthesis (11.7 percent). About 70.2 percent of the subjects in the 65-74 year age group needed prosthesis (65.7 percent for males and 74.7 percent for females). The most prevalent need was that for full denture prosthesis (35.4 percent), followed by a need for multi-unit prosthesis (25.6 percent).

There appeared to be a greater need for prosthesis among than males, except for the 15 year olds. The pattern and type of prosthetic need showed that there was a greater need for prosthesis among rural residents (36.3 percent) than urbanites (32.1 percent). Region-1 had a higher prevalence of the need for prosthesis (41.4 percent) than Region-2 (35.3 percent) followed by Region-3 (32.4 percent).

Table 6.24 presents the per cent subjects with need for full mouth removable dentures.

None of the 15 year olds required full mouth removable dentures and only 1.6 percent of the subjects in the 35-44 year age group needed full mouth removable dentures (1.1 percent for males and 2.1 percent for females). Those needing full mouth removable dentures in the 65-74 year age group was 37.1 percent, slightly more among females (39.1 percent) than males (35 percent). The pattern of need for full mouth removable dentures showed that there was a greater need among rural residents (14.5 percent) than urbanites (9.1 percent).

6.6.6 Community need for immediate care and referrals

Table 6.25 presents the percent subjects with life threatening conditions, pain or infection, other conditions and referrals made.

Overall, life threatening and painful or infective or infective conditions were extremely rare.

Life threatening conditions were recorded in 0.1 percent each among 12 and 15 year olds and 0.3 percent among the 35-44 year age group. Pain or infection was recorded in about 5.4 percent of the subjects across all ages. It was least for 5 year olds (2.9 percent) and highest for the 35-44 year age group (6.9 percent).

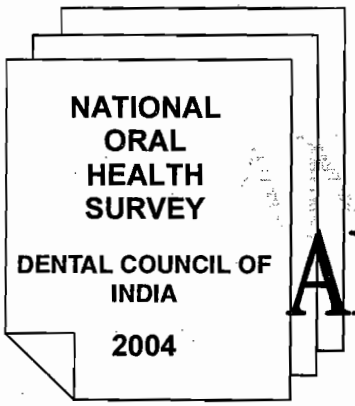
A higher proportion of subjects from Region-2 suffered from pain or infection as compared to Region-1, followed by Region-3. There were large differentials in the distribution among the genders and place of residence.

Referrals were made for almost all the conditions recorded for the subjects examined.

Table 6.25 Percent distribution of subjects with life threatening and painful conditions requiring immediate care and referral by age, sex and geographical area.

State : Haryana

Need For Care & Referral		5 years			12 years			15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Region 1	n=	177	167	*344*	171	172	*343*	173	165	*338*	178	162	*340*	166	154	*320*
Life threatening condition		0.0	0.0	***0.0***	0.0	0.5	***0.3***	0.5	0.0	***0.3***	0.0	0.0	***0.0***	0.6	0.0	***0.3***
Pain or infection		1.8	0.7	***1.3***	1.2	1.1	***1.2***	1.2	0.6	***0.9***	4.2	3.0	***3.6***	4.2	3.1	***3.7***
Other condition		0.0	1.1	***0.6***	0.0	0.6	***0.3***	2.4	1.2	***1.8***	2.1	1.8	***2.0***	1.9	1.2	***1.6***
Referral		1.8	1.8	***1.8***	1.2	1.6	***1.4***	4.0	1.7	***2.9***	6.2	4.7	***5.5***	5.9	3.5	***4.7***
Region 2	n=	128	110	*238*	122	120	*242*	123	124	*247*	128	139	*267*	122	115	*237*
Life threatening condition		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.7	0.0	***0.4***	0.0	0.0	***0.0***
Pain or infection		7.3	4.6	***6.0***	13.0	13.2	***13.1***	13.2	8.6	***10.9***	12.6	13.9	***13.3***	10.0	f	***5.0***
Other condition		0.0	0.0	***0.0***	0.7	1.5	***1.1***	0.0	1.5	***0.8***	2.2	3.5	***2.9***	3.1	1.6	***2.4***
Referral		7.1	4.6	***5.9***	12.9	12.5	***12.7***	12.0	8.5	***10.3***	13.3	15.3	***14.3***	11.8	12.2	***12.0***
Region 3		169	147	*316*	155	160	*315*	164	159	*323*	160	159	*319*	152	149	*301*
Life threatening condition		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.5	0.0	***0.3***	0.0	0.0	***0.0***
Pain or infection		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	1.4	***0.7***	0.7	0.0	***0.4***	1.4	0.6	***1.0***
Other condition		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
Referral		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	1.4	***0.7***	1.2	0.0	***0.6***	0.7	0.6	***0.7***
State Rural		318	292	*610*	304	310	*614*	313	299	*612*	311	315	*626*	308	287	*595*
Life threatening condition		0.0	0.0	***0.0***	0.0	0.1	***0.1***	0.1	0.0	***0.1***	0.0	0.0	***0.0***	0.1	0.0	***0.1***
Pain or infection		4.2	2.3	***3.3***	5.5	4.9	***5.2***	6.9	3.7	***5.3***	6.5	7.5	***7.0***	6.1	4.9	***5.5***
Other condition		0.0	0.2	***0.1***	0.0	0.1	***0.1***	0.3	0.2	***0.3***	0.0	0.8	***0.4***	0.7	0.2	***0.5***
Referral		4.2	2.5	***3.4***	5.5	4.0	***4.8***	6.8	3.4	***5.1***	6.0	7.7	***6.9***	6.4	5.0	***5.7***
State Urban		156	132	*288*	144	142	*286*	147	149	*296*	155	145	*300*	132	131	*263*
Life threatening condition		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	1.7	0.0	***0.9***	0.0	0.0	***0.0***
Pain or infection		1.9	1.8	***1.9***	7.8	9.4	***8.6***	4.0	6.9	***5.5***	7.1	6.4	***6.8***	5.0	8.2	***6.6***
Other condition		0.0	0.0	***0.0***	1.3	2.8	***2.1***	0.4	2.3	***1.4***	4.7	5.1	***4.9***	4.7	3.0	***3.9***
Referral		1.8	1.8	***1.8***	7.7	11.5	***9.6***	4.2	8.0	***6.1***	11.5	9.6	***10.6***	7.6	10.3	***9.0***
State Total		474	424	*898*	448	452	*900*	460	448	*908*	466	460	*926*	440	418	*858*
Life threatening condition		0.0	0.0	***0.0***	0.0	0.1	***0.1***	0.1	0.0	***0.1***	0.5	0.0	***0.3***	0.1	0.0	***0.1***
Pain or infection		3.5	2.2	***2.9***	6.2	6.1	***6.2***	6.0	4.7	***5.4***	6.7	7.1	***6.9***	5.8	5.7	***5.8***
Other condition		0.0	0.1	***0.1***	0.4	0.8	***0.6***	0.3	0.8	***0.6***	1.5	2.0	***1.8***	1.8	0.9	***1.4***
Referral		3.5	2.3	***2.9***	6.2	6.0	***6.1***	6.0	4.8	***5.4***	7.8	8.2	***8.0***	6.7	6.4	***6.6***



ANNEXURES

DENTAL COUNCIL OF INDIA

EXECUTIVE COMMITTEE

Dr. R K Bali
President
New Delhi

Dr. C. Bhasker Rao,
Vice President,
Dharwad.

