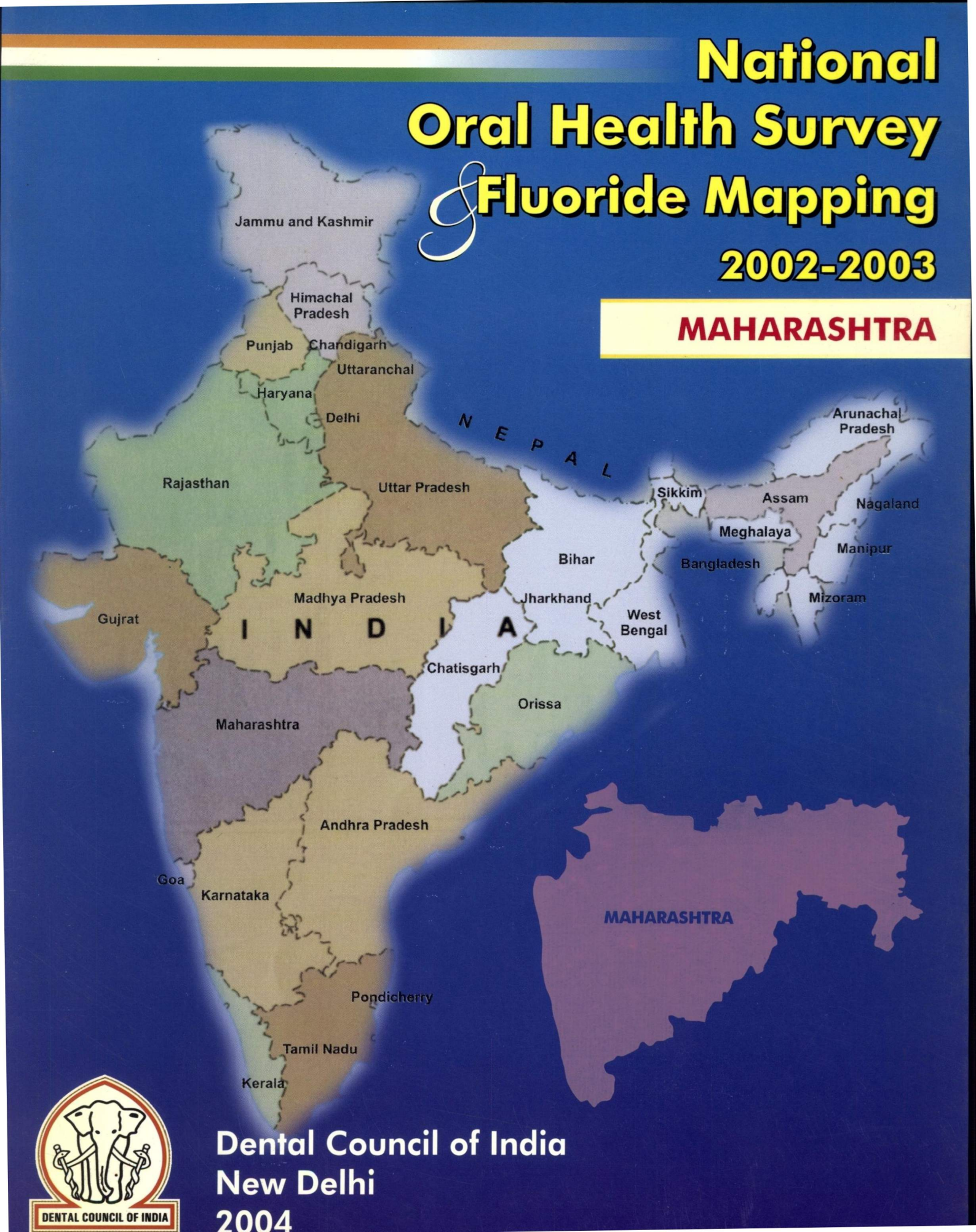
National Oral Health Survey & Fluoride Mapping 2002-2003

MAHARASHTRA



DENTAL COUNCIL OF INDIA

Dental Council of India
New Delhi
2004

NATIONAL ORAL HEALTH SURVEY & FLUORIDE MAPPING

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Colgate - Palmolive Co. U.S.A.
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TABLE OF CONTENTS

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
MPH	Master in Public Health
MSc	Master in Science
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
mnt/ MNT	Mean number of teeth (primary/ permanent)
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
ppm	Parts per million (of fluorides)

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 Praveen Kumar, Mr. 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

It has been a great privilege to be associated with a survey of such great magnitude. I have to thank a number of people who have made this survey possible with their dedication and hard work. Here I wish to make a special mention of the Regional Supervisors for the various regions, Dr. (Mrs) S.D. Muglikar – Nashik and Ahmednagar, Dr. Ram Reddy Yeltiwar – Bhandhara, Wardha and Amravati and Dr. Steven Rodrigues – Goa

The survey in Maharashtra and Goa has been successfully completed only with teamwork and coordination and co-operation of the teams. I would like to thank and congratulate the teams for their selfless service.