Dr. Anil Kohli
New Delhi

Dr. Ravindra Ratolikar,
Hyderabad

Dr. S. G. Damle
Mumbai

Dr. B. H. Sripathi Rao
Mangalore.

Dr. J. R. Sabharwal
New Delhi

Dr. S. P. Agarwal,
New Delhi

OUTGOING MEMBERS

Dr. Mahesh Verma, New Delhi.

Dr. V. Surindra Shetty, Mangalore.

Dr. B. Suresh Chandra, Mangalore.

SUPPORT STAFF

Mr. A. L. Miglani, Secretary (Retd.)

Mr. S. S. Arora, Secretary I/c.

Mr. C.L. Bhatia

Mr. K. V. Abraham

Mr. P. K. De

Mr. Shiv Kumar

Mr. Praveen Kumar

Mr. S. S. Kanyal

Mr. Puneet Bansal

Mr. Anil Kumar

NOHS SECRETARIAT

Mrs. Sarita Verma

ANNEXURE - 1

CENTRAL SURVEY TEAM

Dr. R. K. Bali

Dr. V. B. Mathur

Prof. P. P. Talwar

Mr. H. B. Chanana

ANNEXURE - 2

TECHNICAL WORKING GROUP

Dr. R. K. Bali, President, DCI

Dr. V.B. Mathur

Dr. Shankar Aradhya

Dr. K.V.V. Prasad

Dr. M.B. Aswathnarayana

Prof. P.P. Talwar

Dr. Amrit Tiwari

LIST OF STATES, REGIONS WITHIN STATES AND SELECTED DISTRICTS

ANNEXURE - 3

Sr. No	State	Regions	Region Code	Selected Districts
1	Andhra Pradesh	North Coastal Andhra	01	Vishakapatnam
		South Coastal Andhra	02	Guntur
		Nellore	03	Nellore
		Rayalseema	04	Chittoor
		S Telangana	05	Ranga Reddy
		N Telangana	06	Khammam
2	Assam	N Eastern Hills	01	Karbi Anglong
		Lower Brahamputra	02	Kamrup
		Upper Brahamputra	03	Jorhat
3	Gujarat	S Hills	01	Bulsar
		S Gujarat	02	Surat
		M Gujarat	03	Baroda
		N Gujarat	04	Ahmedabad
		N W Arid	05	Kutch
		N Saurashtra	06	Jamnagar
		Saurashtra	07	Junagarh
4	Haryana	Foot Hills of Shivalik	01	Yamunanagar
		Plains	02	Rohtak
		Arid	03	Sirsa
5	Himachal Pradesh		01	Simla
			02	Kinnaur
6	Punjab	N Punjab	01	Roppas (Ropar)
		C Punjab	02	Patiala
		S Punjab	03	Sangrur
7	Chandigarh	Chandigarh	01	Chandigarh
8	Delhi	Delhi	01	Delhi
9	Karnataka	N Dry Region	01	Dharwad
		Central Region	02	Bangalore
		S Region	03	Mysore
		Hills & Coastal Region	04	Kodagu
10	Kerala	Coastal Midland	01	Malappuram
		Midlands	02	Kottayam
		Hills	03	Wayanad
11	Madhya Pradesh	Bundelkhand	01	Chattarpur
		Chattisgarh Hills	02	Mandla
		Keymora Plateau & Satapura Hills	03	Jabalpur

Sr. No	State	Regions	Region Code	Selected Districts
		Vindhya Plateau	04	Bhopal
		Satpura Plateau	05	Chindwara
		Central Narmada Valley	06	Hoshangabad
		Gird	07	Guna
		Malwa & Nimar (?) Plateau	08	Indore
12	Maharashtra	E Vidharba	01	Bhandara
		W Hills & Plains	02	Nasik
		Scarcity Region	03	Ahmednagar
		C Plateau	04	Amrawati
		C Vidharba	05	Wardha
		Konkan	06	Thane
13	Goa	Goa	01	Goa
14	Orissa	Inland	01	Dhankonal
		N Plateau Hills	02	Keonjar
		S W Hills	03	Koraput
		Coastal	04	Cuttack
		Ganjan	05	Ganjam
15	Rajasthan	N Arid	01	Ganganagar
		S Plains	02	Udaipur
		E Plains	03	Jaipur
		S Plateau	04	Jhalawar
		W Arid	05	Sikar
16	Tamil Nadu	N Region	01	Salem
		C Region	02	Coimbatore
		NE Coastal	03	Chennai
		Delta	04	Thanjavur
		SE Coastal	05	Tirunevalli
		S Region	06	Kanyakumari
		Hills Region	07	Nilgiri
17	U P	N E Plains	01	Gonda
		E Plains	02	Ballia
		C Plains	03	Sitapur
		N W Plains	04	Ghaziabad
		S W Plains	05	Aligarh
		Bundelkhand	06	Banda
18	J & K	Ladhakh	01	Ladakh
		Kashmir Valley	02	Srinagar
		Jammu	03	Jammu
19	Pondicherry	Pondicherry	01	Pondicherry

ANNEXURE - 4

LIST OF PARTICIPATING DENTAL COLLEGES

1.	Regional Dental College, Guwahati, (Assam)
2.	Govt. Dental College & Hospital, Ahmedabad (Gujarat)
3.	Dental College & Hospital, Delhi
4.	B.R.S. Dental College & Hospital Panchkula (Haryana)
5.	Dental College, Rohtak (Haryana)
6.	H.P. Govt. Dental College, Shimla (H.P.)
7.	College of Dental Surgery, Kasturba Medical College, Mangalore (Karnataka)
8.	Govt. Dental College, Bangalore
9.	Bharati Vidyapeeth Dental College & Hospital, Pune
10.	Dental Wing, S.C.B. Medical College, Cuttak (Orissa)
11.	Mahatma Gandhi Dental College & Hospital, Pondicherry.
12.	Dental College & Hospital, Lucknow
13.	Govt Dental College, Indore (M.P)
14.	Principal, Sri Sai College of Dental Surgery, Vikarabad – 501 101 (R.R. Dist. – A.P.)
15.	Govt. Dental College, Srinagar (J&K)
16.	Pacific Dental College, Udaipur, Rajasthan