Team from Nashik:

Team 1
Dr. Madhuri Shende – Lecturer
Aniket Vakihwala – Intern
Sonali Agarwal – Intern

Team 2
Dr. Narhari Talur – Lecturer
Mahesh Sonar – Intern
Sheetal Barve – Intern

Team from Pravara:

Team 1
Dr. Vaishali Bhalerao – Dental Surgeon
Amol Thete – Dental hygenist
Mrudula Joshi – Intern

Team 2
Dr. Smita Firodia – Dental Surgeon
Nemichand Jain – Intern
Mahesh Gavane – Intern
Dr. Nilesh Joshi – Post graduate Student
Dr. Nehal Deokar – Post graduate Student

Team from Bhandhara:

Dr. Abhay Kolte – District supervisor
Shivcharan Giripunje – Intern
Kaustubh Janaikar – Intern
Sunita Ojha – Intern

Poonam Rathi – Intern
Prajwal Choudhary – Intern
Subodh Sontakke – Intern

Team from Wardha:

Dr. S.M. Rawalani – District Supervisor
Dr. Madhuri Chandak – Lecturer
Dr. Vishakha Deshpande – Lecturer
Dr. Aabid Akbani – Lecturer

Anjali Shelar – Intern
Pooja Chhabra – Intern
Ishan Tiwari – Intern

Team from Amravati:

Dr. Rahul Bhowate – District Supervisor
Satyajit Takade – Intern
Tushar Bhagat – Intern

Trishna Chabriya – Intern
Deepali Saraiya – Intern
Rachana Deshmukh – Intern

I would like to appreciate the help and support of Dr. V.K. Hazarey, Dean, Govt. Dental College, Nagpur, Dr. A.J. Pakhan, Dean, Sharad Pawar Dental College, Wardha, Dr. R.U.Thombre, Dean, V.Y.W.S. Dental College, Amravati, Dr. Kimmatkar, Dental Surgeon, Civil Hospital, Bhandara.

It was an honour to be given the responsibility of organising the report writing workshop on January 10-11, 2004 that was held in Hotel Taj, Mumbai. It was a great platform to discuss the reports and to reach a consensus on a uniform format for writing the reports. I learnt a lot from the dignitaries – Dr. R.K. Bali, President, D.C.I. and stalwarts in public health and epidemiology – Dr. V.B. Mathur and Dr. P.P. Talwar and along with the regional supervisors of various states.

I cannot forget my postgraduate students Dr. Vinaya Kumar Kulkarni, Dr. Mansi Gandhy and Dr. Deoyani Doifode, who worked with keen interest in organising the workshop and in writing the report of the survey of Maharashtra State.

Dr. S.G.Damle
State Co-ordinator
Maharashtra & Goa

LIST OF TABLES

LIST OF FIGURES

CHAPTER 0
EXECUTIVE SUMMARY

1. GENESIS

Oral health is a very important component of the general health of the people. High prevalence of dental diseases like dental caries, periodontal diseases, various stages of malocclusion, and lack of access to the needed services leads to significant absenteeism and economic loss. The adverse effects of poor oral health make it important to take preventive measures and create the necessary services. For this purpose, it is necessary to know the prevalence of oral health problems and to understand the practices related to dental health that people follow. Such information is basic for the formulation of oral health policies and implementation of appropriate programmes to improve the awareness and knowledge of people on the preventive aspects of oral health, create needed services and train the dental manpower to meet those needs.

The Dental Council of India has been greatly concerned about this gap in knowledge and hence lack of appropriate policies and programmes. A great need has been felt to conduct a study on oral health problems and the related practices of people. Such a study could help bring about a balance between the oral health needs of the people and the services available. It could help organize need-based services so as to improve the level of oral health of the people. This study has to be a community survey with the objectives of assessment of (1) awareness and knowledge of people on oral health problems, (2) practices people adopt to clean their teeth and adopt preventive measure, (3) current status of oral health problems in the community, and (4) practices people adopt to get their dental problems treated, and (5) the effectiveness of fluoride as a preventive measure.