ANNEXURE - 5

REGIONAL COORDINATORS

S. No.	State	Regional Coordinator
1.	Andhra Pradesh	Dr. A. Jayakumar, Principal Sri Sai College of Dental Surgery, Vikarabad
2.	Assam	Dr. Rubi Kataki Deptt. of Conservative Dentistry, Regional Dental College, Guwahati
3.	Delhi	Dr. Mahesh Verma, Principal, Dental College & Hospital, Maulana Azad Medical College,New Delhi
4.	Gujarat	Dr. Jayesh K. Parikh Govt. Dental College & Hospital, Ahmedabad.
5.	Himachal Pradesh, Punjab, Haryana, Chandigarh	Dr. N.C. Rao H.P. Govt. Dental College & Hospital, Shimla Deptt. of Community Dentistry,
6.	Jammu & Kashmir	Dr. Tara Singh Govt. Dental College, Srinagar.
7.	Karnataka	Dr. S.S. Hiremath Deptt. Of Community Dentistry, Govt. Dental College, Bangalore.
8.	Kerala	Dr. K. Nanda Kumar, Dental College, Medical Campus, Trivandrum
9.	Madhya Pradesh	Dr. S.V. Dhodapkar, Professor & Head of the Deptt. of Periodontics, College of Dentistry, Indore.
10.	Maharashtra, Goa	Dr. S.G. Damle, Dean, Nair Hospital Dental College, Mumbai.
11.	Orissa	Dr. Ashok K. Mahapatra Deptt. of Community Dentistry, S.C.B. Medical College, Cuttack.
12.	Tamil Nadu, Pondicherry	Dr. M.B. Aswathnarayanan, Deptt. of Community Dentistry, Govt. Dental College & Hospital, Chennai.
13.	Rajasthan	Dr. G. V. N. Ramesh, Principal, Pacific Dental College, Udaipur

ANNEXURE - 6

TEAM MEMBERS (HARYANA)

S. No.	Name	Designation
1.	Dr. N.C. Rao	Regional Coordinator
2.	Dr. (Mrs.) Shikha Tewari	Supervisor
3.	Dr. Chander Prakesh	Dental Surgeon
4.	Dr. Satish Kumar	Dental Surgeon
5.	Dr. Rajesh Kumar	Dental Surgeon
6.	Dr. Rajiv Chaudhary	Dental Surgeon
7.	Dr. Vikram Chhabra	Dental Surgeon
8.	Dr. Manoj Hans	Dental Surgeon
9.	Mr. Ish Kumar	Dental Hygienist
10.	Mr. Vinod Kumar Mishra	Dental Hygienist
11.	Mr. Pankaj Kumar	Dental Hygienist
12.	Mr. Gurpreet Singh	Driver
13.	Mr. Jaswant Singh	Assistant

List of participating Dental Colleges

1. H.P. Govt. Dental College & Hospital, Shimla (H.P)
2. D.A.V. Centenary Dental College, Model Town, Yamunanagar (Haryana)
3. M.M. College of Dental Sciences & Research Mullana, Ambala (Haryana)
4. Govt. Dental College, PGIMS, Rohtak (Haryana)

ANNEXURE - 7

DENTAL COUNCIL OF INDIA, NEW DELHI
भारतीय दंत चिकित्सा परिषद, नई दिल्ली
NATIONAL ORAL HEALTH SURVEY & FLUORIDE MAPPING 2002
राष्ट्रीय मुख स्वास्थय सर्वेक्षण तथा फ्लोराइड मैपिंग 2002

(A NATIONAL EPIDEMIOLOGICAL STUDY OF ORAL HEALTH PROBLEMS AND FLUORIDE ESTIMATION IN WATER SAMPLES)
(मुख स्वास्थय समस्याओं सम्बन्धी महामारी विज्ञान का राष्ट्रीय अध्ययन तथा जल–नमूनों में फ्लोराइड एस्टीमेशन)

DATE / तिथि [ ][ ][ ][ ][0][2] (DAY) (MONTH) (YEAR)

FORM NO. फार्म संख्या [1][0] (1-2)

STATE / राज्य [ ][ ] (6-7)

TEAM NO. दल संख्या (टीम) [ ][ ][ ] (3-5)

ZONE / क्षेत्र (ज़ोन) [ ][ ] (8-9)

DISTRICT / जिला [ ] (10)

NAME OF VILLAGE / URBAN BLOCK _____ (11-12)
गांव/शहरी ब्लाक का नाम

VILLAGE CODE **R / U /** आर/यू **R = 1, U = 2** [1][2] (13) R U

SERIAL NO. OF HOUSEHOLD VISITED [ ][ ][ ] (14-16)
सर्वेक्षण किये गये (सर्वेक्षित) घरों की क्रम संख्या

NAME OF HEAD OF HOUSEHOLD Mr. / Mrs. _____
घर के मुखिया का नाम

NAME OF SPOUSE _____
पत्नी का नाम

ADDRESS OF THE HOUSEHOLD _____
घर का पता

_____

NAME OF INTERVIEWER _____
साक्षात्कार कर्ता का नाम **(NAME) /** नाम **(SIGN) /** हस्ताक्षर

FIELD CHECKED BY _____
क्षेत्र जांचकर्ता **(NAME) /** नाम **(SIGN) /** हस्ताक्षर **(SUPERVISOR) /** (सुपरवाइजर)

SCRUTINISED BY _____
जांचकर्ता **(NAME) /** नाम **(SIGN) /** हस्ताक्षर **(SUPERVISOR) /** (सुपरवाइजर)

CHECKED BY _____
जांचकर्ता **(NAME) /** नाम **(SIGN) /** हस्ताक्षर **(COORDINATOR) /** (संयोजक)

A. SOCIO-ECONOMIC & DEMOGRAPHIC CHARACTERISTICS OF THE FAMILY
अ. परिवार की सामाजिक–आर्थिक विशिष्टताएं

FORM NO. फार्म संख्या | 1 | 1 |

S. No./ क्रम सं.	Question / प्रश्न	Code / कोड	
1.	***Name of Respondent and his/her relationship with Head of HH*** उत्तरदाता का नाम तथा घर के मुखिया से उसका सम्बन्ध	***(Head of Household)*** ***Self/*** स्वयं ..... ***1*** ***FATHER/*** पिता ..... ***2*** ***MOTHER/*** माता ..... ***3*** ***BROTHER/*** भाई ..... ***4*** ***OTHER/*** अन्यं ***5***	
2.	***Age of Respondent (in completed years)*** उत्तरदाता की आयु (पूर्ण वर्षों में)	***Yrs./*** वर्ष	(17-18)
3.	***Sex of the Respondent*** उत्तरदाता का लिंग	***M=1/*** पु. | ***M=2/*** स्त्री	(19)
4.	***Religion of the Household*** धर्म *(Tick One)/* (एक पर चिन्ह लगायें)	***Hindu/*** हिन्दू ..... ***1*** ***Muslim/*** मुस्लिम ..... ***2*** ***Sikh/*** सिख ..... ***3*** ***Christian/*** ईसाई ..... ***4*** ***Others/*** अन्यं ***5***	(20)
5.	***Caste of the Household*** जाति *(Tick One)/* (एक पर चिन्ह लगायें)	***SC/*** अनु. जाति ..... ***1*** ***ST/*** आदिम जाति ..... ***2*** ***OBC/*** अन्य पिछड़ा वर्ग ..... ***3*** ***Others/*** अन्यं ***4***	(21)
6.	***What is the highest educational level completed by the Head of the HH?*** मुखिया का शिक्षा स्तर	***Illiterate*** अशिक्षित ..... ***1*** ***Primary*** प्राइमरी ..... ***2*** ***Middle*** मिडिल ..... ***3*** ***High School*** हाईस्कूल ..... ***4*** ***Graduate*** स्नातक ..... ***5*** ***Professional*** व्यवसायिक ***6***	(22)
7.	***How much is the TOTAL Monthly Expenditure of the Household?*** घर का कुल मासिक व्यय कितना है?	***TOTAL Rs.*** कुल रु.	(23-27)
8.	***Type of House (Observe & record)*** मकान किस प्रकार का है? (देखें व लिखें)	***Kuccha/*** कच्चा ..... ***1*** ***Semi-Pucca/*** आधा–पक्का ..... ***2*** ***Pucca/*** पक्का ***3***	(28)