Keeping this gap and the needs in view, the Dental Council of India undertook a community survey, "National Oral Health Survey and Fluoride Mapping," to assess oral health problems and the practices people adopt in this regard. This survey was initiated in 2002; the idea was to know the ground situation and formulate policies and programmes to improve the oral health of the people. Mapping of fluoride levels was made a part of the survey since fluoride levels have association with oral health problems.

2. SCOPE OF THE SURVEY

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

- Level of fluoride in the drinking water
- Incidence/prevalence of oral health problems
- Eating habits affecting oral health
- Dental cleaning practices
- Awareness and knowledge of people on the factors affecting oral health, and
- Treatment-seeking behaviour of people for their oral health problems

It must be noted that this survey dwelt into areas much beyond the usual oral health surveys that generally focused on levels and problems of oral health in the community. This survey collected data on many dimensions so as to enable an understanding of the practices people adopt that cause oral health problems and the steps they 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 so designed and conducted that state-wise oral health problems and related practices could be determined. This was expected to help the formulation and implementation of state-wise policies and programmes.

3.1 Sample size

Three considerations were made in deciding 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 completed within the limited budget available. With this in view, 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 the rural areas and 105 from the urban areas. Thus, 105 males and 105 females were examined in each of the five age groups in rural areas, and 53 males and 53 females in each age group in 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 Census Commissioner and 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 a population similar to that of a ward). In the next stage, 7 households were selected from each CEB. Again, examination was to be done for 105 subjects from each age group (5, 12, 15, 35-44 and 65-74), with half of them being males and half females. Table 2.1

4. STUDY TOOLS

In order to cover the total scope 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.

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 etiological factors.

The quality of data was given utmost consideration. Besides a state coordinator, supervisors were appointed to move with the teams when went for data collection. The supervisors, who were senior members of the dental colleges, were given total responsibility for 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.

Water samples were taken from the selected households for testing fluoride levels. Such tests for all water 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 was very important and a very thorough training was given for it, so that all field teams adopted uniform assessment methods to record dental problems. Another workshop on report writing was organised in Mumbai to standardise the format of each state report.

7. AREA COVERAGE IN SURVEY

The National Oral Health Survey, was designed to cover all agro climate region with State. But due to non availability of required support five out of six regions could be covered.

8. FINDINGS (FOOD HABITS AND ORAL HEALTH PRACTICES)

8.1 Characteristics of households surveyed

- All the households were almost evenly distributed between Pucca, semi Pucca and Kuccha houses. Pucca houses and more percentage was in urban areas of the state.

- About 62 percent of households had monthly expenditure of Rs 2500 & below.
- About 90 per cent of the households comprised of Hindus and 6 per cent Muslims. About 50 percent of household belonged to SC, ST, and Other Backward Castes.
- About 60 per cent of the subjects said piped/tapes their source of drinking water supply.
- The staple food was wheat, with 60 per cent of the respondents reported non-vegetarians.

8.2 Profile of population across age groups

- Literacy was very high in the younger population and more in urban areas and more among males.
- About 21 per cent of respondents more males & more in urban read the newspaper daily.
- In the regard to exposure to media, TV was found to be most utilised media. 57 percent watched TV while 24 percent read newspaper & 15 percent listened to radio across age groups. Exposure to cinema was much lower. Only 7 percent respondents across age groups, watched cinema once in 3 months.

8.3 Abnormal oral habits across age groups

- About 4 per cent children in 5-year & 12 year age groups reported "biting nails, lips, objects like pencils", etc. The habit decreased with increase in age. The prevalence of habit of "grinding/gritting teeth" was comparatively higher than other abnormal habit across age groups & more in rural.

8.4 Eating habits across age groups

- About 49 per cent of the subjects, across all ages had not taken sugar in last 24 hours. The intake of sugar/sweets increased with the age of respondents in rural as well as in urban. There was more females than males had taken more sugar.

8.5 Oral hygiene practices across age groups

- The practice of cleaning teeth was universal.
- About 48 percent in all age groups, except in the age group 65-74 years, across both sexes and more in urban areas, reported using toothbrush to clean teeth.
- About 96 per cent of the subjects across both sexes & more in rural cleaned their teeth at least once a day. In urban areas more in all regions, both sexes and in urban and rural areas reported cleaning teeth twice a day.
- About 42 per cent, across ages and sexes, and more in the urban areas reported the use of toothpaste. Usage was more in E. Vidarbha and W. Hills and Plains.
- About 81 per cent, across all ages and both sexes, and more in rural areas reported the use of non-fluoridated toothpaste/powder. Greater use of fluoridated toothpaste/powder was reported in E. Vidarbha. C. Plateau and C. Vidarbha.

- About 38 per cent, across all ages, more males and more in urban areas changed toothbrushes once in 1-3 months. The change was less frequent in rural areas. This was mostly mode once in four to six months or even after six months. Change of toothbrushes was less frequent in E. Vidarbha and C. Plateau.

- About one-third of the respondents, across all ages and both sexes, and more in urban areas reported rinsing mouth after every meal. The practice was more prevalent with increase in age. This percentage was also higher in W. Hills & Plains.

8.6 Dental problems and treatment practices across age groups

- Around 14 per cent in the below 15-year age group and about 31 per cent in the over 35-year age group suffered from dental problems in the last one year. This was the case across sexes and more in rural areas and was reported more in E. Vidarbha.

- The most common problem reported was dental decay. The problem of gum disease was reported by about 18 per cent of those affected in below 15-year age group and 32 per cent in higher age groups. About 16 per cent in higher age groups (35+) also reported problems of foul breath.

- One-third subjects, across all ages, consulted trained doctors. E. Vidarbha, W. Hills & Plains and C. Plateau reported similar percentages. However, only 13 per cent subjects, across all ages and both sexes, but more in urban areas reported the availability of governmental dental facility. Against this, more respondents were aware of private facilities.

- Most respondents reported that it took less than half-an-hour to reach the private dental health facilities. This was especially so in urban areas. About 14 per cent even reported said it took more than one hour to reach the dental facility.

8.7 Awareness of dental health problems across age groups

- About 58 per cent of subjects across ages and both sexes, but more in urban areas, were aware of oral health problems in the state.

- About 40 per cent of respondents were not aware of the factors that cause oral health problems.

- Of those who were aware, most of them reported "not brushing regularly" (35 per cent), followed by "eating sweets/ice cream" (35 per cent) as two important factors.

- About preventive measures in regard to oral health problems, 37 per cent subjects across all ages and sexes reported no knowledge.

8.8 Tobacco smoking and chewing habits across age groups

- About 15 per cent in the 35-44 and 65-74 age groups had the habit of smoking in the state. The habit was more prevalent among males and in rural areas. Higher percentages were reported from E. Vidarbha. More than half of them, more males and more from rural areas, smoked bidis. Cigarette smokers were next, and they were in the urban areas. Fortunately, 83 per cent of smokers, across both sexes and place of residence, said they smoked less than 10 times a day.

- About 19 per cent, across all ages and place of residence, but more males said they chewed pan or pan masala with tobacco. Around 38 per cent of them, across all ages and both sexes and place of residence, said they had been chewing it for more than five years.
- About 9 per cent, across all ages, but more males and more in rural areas, said they drank alcohol.

9. FINDINGS (ORAL HEALTH ASSESSMENT)

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

1. Dental Caries Status and 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 Signs and Symptoms; Enamel Opacities and Hypoplasia; Prosthetic Status and Need; and Community Need for Immediate Care and Referrals.

9.1. Dental caries

- Overall, the mean number of teeth present in the mouth decreased as age advanced. In the 65-74 year age group, the mean number of teeth present was 19.8, a loss of one-third of the 32 teeth that an average individual has. There were 15 per cent subjects across both sexes in the 65-74 age group who were edentulous or without natural teeth.
- The prevalence of caries in the 5-year age group (primary teeth) was 52.9 per cent (54.4. per cent for males and 51.3 per cent for females). The prevalence of caries in permanent teeth was approximately 58 and 65 per cent in the 12 and 15-year age groups, increasing to 78 per cent and about 85 per cent in the 35-44 and 65-74 year age groups, respectively.
- In the 5-year age group, where only primary teeth are present, the mean dmft value was 1.9 The decayed teeth (dt) component contributed to the whole of dmft value in this age group. The mean DMFT appeared to rise steadily as age advanced and was the highest for the 65-74 age group (13.8 and 13.6 in male and female subjects, respectively). The decayed teeth (DT) component contributed the most to the DMFT in the 12, 15 and 35-44 year age groups. In the 65-74 age group, the missing teeth component (MT) contributed the most. The pattern of distribution of the components of DMFT was similar in rural and urban areas.
- The SIC Index, which provides a measure of the mean DMFT of one-third of the subjects with the highest mean scores of DMFT, was consistently high across all age groups, being the

highest for the 65-74 group (26.8 and 26.7 for male and female subjects, respectively).

- The proportion of subjects with root caries was 7.7 and 10.9 per cent for the 35-44 and 65-74 age groups, respectively. There were 0.2 per cent subjects with root fillings in the 35-44 age group.