S. No./ क्रम सं.	Question / प्रश्न	Code / कोड	
9.	***Total No. of members in the family (probe and record the number)*** परिवार में कुल सदस्यों की संख्या (जांच करें व लिखें)	***M*** / पु. ***F*** / स्त्री	(29-30)
10.	***No. of persons 5 years old*** पांच वर्ष की आयु के व्यक्तियों की संख्या	***M*** / पु. ***F*** / स्त्री	(31-32)
11.	***No. of persons 12 years old*** बारह वर्ष की आयु के व्यक्तियों की संख्या	***M*** / पु. ***F*** / स्त्री	(33-34)
12.	***No. of persons 15 years old*** पन्द्रह वर्ष की आयु के व्यक्तियों की संख्या	***M*** / पु. ***F*** / स्त्री	(35-36)
13.	***No. of persons 35-44 years old*** 35–44 वर्ष की आयु के व्यक्तियों की संख्या	***M*** / पु. ***F*** / स्त्री	(37-38)
14.	***No. of persons 65-74 years old*** 65–74 वर्ष की आयु के व्यक्तियों की संख्या	***M*** / पु. ***F*** / स्त्री	(39-40)

B. FOOD HABITS / खाद्य सम्बन्धी आदतें

S. No./ क्रम सं.	Question / प्रश्न	Code / कोड	
15.	***What is your staple (main) food in the Household?*** आपका मुख्य अन्न क्या है? *(Tick One)/* (एक पर चिन्ह लगायें)	***Wheat*** / गेंहू ..... ***1*** ***Rice*** / चावल ..... ***2*** ***Maize*** / मक्का ..... ***3*** ***Jowar*** / ज्वार ..... ***4*** ***Bajra*** / बाजरा ..... ***5*** ***Others*** / अन्य ***6***	(41)
16.	***What is your main source of drinking water? (Take a sample of water in the given jar if the source of water is different from the one where earlier sample was collected)*** आपका पीने के पानी का मुख्य स्रोत क्या है? (पूर्व घर में एकत्रित नमूने से यदि यहाँ का स्रोत भिन्न है तो जार में पानी का नमूना लें) *(Tick One)/* (एक पर चिन्ह लगायें)	***Pipe/Tap*** / पाईप/टोटी ..... ***1*** ***Tubewell/Handpump*** / ट्यूबवैल ..... ***2*** ***Draw Well*** / हैंड पम्प ..... ***3*** ***Pond*** / कूआं ..... ***4*** ***River*** / नदी ..... ***5*** ***Others*** / अन्य ***6***	(42)
17.	***Identification of the drinking water source as marked on jar or bottle in which sample collected from this HH source or one before (if source is same)*** पानी के नमूने की संख्या?	☐	(43)
18.	***Is your family predominantly Veg./Non-Veg.*** क्या आपका परिवार मुख्य रूप से शाकाहारी/सामिस्र है? *(Tick One)/* (एक पर चिन्ह लगायें)	***Veg.*** / शाकाहारी ..... ***1*** ***Non-Veg.*** / सामिस्र ***2***	(44)

FORM NO. फार्म संख्या | 1 | 2 |

S. No./ क्रम सं.	Question / प्रश्न	Response / उत्तर	Code/कोड		Interviewee's Age / साक्षात्कार देने वाले की आयु					
					5 Yrs. / 5 वर्ष	12 Yrs. / 12 वर्ष	15 Yrs. / 15 वर्ष	35-44 Yrs./ 35–44 वर्ष	65-74 Yrs./ 65–74 वर्ष	
A.	**Socio-demographic cherecteristics of the individual**									
अ.	व्यक्ति की सामाजिक विशिष्टताएं									
19.	*Name of Individual (Interviewee)* / साक्षात्कार देने वाले व्यक्ति का नाम									
20.	*Name of Respondent and his/her relationship with Individual (Interviewee)*/ उत्तरदाता का व्यक्ति से संबंध	*Self* / स्वयं ..... 1 *FATHER*/ पिता ..... 2 *MOTHER*/ माता ..... 3 *BROTHER*/ भाई ..... 4 *OTHER*/ अन्य 5				N.A.	N.A.	N.A.	N.A.	(45-49)
21.	*Age of Individual (Interviewee) (in completed years)* / साक्षात्कार देने वाले की आयु (पूर्ण वर्षों में)				5 Yrs.	12 Yrs.	15 Yrs.			(50-59)
22.	*Sex* / लिंग	*M=1* *F=2* पुरुष–1 स्त्री–2			M = 1 F = 2	M = 1 F = 2	M = 1 F = 2	M = 1 F = 2	M = 1 F = 2	(60-64)
23.	*What is the level of Education attained by you?* / आप की शिक्षा का स्तर क्या है? *(Tick One)*/ (एक पर चिन्ह लगायें)	*Illiterate* / अशिक्षित ..... 1 *Primary* / प्राइमरी ..... 2 *Middle* / मिडिल स्कूल ..... 3 *High School* / हाई स्कूल ..... 4 *Graduate* / स्नातक ..... 5 *Professional* / व्यवसायिक 6			NOT TO BE ASKED	(MENTION CODE 1-6 AS APPLICABLE AGAINST EACH AGE GROUP)				(65-69)

S. No./ क्रम सं.	Question / प्रश्न	Response / उत्तर	Code/कोड		5 Yrs. / 5 वर्ष	12 Yrs. / 12 वर्ष	15 Yrs. / 15 वर्ष	35-44 Yrs./ 35–44 वर्ष	65-74 Yrs./ 65–74 वर्ष	
24.	Your occupation or Profession ? / आपका रोजगार या व्यवसाय?	Farmer ..... 1 कृषक Agriculture Labour ..... 2 कृषि श्रमिक Business ..... 3 व्यापार Professional ..... 4 व्यवसाय White Collar Worker ..... 5 व्हाईट–कालर कार्य Skilled Worker ..... 6 सीखा हुआ कर्मचारी Unskilled Worker ..... 7 बिना सीखा हुआ कर्मचारी Other (Specify) ..... 8 अन्य			A S K E D	A S K E D				(70-74)
25.	How often do you read a Newspaper? / आप समाचार–पत्र कब पढ़ते है?	Daily ..... 1 प्रतिदिन Sometime ..... 2 कभी–कभी Not at all ..... 3 कभी नहीं			B E	B E				(75-79)
26.	How often do you listen to Radio? / आप रेडियो कब सुनते हैं?	Daily ..... 1 प्रतिदिन Sometime ..... 2 कभी–कभी Not at all ..... 3 कभी नहीं			T O	T O				(80-84)
27.	How often do you watch to TV? / आप टी वी कब देखते हैं?	Daily ..... 1 प्रतिदिन Sometime ..... 2 कभी–कभी Not at all ..... 3 कभी नहीं			N O T	N O T				(85-89)
28.	How often do you watch Cinema in a Hall? / आप सिनेमा हाल में कब देखते हैं? (Tick One)	Once in 3 months ..... 1 3 माह में एक बार Less often ..... 2 बहुत कम Not at all ..... 3 कभी नहीं								(90-94)

S. No./ क्रम सं.	Question / प्रश्न	Response / उत्तर	Code/कोड		5 Yrs. / 5 वर्ष	12 Yrs. / 12 वर्ष	15 Yrs. / 15 वर्ष	35-44 Yrs./ 35–44 वर्ष	65-74 Yrs./ 65–74 वर्ष	
B.	**Abnormal Oral Habits**									
ब.	मुख सम्बन्धी असामान्य आदतें									
29.	***Does the interviewee generally breathe by nose or mouth ? /*** आप साधारणतया नाक से सांस लेते हैं या मुँह से?	***Nose/*** नाक ***Mouth/*** मुँह ***Can't Say/*** कह नहीं सकता	***1*** ***2*** ***3***							(95-99)
30.	***Did/does the interviewee have a habit of sucking or biting his/her fingers or Thumb?*** क्या आपको अपनी उँगली चूसने या दांतों से दबाने की आदत हैं या थी? (देखें और लिखें)	***No/*** नहीं ***Yes/*** हां ***Can't Say/*** कह नहीं सकता	***1*** ***2*** ***3***							(100-104)
31.	***Did/does the interviewee have a habit of thrusting his/her tongue on his/her teeth? (Observe & Record) /*** क्या आपको अपनी जीभ दांतों पर दबाने की आदत है या थी? (देखें और लिखें)	***No/*** नहीं ***Yes/*** हां ***Can't Say/*** कह नहीं सकता	***1*** ***2*** ***3***							(105-109)
32.	***Did/does the interviewee have a habit of bitting nails, lips or objects like a pencil*** क्या साक्षात्कार देने वाले को नाखून, होंठ या पेन्सिल जैसी चीजें चबाने की आदत है या थी?	***No/*** नहीं ***Yes/*** हां ***Can't Say/*** कह नहीं सकता	***1*** ***2*** ***3***							(110-114)
33.	***Did/does the interviewee have a habit of gritting or grinding his/her teeth consciously, unconsciously, during sleep or moments of stress? /*** क्या आपको जाने–अनजाने सोते समय या किसी दबाव के समय अपने दांत रगड़ने की आदत है या थी?	***No Habit/*** आदत नहीं ***In Sleep/*** नींद में ***In Stress/*** दबाव में ***Can't Say/*** कह नहीं सकता	***1*** ***2*** ***3*** ***4***							(115-119)
C.	**Eating Habits**									
स.	खान–पान की आदतें									
34.	***How many times between today & yesterday have you taken anything sweet? (Help to recall number of times sweet taken during last 24 hrs.) /*** आपने कल और आज के बीच कितनी बार मीठा खाया? (पिछले 24 घंटों के दौरान कितनी बार मीठा खाया, याद दिलाने में सहायता करें)	***1 times/*** एक बार ***2 times/*** 2 बार ***3 times/*** 3 बार ***4 times/*** 4 बार ***5 times/*** 5 बार ***> 5 times/*** 6 बार ***Not taken/*** नहीं खाई	***1*** ***2*** ***3*** ***4*** ***5*** ***6*** ***7***							(120-124)

S. No./ क्रम सं.	Question / प्रश्न	Response / उत्तर	Code/कोड		5 Yrs. / 5 वर्ष	12 Yrs. / 12 वर्ष	15 Yrs. / 15 वर्ष	35-44 Yrs./ 35–44 वर्ष	65-74 Yrs./ 65–74 वर्ष	
35.	**When were these sweet eaten ? /** मीठा कब–कब खाया गया?	**During Meals** भोजन के समय	1							(125-129)
		In Between Meals भोजन के समय के बीच	2							
		During & In Between Meals भोजन के समय व बीच में	3							
		N.A. / लागू नहीं होता	4							

D. Oral Hygiene Practices
द. मुख की सफाई

36.	**How do you generally clean your teeth?/** सामान्यतः आप अपने दांत कैसे साफ करते हैं?	**Finger/** उंगली से	1	**If Code chosen either 3 or 4, go to Q. 42.**						(130-134)
		Brush/ ब्रुश से	2							
		Datun/ दातुन	3							
		Others (Specify) अन्य	4							
37.	**How often do you clean your teeth in a day ? /** दिन में आप कितनी बार दांत साफ करते हैं?	**Once/** दिन में एक बार	1							(135-139)
		Twice/ दिन में दो बार	2							
		After every meal प्रति भोजन के बाद	3							
		Don't clean every day प्रतिदिन साफ नहीं करते	4							
38.	**What are your timings of cleaning teeth ? /** दांत साफ करने का समय क्या है?	**Morning only/** केवल प्रातःकाल	1							(140-144)
		Night only (before going to bed) केवल रात में सोने से पहले	2							
		Morning & Night प्रातःकाल व रात	3							
		After meals भोजन के बाद	4							
		Others (Specify) अन्य	5							
39.	**What material do you generally use to clean teeth ? /** सामान्यतः आप अपने दांत किस चीज से साफ करते हैं?	**Toothpaste** टूथपेस्ट	1	**If Code chosen 3, go to Q. 41**						(145-149)
		Toothpowder टूथपाउडर	2							
		Others (Specify) अन्य	3							

S. No./ क्रम सं.	Question / प्रश्न	Response / उत्तर	Code/कोड		5 Yrs. / 5 वर्ष	12 Yrs. / 12 वर्ष	15 Yrs. / 15 वर्ष	35-44 Yrs./ 35–44 वर्ष	65-74 Yrs./ 65–74 वर्ष	
40.	***Check tooth paste/powder used and record whether it is fluoridated or non-fluoridated?*** प्रयुक्त किये गए टूथ पेस्ट/पाउडर को चैक करें व लिखें वह फ्लोराइड–युक्त है या फ्लोराइड रहित?	***Fluoridated*** ..... ***1*** फ्लोराइड–युक्त ***Non-Fluoridated*** ..... ***2*** फ्लोराइड–रहित ***Can't Say*** ..... ***3*** कह नहीं सकता ***None*** ***4***								(150-154)
41.	***(Ask only if code in Q. 36 was 2.)*** ***How often do you change your toothbrush?*** आप अपना टूथ ब्रश कितने समय बाद बदलते हैं?	***1-3 months/*** 1–3 माह ..... ***1*** ***4-6 months/*** 4–6 माह ..... ***2*** ***6 + months/*** ..... ***3*** 6 से अधिक ***NA (Not using/ Brush)*** ***4***								(155-159)
42.	***How often you rinse your mouth with water after eating? /*** क्या भोजन करने के बाद आप पानी से कुल्ला करते हैं।	***Never*** ..... ***1*** कभी नहीं ***Sometimes*** ..... ***2*** कभी–कभी ***Always*** ..... ***3*** सर्वदा								(160-164)
43.	***Do you use any other oral hygiene aids?*** क्या आप मुँह साफ करने के लिए किसी अन्य साधन का इस्तेमाल करते हैं? ***(Tick as many as reported)*** (जितना बताएं सब लिखें)	***Dental Floss*** ..... ***1*** डेन्टल फ्लॉश ***Interdental Brush*** ..... ***2*** इन्टरडेन्टल ब्रुश ***Toothpicks*** ..... ***3*** टूथ पिक्स ***Fluoride Mouthrinse*** ..... ***4*** फ्लोराइड माउथरिन्स ***Other*** ..... ***5*** ***Mouthwash/Rinse (Specify)*** अन्य माउथवाश/रिन्स लिखें ***None/*** कोई नहीं ***6***								(165-184)