The high levels of mean number of decayed and missing teeth, together with negligible numbers of filled teeth indicate that either little priority was given 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.

9.2. Treatment need

- Approximately 50 per cent in the 5-year age group required treatment (50.1 per cent males and 49.4 per cent females). This percentage was the highest for the 65-74 age group, in which 85 per cent males and females needed treatment. The mean number of teeth needing treatment was the highest in the 65-74 age group (13.1 in males and 12.8 in females) and the lowest for subjects in the 5-year age group (2.1 in males and 1.9 in females). The picture was similar for rural and urban areas and between regions.

- The most prevalent treatment need was for one or more surface fillings (ranging from 1 to 2.5 per cent subjects in the 5, 12, 15, 35-44 and 65-74 year age groups) followed by the need for extractions (ranging from about 0.1 to 1.5 per cent) and pulp care and crowns/ veneers. In the 65-74 year age group, the maximum need was for extractions (1.5 per cent subjects), followed by one or more surface fillings (0.9 per cent). Besides, there was some prevalence of other but unspecified need (about 11 per cent).

- There were no major differentials in the pattern of type of the treatment need between males and females or rural and urban populations or between regions.

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 indicate the status of periodontal health.

- There was indication of periodontal disease in the youngest age group of 5 years, about 17 per cent. In other age groups, the prevalence of periodontal disease was generally high: from about 43 per cent in the 12-year age group to about 91 per cent in the 35-44 age group.

- It appeared that bleeding was the most prevalent condition followed by calculus, except in the older age groups of 35-44 and 65-74 years, where calculus was the most prevalent (73 and 64 per cent, respectively). The prevalence of shallow and deep pockets was also significant (up to 23 per cent in the 65-74 age group).

- The prevalence of periodontal disease, in general, tended to be slightly higher in rural areas compared to the urban areas. But the pattern of distribution of periodontal disease conditions (bleeding, calculus and pockets) was similar in both rural and urban areas and between regions.

- Overall, the prevalence of loss of attachment in one or more sextants was the lowest in the 15-year group and the highest in 65-74 year group. Across age groups and place of residence, what was most prevalent was the least severe form of loss of attachment (4-5 mm), followed by the more severe form of 6-8 mm.

9.4. Malocclusion status

- The Dental Aesthetic Index (DAI) recommended by the WHO was used to analyse the severity of malocclusion in the surveyed population.
- Definite or severe malocclusion was found to range from under 1 per cent in the 5 year age group to 31.2 per cent in 35-44 year age group.. Both rural and urban female subjects had a slightly higher prevalence of definite and severe forms of malocclusion as compared to the male subjects.

9.5. Oral cancer and oral mucosal lesions

Oral cancer was detected in 1 per cent of subjects, all from the older age group of 35-44 and 65-74 years. The precancerous lesion, Leukoplakia, was detected in 13 per cent in the 35-44 age group and 20 per cent in the 65-74 age group. This was seen in the sulci and buccal mucosa. Leukoplakia was equally distributed in rural and urban areas. The other occasionally present conditions were Ulceration and Abscess appearing on the buccal mucosa, tongue and alveolar ridges/gingiva. C. Vidarbha reported the maximum number of oral mucosal lesions

9.6. Dental fluorosis status

The prevalence of dental fluorosis, especially moderate and severe forms, was quite low (not more than 1% in any age) with most cases being seen in C. Plateau. No more than 3.3 per cent subjects (15 years) had fluorosis. The majority of these had questionable or mild/very mild fluorosis.

9.7 Other lesions

9.7.1 Extra oral lesions

There was a very low prevalence of extra oral lesions, mainly being ulceration, sores, erosions or fissures located in the head, neck or limbs region.

9.7.2 T M Joint symptoms and signs

The prevalence of T M Joint symptoms recorded increased with increase in age. The main symptoms of TM Joint disorder were clicking, tenderness and reduced jaw mobility.

9.7.3 Enamel defects (opacities, hypoplasia)

The distribution of subjects with enamel defects was more among the 12-year age groups (5.8 per cent). The most prevalent enamel defect was demarcated opacity followed by diffuse opacity across all age groups. More defects were also reported in rural areas.

9.8 Prosthetic status and need

- The dental prosthetic status and the need for both upper and lower dental arches was recorded for subjects 15 years and older. The information was collected to assess the extent to which subjects were wearing or needing dental prostheses, including bridge, partial dentures and full dentures.