S. No./ क्रम सं.	Question / प्रश्न	Response / उत्तर	Code/कोड		5 Yrs. / 5 वर्ष	12 Yrs. / 12 वर्ष	15 Yrs. / 15 वर्ष	35-44 Yrs./ 35–44 वर्ष	65-74 Yrs./ 65–74 वर्ष	

E. Pattern of Practices for Dental Treatment

द. दंत–चिकित्सा के तरीके

44.	***Have you suffered from any mouth or teeth problems in the last one year?/*** क्या पिछले एक वर्ष में आपको मुख या दांत सम्बन्धी कोई बीमारी हुई है?	***No/*** नहीं ***Yes /*** हां ***Can't Say/*** कह नहीं सकता	1 2 3	**If No. Go to Q. 47**						(185-189)
45.	***What were or was the problem?*** यदि हां, तो समस्या क्या थी या है? ***(Tick as many as reported)*** (जितना बताएं सब लिखें)	***Dental decay*** दंत–क्षय ***Gum disease*** मसूड़ों की बीमारी ***Foul breath*** दुर्गन्धित सांस ***Bleeding gums*** मसूड़ों से खून बहना ***Trauma*** ट्रोमा (चोट) ***Abscess*** एबसेस (फोड़ा) ***Crooked teeth*** टेढ़े–मेढ़े दांत ***Ulcer*** अल्सर ***Others (Specify)*** अन्य (लिखें)	1 2 3 4 5 6 7 8 9							(190-209)
46.	***Who was or were consulted?*** आपने किससे राय ली? ***(Tick as many as reported)*** (जितना बताएं सब लिखें)	***None/*** कोई नहीं ***Friend/Neighbour*** मित्र / पड़ोसी ***Relative/*** रिश्तेदार ***Med. Practitioner*** मेडिकल प्रेक्टिश्नर ***Pharmacist/ Chemist*** फारमासिस्ट / कैमिस्ट ***Untrained Dentist*** अनट्रेण्ड डेन्टिस्ट ***Trained Dentist*** ट्रेण्ड डेन्टिस्ट ***Others (Specify)*** अन्य	1 2 3 4 5 6 7 8							(210-229)

S. No./ क्रम सं.	Question / प्रश्न	Response / उत्तर	Code/कोड		5 Yrs. / 5 वर्ष	12 Yrs. / 12 वर्ष	15 Yrs. / 15 वर्ष	35-44 Yrs./ 35–44 वर्ष	65-74 Yrs./ 65–74 वर्ष	
47.	***Are you suffering or have you ever suffered from one or more of the following :*** क्या आपको कभी निम्न बीमारियाँ थीं या हैं? ***(Tick as many as reported)*** (जितना बताएं सब लिखें)	***None/*** कोई नहीं ***Hypertension*** हाईपरटेन्शन ***Diabetes*** डाईबिटीज़ ***Epilepsy*** एपिलेप्सी ***Jaundice*** जोन्डिस ***Asthma*** अस्थमा ***Others (Specify)*** अन्य ***Can't Say/*** कह नहीं सकता	***1*** ***2*** ***3*** ***4*** ***5*** ***6*** ***7*** ***8***							(230-249)
48.	***What is or are the availability of dental treatment facilities in your area? /*** आपके क्षेत्र में दंत–चिकित्सा सम्बन्धी क्या सुविधाएं उपलब्ध हैं? ***(Tick as many as reported)*** (जितना बताएं सब लिखें)	***None/*** कोई नहीं ***Govt. Hosp./ Dispensary*** सरकारी हस्पताल / डिस्पेन्सरी ***Private Hospitals*** निजी हस्पताल ***Private Practitioner*** प्राइवेट प्रेक्टिशनर ***Don't Know*** नहीं जानते	***1*** ***2*** ***3*** ***4*** ***5***							(250-269)
49.	***How accessible are the Oral health facilities with available transport?*** उपलब्ध परिवहन द्वारा मुख–स्वास्थ्य सुविधाओं तक पहुंच का समय।	***Less than ½ hour*** आधा घण्टा से कम ***½ to 1 hour*** आधा से 1 घण्टा ***> 1 hour*** 1 घण्टा से अधिक ***Can't Say*** कह नहीं सकता	***1*** ***2*** ***3*** ***4***							(270-274)

S. No./ क्रम सं.	Question / प्रश्न	Response / उत्तर	Code/कोड		5 Yrs. / 5 वर्ष	12 Yrs. / 12 वर्ष	15 Yrs. / 15 वर्ष	35-44 Yrs./ 35–44 वर्ष	65-74 Yrs./ 65–74 वर्ष	

F. Awareness and Knowledge of Dental Health Problems

एफ. दंत–स्वास्थ्य समस्याओं की जानकारी व जागरूकता

50.	***What, in your opinion, are the common problems associated with mouth and teeth?*** / आपकी राय में मुख व दांतों से सम्बन्धित सामान्य समस्याएँ क्या हैं? ***(Tick as many as reported)*** (जितना बताएं सब लिखें)	***Tooth Decay*** ..... 1 दंत–क्षय ***Gum Disease*** ..... 2 मसूड़ों की बीमारी ***Bad Smell*** ..... 3 दुर्गन्ध ***Crooked teeth*** ..... 4 टेढ़े–मेढ़े दांत ***Mouth Ulcers*** ..... 5 मुख का अल्सर ***Stained teeth*** ..... 6 गन्दे दांत ***Others (Specify)*** ..... 7 अन्य ***Don't Know*** ..... 8 नहीं जानता			ASKED					(275-294)
51.	***What, in your opinion, are the major factors which cause dental problems?***/ आपकी राय में, किन मुख्य कारणों से दांतों की समस्याएँ पैदा होती हैं? ***(Tick as many as reported)*** (जितना बताएं सब लिखें)	***Eating sweets icecreams/chocolates*** ..... 1 मिठाई/आइसक्रीम/ चाकलेट खाना ***Not brushing regularly*** ..... 2 नियमित रूप से ब्रुश न करना ***Not rinsing*** ..... 3 पानी से मुख साफ न करना ***Consuming Tobacco products/*** ..... 4 तम्बाकू उत्पाद खाना ***Others (Specify)*** ..... 5 अन्य ***Don't Know*** ..... 6 नहीं जानता			NOT TO BE					(295-314)

S. No./ क्रम सं.	Question / प्रश्न	Response / उत्तर	Code/कोड		5 Yrs. / 5 वर्ष	12 Yrs. / 12 वर्ष	15 Yrs. / 15 वर्ष	35-44 Yrs./ 35–44 वर्ष	65-74 Yrs./ 65–74 वर्ष	
52.	*How can you prevent dental problems?/* आप किस प्रकार दांतों की बीमारियों को रोक सकते हैं? *(Tick as many as reported)* (जितना बताएं सब लिखें)	*Not consuming tobacco products /* तम्बाकू उत्पादों का इस्तेमाल न करके	1		ASKED					(315-334)
		Regular cleaning of teeth with brush ब्रुश द्वारा दांतों की नियमित सफाई	2							
		Visiting dentist regularly दंत–चिकित्सक द्वारा नियमित जांच	3							
		Using Fluoride Toothpaste फ्लोराइड टूथ–पेस्ट का इस्तेमाल	4							
		Avoiding sweets icecreams/chocolates मिठाई, आइसक्रीम व चाकलेट छोड़कर	5							
		Others (Specify) अन्य तरीके	6							
		Don't Know नहीं जानता	7							

G. Tobacco Smoking and Chewing Habits
जी. तम्बाकू चबाने व पीने की आदतें

53.	*Do you smoke? /* क्या आप धूम्रपान करते हैं?	*No/* नहीं	1	In case NO go to Q. 61	NOT TO BE ASKED					(335-339)
		Yes/ हां	2							
54.	*What do you smoke? /* आप कौन सा धूम्रपान करते हैं? *(Tick as many as reported)* (जितना बताएं सब लिखें)	*Chillum/* चिलम	1							(340-359)
		Hookah/ हुक्का	2							
		Cigars/ सिगार	3							
		Cigarettes/ सिगरेट	4							
		Bidis/ बिड़ी	5							
		Others (Specify)/ अन्य	6							

S. No./ क्रम सं.	Question / प्रश्न	Response / उत्तर	Code/कोड		5 Yrs. / 5 वर्ष	12 Yrs. / 12 वर्ष	15 Yrs. / 15 वर्ष	35-44 Yrs./ 35–44 वर्ष	65-74 Yrs./ 65–74 वर्ष	
55.	***Whether it is with or without Filter?*** क्या यह फिल्टर सहित हैं या फिल्टर रहित?	***With Filter/*** फिल्टर युक्त ***Without Filter/*** फिल्टर रहित ***Don't Know/*** नहीं जानता	***1*** ***2*** ***3***		D					(360-364)
56.	***How many times a day do you normally Smoke? /*** एक दिन में सामान्यतः कितनी बार धूम्रपान करते हैं?	***< 5 times/*** पांच बार तक ***5-10 times/*** पांच से दस बार ***10-20 times/*** दस से बीस बार ***> 20 times/*** बीस से अधिक	***1*** ***2*** ***3*** ***4***		E K					(365-369)
57.	***Did you or do you chew pan with tobacco? /*** क्या आप पान तम्बाकू के साथ चबाते हैं या चबाते थे?	***No/*** नहीं ***Yes/*** हाँ ***Don't Know/*** पता नहीं	***1*** ***2*** ***3***	**If No, Go to Q. 61**	S A					(370-374)
58.	***Did you or do you chew pan-masala with tobacco? /*** क्या आप पान–मसाला तम्बाकू के साथ चबाते हैं या चबाते थे?	***No/*** नहीं ***Yes/*** हाँ ***Don't Know/*** पता नहीं	***1*** ***2*** ***3***		E					(375-379)
59	***How long have you been in the habit of chewing pan or pan masala with tobacco? /*** आप कब से पान या पान–मसाला तम्बाकू के साथ चबाते रहें हैं? (एक पर टिक लगायें)	***< 5 Yrs./*** 5 साल से ***5-10 Yrs./*** 5–10 साल से ***> 10 Yrs./*** 10 साल से अधिक	***1*** ***2*** ***3***		B					(380-384)
60.	***How often do you chew tobacco in a day? /*** एक दिन में आप तम्बाकू कितनी बार चबाते हैं? (एक पर टिक लगायें)	***< 5 times/*** 5 बार ***5-10 times/*** 5–10 बार ***> 10 times/*** 10 से अधिक	***1*** ***2*** ***3***		O T					(385-389)
61.	***Did you or do you take Alcohol? /*** क्या आप अल्कोहल (शराब) लेते थे या लेते हैं? (एक पर टिक लगायें)	***No/*** नहीं ***Yes/*** हाँ	***1*** ***2***	**If No, End the interview here**	N O T					(390-394)
62.	***How often do you take Alcohol/*** आप अल्कोहल (शराब) कितनी बार लेते हैं या लेते थे? (एक पर टिक लगायें)	***Daily/*** प्रतिदिन ***3 times a week/*** सप्ताह में 3 बार ***Occasionally/*** कभी–कभी ***< 3 times a week/*** सप्ताह में 3 बार से अधिक	***1*** ***2*** ***3*** ***4***		N					(395-399)

DENTAL COUNCIL OF INDIA, NEW DELHI

NATIONAL ORAL HEALTH SURVEY & FLUORIDE MAPPING

(A NATIONAL EPIDEMIOLOGICAL STUDY OF ORAL HEALTH PROBLEMS AND FLUORIDE ESTIMATION IN WATER SAMPLES)

DATE | | | | | 0 | 4 | (DAY) (MONTH) (YEAR)

FORM NO. 2 0 (1-2)

STATE (6-7)

ZONE (8-9)

TEAM NO. (3-5)

DISTRICT (10)

NAME OF VILLAGE / URBAN BLOCK _____ (11-12)

CODE

RURAL / URBAN 1 (R) 2 (U) (13)

SERIAL NO. OF HOUSEHOLD VISITED (14-16)

NAME OF HEAD OF HOUSEHOLD Mr. / Mrs. _____

NAME OF SPOUSE _____

ADDRESS OF THE HOUSEHOLD _____

_____

EXAMINER _____ (NAME) (SIGN)

RECORDER _____ (NAME) (SIGN)

NAME OF INTERVIEWER _____ (NAME) (SIGN)

FIELD CHECKED BY _____ (NAME) (SIGN)

SCRUTINISED BY _____ (NAME) (SIGN)

CHECKED BY _____ (NAME) (SIGN)

WHO ORAL HEALTH ASSESSMENT FORM (1997)

GENERAL INFORMATION

Name .....