- There were 0.1 per cent subjects wearing a prosthesis in the 15-year age group. The overall proportion of subjects wearing any type of prostheses in the upper arch was low though its need existed. The per cent of subjects wearing prostheses increased as age advanced. About 21 per cent subjects in the 35-44 age group and 70 per cent in 65-74 group needed prostheses.

- Full denture prosthesis was the most prevalent, followed by partial dentures in the 65-74 age group. In the 35-44 age group, partial denture was the most prevalent. The prevalence pattern of subjects wearing prostheses and their pattern of distribution by type of prostheses was similar in rural and urban areas and in regions.

- The most prevalent need seen in the 35-44 group was for one-unit prostheses followed by multi-unit prostheses. The most prevalent need in 65-74-year-old subjects was for multi-unit prostheses followed by full dentures. The need was similar for upper and lower arches, in rural and urban areas, between sexes and between regions.

9.9 Community need for immediate care and referrals

Overall, life threatening and painful or infective conditions were extremely low in the state: only 0.3 per cent of subjects, across age groups, irrespective of area of residence, were reported with one or the other of these conditions. Pain or infection was recorded in about 1.6 per cent subjects in all age groups. A higher proportion of rural subjects were affected. Referrals increased with age.

Table: Summary of findings of important oral health conditions and practices by age in MAHARASHTRA state.

	Findings	Age in years				
		5	12	15	35-44	65-74
1.	**Oral disease conditions**					
1.1	Mean number of teeth present	19.9	26.3	28.0	30.8	18.8
1.2	Dental Caries					
	% Prevalence	52.9	58.0	65.0	77.6	84.8
	Mean DMFT	1.9	1.8	2.3	4.0	13.7
	SiC Index	5.7	5.3	5.7	8.3	26.8
1.3	Periodontal disease					
	Bleeding, calculus or pockets					
	% Prevalence	17.13.7	43.4	60.5	90.7	80.4
	Mean no of Sextants affected	NA	1.1	2.5	4.9	3.4
1.4	Loss of attachment					
	% Prevalence	NA	NA	9.1	45.1	63.5
	Mean no of Sextants affected	NA	NA	0.2	1.7	2.2
1.5	Malocclusion (%)	0.5	27.4	25.4	31.2	NA
1.6	Dental Fluorosis (%)	1.3	3.0	3.3	1.5	0.8
1.7	Oral mucosal conditions (%)	0.9	1.2	0.8	1.3	0.7
1.8	Edentulousness (%)	NA	NA	0.0	0.2	29.0
2	**Oral Health Practices**					
2.1	Sugar Intake in last 24 hours					
	Once	23.9	25.1	24.3	21.6	19.3
	Two & more times	40.3	35.8	27.6	18.0	17.4
2.2	Clean teeth with					
	Tooth Brush	48.6	52.5	52.4	42.2	18.1
	Fingers	47.9	45.0	44.4	55.7	73.9
2.3	Rinsing mouth					
	Always	33.5	35.6	37.4	47.2	55.4
	Sometimes	30.5	35.2	40.1	37.6	33.6
2.4	Tobacco smoking	NA	NA	NA	15.0	14.8
2.5	Frequency of tobacco smoking					
	Less than 10 times	NA	NA	NA	87.2	79.0
	10 or more times	NA	NA	NA	12.8	21.0

CHAPTER 1
INTRODUCTION

1.1 BACKGROUND OF THE STATE

1.1.1 Geographical location

Maharashtra is one of the largest and most commercially advanced states in the country. The name itself implies it's largeness – 'Maha' meaning big and 'Rashtra' meaning state. It is also often termed as the powerhouse of India with its capital Mumbai being dubbed the commercial capital of India.

Located in western India with 720 km coastline that is dotted with forts standing as mute witness to history down the ages from the warrior kings, foreign trading and invaders from across the seas. A large area of the state rests on the high plateau, historically the main Maratha Empire that successfully defied the mighty Mughals under the fearless rule of Chhatrapati Shivaji. Many of the inland and coastal forts of Maharashtra are a legacy of Shivaji's rule.

Running parallel to the coastline are the Western Ghats which harbour some of the most scenic hill stations – Matheran and Mahabaleshwar. The Ghats divide the Deccan from the Konkan coast with its unspoilt beaches – Ganapatiphule and Sindhudurg. Mumbai, the hustling-bustling capital is the most industrialised city in the country.

1.1.2 Population and demographic profile

The total population of Maharashtra is 96,752,247 according to the 2001 Census. The state has a share of 9.42 per cent of the total national population. The decadal growth of population in the state has come down from 25.73 during 1981-1991 to 22.57 in 1991-2001.