Date of birth (17) Year Month (20)

Age in years (21) (22)

Sex (M = 1, F = 2) (23)

Ethnic group (24)

Occupation (25)

Geographical location (26) (27)

Location type : (28)

1 = Urban
2 = Periurban
3 = Rural

OTHER DATA (specify and provide codes)

..... (29)

..... (30)

CONTRAINDICATION TO EXAMINATION

Reason..... (31)

..... 0 = No
1 = yes

CLINICAL ASSESSMENT (32)

EXTRA-ORAL EXAMINATION

0 = Normal extra-oral appearance
1 = Ulceration, sores, erosions, fissures (head, neck, limbs)
2 = Ulceration, sores, erosions, fissures (nose, checks, chin)
3 = Ulceration, sores, erosions, fissures (commissures)
4 = Ulceration, sores, erosions, fissures (vermilion border)
5 = Cancrum oris
6 = Abnormalities of upper and lower lips
7 = Enlarged lymph nodes (head, neck)
8 = Other swellings of face and jaws

TEMPOROMANDIBULAR JOINT ASSESSSMENT

SYMPTOMS
0 = NO
1 = Yes
9 = Not recorded
(33)

SIGNS
0 = No
1 = Yes
9 = Not recorded

Clicking (34)
Tenderness (on palpation) (35)
Reduced jaw mobility (< 30 mm opening) (36)

ORAL MUCOSA

CONDITION

0 = No abnormal condition
1 = Malignant turmour (oral cancer)
2 = Leukoplakia
3 = Lichen Planus
4 = Ulceration (aphthous, herpetic, traumatic)
5 = Acute necrotizing gingivitis
6 = Candidiasis
7 = Abscess
8 = Other condition (specify if possible).....
9 = Not recorded

(37) (40)
(38) (41)
(39) (42)

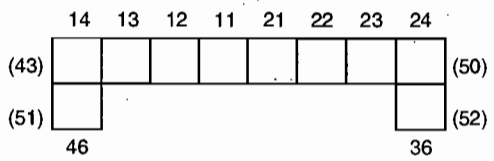
LOCATION

0 = Vermilion border
1 = Commissures
2 = Lips
3 = Sulci
4 = Buccal Mucosa
5 = Floor of mouth
6 = Tongue
7 = Hard and / or soft palate
8 = Alveolar ridges / gingiva
9 = Not recorded

ENAMEL OPACITIES/HYPOPLASIA

Permanent teeth

0 = Normal
1 = Demarcated opacity
2 = Diffuse opacity
3 = Hypoplasia
4 = Other defects
5 = Demarcated and diffuse opacities
6 = Demarcated opacity and hypoplasia
7 = Diffuse opacity and hypoplasia
8 = All three conditions
9 = Not recorded



LOSS OF ATTACHMENT*

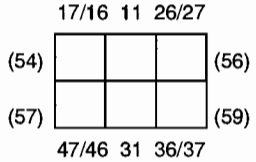
0 = Normal
1 = Questionable
2 = Very mild
3 = Mild
4 = Moderate
5 = Severe
8 = Excluded
9 = Not recorded

(53)

COMMUNITY PERIODONTAL INDEX (CPI)

0 = Healthy
1 = Bleeding
2 = Calculus
3 = Pocket 4-5 mm (black band on probe) partially visible)
4* = Pocket 6 mm or more (black band on probe not visible)
X = Excluded sextant
9 = Not recorded

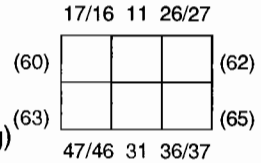
*Not recorded under 15 years of age



LOSS OF ATTACHMENT*

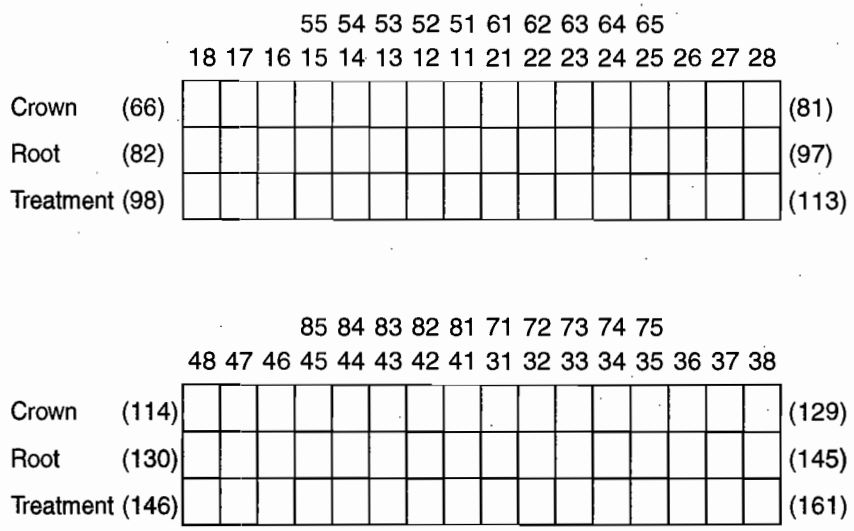
0 = Healthy
1 = 4-5 mm (cementoenamel junction (CEJ) within black band)
2 = 6-8 mm (CEJ between upper limit of black band and 8.5 mm ring)
3 = 9-11 mm (CEJ between 8.5 mm and 11.5 mm rings)
4 = 12 mm or more (CEJ beyond 11.5 mm ring)
X = Excluded sextant
9 = Not recorded

*Not recorded under 15 years of age



DENTITION STATUS AND TREATMENT NEED

Identification Number



Primary teeth Crown	Permanent teeh Crown/Root		STATUS
A	0	0	Sound
B	1	1	Decayed
C	2	2	Filled, with decay
D	3	3	Filled, no decay
E	4	-	Missing, as a result of caries
-	5	-	Missing, any other reason
F	6	-	Fissure sealant
G	7	7	Bridge abutment special crown or veneer/implant
-	8	8	Unerupted tooth, (Crown) / unexposed root
T	T	-	Trauma (fracture)
-	9	9	Not recorded

TREATMENT

0 = None
P = Preventive, caries arresting care
F = Fissure sealant
1 = One surface filling
2 = Two or more surface fillings
3 = Crown for any reason
4 = Veneer or laminate
5 = Pulp care and restoration
6 = Extraction
7 = Need for other care (specify).....
8 = Need for other care (specify).....
9 = Not recorded

PROSTHETIC STATUS

0 = No Prosthesis
1 = Bridge
2 = More than one bridge
3 = Partial denture
4 = Both bridge (s) and partial denture (s)
5 = Full removable denture
9 = Not recorded

Upper Lower
(162) [ ][ ] (163)

PROSTHETIC NEED

0 = No Prosthesis needed
1 = Need for one-unit prosthesis
2 = Need for multi-unit prosthesis
3 = Need for a combination of one- and/or multi-unit prostheses
4 = Need for full prosthesis (replacement of all teeth)
9 = Not recorded

Upper Lower
(164) [ ][ ] (165)

DENTOFACIAL ANOMALIES

DENTITION

(166) ☐ (167) Missing incisor, canine and premolar teeth-maxillary and mandibular - enter number of teeth

SPACE

☐ (168)
Crowding in the incisal segments.
0 = No crowding
1 = One segment crowding
2 = Two segments crowding

☐ (169)
Spacing in the incisal segments:
0 = No spacing
1 = One segment spaced
2 = Two segments spaced

☐ (170)
Diastema in mm

☐ (171)
Largest anterior maxillary irregulaity in mm

☐ (172)
Largest anterior mandibular irregularity in mm

OCCLUSION

☐ (173)
Anterior maxillary overjet in mm

☐ (174)
Anterior mandibular overjet in mm

☐ (175)
Vertical anterior openbite in mm

☐ (176)
Antero-posterior molar relation :
0 = Normal
1 = Half cusp
2 = Full cusp

NEED FOR IMMEDIATE CARE AND REFERRAL

Life-threatening condition ☐ (177)
Pain or infection ☐ (178)
Other condition (specify)..... ☐ (179)

0 = Absent
1 = Present
2 = Not recorded

Referral
0 = No
1 = Yes
9 = Not recorded

☐ (180)

NOTES