The sex ratio (i.e. number of females per thousand males) has also declined from 934 in 1991 to 922 in 2001 census. Sex ratio in the age group of 0-6 years is 917 females per thousand males.

Life expectancy at birth and infant mortality rate in the state is 48 per 1000 live births, which is quite high.

1.1.3 Socio-economic characteristics

Maharashtra has been a success story in the field of education. Since 1960, there has been a two-fold rise in the number of primary institutions but a three-fold increase in primary enrolment. The number of centres of higher learning has increased by an order of 10 times. The total literary level in the state has shown an upward trend from 64.87 per cent in 1991 to 77.27 per cent in 2001. While Vidarbha lags behind Western Maharashtra and Mumbai, some districts have almost 80 per cent literacy levels. In northern Maharashtra and Marathwada, the literacy levels however remain low.

The state's per capita income is Rs. 17,295 and Maharashtra contributes to more than 15 per cent of the national income. The state also accounts for 40 per cent of the total income tax collected.

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 per cent of children and 95-100 per cent of the adult population suffers from periodontal disease at any given point of time. About 35 per cent of children suffer from misaligned teeth and jaws, which affects their proper functioning. These children lose school time and suffer from pain of dental origin. This not only affects their normal life but also causes a good deal of discomfort to their parents in several ways. These dental problems are initially painless but can become chronic and self-destructive, eventually leading to tooth loss. Dental caries has a crippling effect on the functional components of oral cavity that leads to malnutrition because of one's incapacity to chew any coarse food. Unfortunately, this is still not considered a public health problem and thus no action has been taken to correct it. In other words, there is need to make people aware of the preventive and curative aspects of oral health so that quality of their life can be improved.

Oral diseases also have an adverse effect on other vital organs of the body. Pus oozing pockets in advanced periodontal disease in adults act as a focus of infection for other vital organs of body like the kidney, heart, lungs, brain, etc. Limited information available from micro-level studies suggests that 35-40 per cent of all 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 has now been recognised and thus all efforts should be undertaken to improve the oral health of the people.

Several adverse effects of poor oral health necessitate preventive, curative and educational services/ activities. These necessitate a proper understanding of people's knowledge, awareness and attitudes towards oral health and oral health practices, besides the magnitude of the problems and the corrective and treatment-seeking measures that people adopt. This information is basic for the formulation of policy, developing strategic measures and meeting appropriate manpower needs, and creating programs for improvement of the 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 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. These services range from rudimentary and 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 existing services on the oral health of the people. The vacuum of

an effective monitoring and evaluation system is being felt; dental professionals are very keen to fill the gap between emerging needs and existing services. A strong need exists to understand oral health care practices and treatment-seeking behaviour of the people and to assess the existing oral health care services. An appropriate and relevant oral health policy for the country should address local problems in the broad context of the 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, toothpaste or any other source. This will help to bring out area-specific policies to meet the fluoride needs of the people.

In conclusion, it was felt that two types of studies were needed. One, on the incidence/ prevalence of oral health problems and the knowledge and behavioural practices of people for the prevention/ treatment of such problems. Second, an assessment the existing facilities and infrastructure for their cost effectiveness and utilisation patterns. Such studies and their analysis, it was felt, would ultimately help in bringing about a balance between the needs and the services required to meet such 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 this important area, and, on the other, been raising its concern with the Government on the poor oral health situation prevailing in the country. The idea is to work with both the stakeholders in improving oral health in the country. It has also been making recommendations and suggesting ways and means to bring about an improvement in the overall oral health situation in the country.

1.4 NATIONAL ORAL HEALTH SURVEY

As indicated above, it was felt that there was a need to conduct two types of studies on oral health to bring about a balance between the oral health needs of the people and the services needed to meet such needs. The first involved a community survey to assess (i) the knowledge of the people on appropriate dental health promoting behaviours, including treatment seeking behaviours, and (ii) the oral health status of the population. The second was a survey and assessment of available dental care services. The Dental Council of India undertook a community survey, the National Oral Health Survey, to assess the dental problems and practices related to oral health in 2002. This report presents the results of this survey, where a representative sample of community members in all the states were contacted to assess their dental service needs and understand their knowledge and behaviour with regard to practices affecting oral health. The priority and the need for such a survey had first been emphasised in 1991 in the National Workshop on "Exploring New Frontiers in Dental Public Health: Planning for the Future" that had been organised by the Dental Council of India under the Presidentship of Dr. R.K. Bali. This workshop had highlighted the lack of data and framework for planning oral health manpower and services in the country and had recommended a nation-wide oral health survey to assess the 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

The proposal to conduct a National Oral Health Survey was submitted to Ministry of Health & Family Welfare, Government of India for (i) seeking their formal approval, and (ii) grant of financial assistance and necessary logistical support. While the Government recognised the need and importance for national survey after several meetings between the President of the Dental Council of India and officials of the Ministry of Health & Family Welfare, it, however, could not provide financial assistance for the survey in view of its other more pressing commitments. 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, subsequently approached Colgate India and Colgate International for funding this survey. After a series of meetings in New Delhi, Mumbai and in the US, the company management 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 such a large survey by itself and thus decided to undertake it in collaboration with 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 for survey methodology. **Annexure-1** Collectively, they formed the Central Survey Team for the National Oral Health Survey & Fluoride Mapping and were located in the office of the Dental Council of India in New Delhi. It was also decided that the Central Survey Team would 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 subsequently for report writing. This model was thought to be the best for inducing a sense of ownership and commitment among the dental colleges. Accordingly, the President of the Dental Council of India sent a copy of the proposal/ protocol of the National Oral Health Survey to these colleges, seeking their active support and participation. On their part, the colleges enthusiastically took part in the survey and generated, shared and pooled local level resources to supplement the grant for the survey. In fact, almost all resource persons and Deans/ Principals of the dental colleges agreed with his request and expressed willingness to participate in this national endeavour.

The Dental Council of India also 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 the survey could provide scientific

estimates of the prevalence of various oral health problems and the knowledge and behavioural practices of the people. The members of the committee are listed in the annexure to this report. **Annexure-2**

1.5 SCOPE OF THE SURVEY

This survey recognised the fact that India is a vast country with great diversity in eating habits and behavioural practices which could affect the oral health of the people. It was, therefore, decided to conduct the survey in such a way that state-wise oral health problems and practices could be determined. This would help in formulation and implementation of state-wise policies and programmes on oral health activities and services.

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

The scope of data collection was enlarged in the sense that it would collect data not only on the 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.

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

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

The survey also explored the 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 the people of India. It was done by collecting enough information for formulation of a national oral health policy and for implementation of oral health programmes in each state. All its dimensions of preventive, promotive and curative oral health care was to be addressed in the survey.

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

1.6.1 To collect-wise 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 the treatment-seeking behaviour of the people for their oral health problems.

It was presumed that the data collected would lead to development of programmes 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 dental programmes could be assessed in future years.

1.7 CHAPTERIZATION PLAN

The report for each state comprise 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. Food habits and Oral Health Practices
6. Status of Oral Health
7. Factors Affections Oral Health of people.

CHAPTER II

METHODOLOGY AND DATA COLLECTION

2.1 BASIC CONSIDERATIONS IN SURVEY DESIGN

The following considerations were taken into account while designing the survey:

1. Estimates of oral health problems and related practices needed to be made at the state level.
2. The study should be able to capture intra-state regional variations in oral health problems. Thus, 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 individual states should be able to formulate oral health policies and programmes. Thus, information should be collected on:
   - Levels of oral health problems
   - Etiological factors affecting oral health
   - Behavioural practices with regard to dental cleaning practices
   - Awareness of dental problems and practices followed to seek treatment, and
   - Fluoride mapping and issues related to fluoride in toothpaste/ powder
4. Available financial resources (limited) should be used to undertake the survey in all states, 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:

(i) The estimates should be valid at the state level, and

(ii) Intra-state regional variations in oral health problems and related practices may be captured.

The World Health Organization (WHO) has recommended a sample of 300-600 dental examinations of people in the 5, 12, 15, 35-44 and 65-74 age groups from a homogeneous region of a state. Hence, this sample size was kept in mind while deciding on the 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 would give 315 respondents/examinees in each of the five age groups of 5, 12, 15, 35-44 and 65-74 years. In case this number of respondents (315 in each of the five ages) was not available from the selected 315 households, then more households would be covered to get these numbers of examinees/ respondents. It may be pointed out that while the selected sample size was closer to the lower limit of the WHO recommendations, this was done given the financial constraints under which this study was undertaken.

It may be reiterated here that the sample size of 315 households or more was for each homogeneous region within a state. Thus, the actual sample size at the state level varied according to the number of homogeneous regions in which the state had been divided. For instance, if a state had five homogeneous regions, then the total sample size would be 5x315= 1,575 or more households to cover 1,575 respondents/ examinees of each of the five age groups, resulting in a total 7,875 oral examinations.

In order to give representation to urban population, which forms a small proportion of the total population in most regions/states in India, the urban sample was over-sampled so as to get estimates with a reasonable margin of sampling error of the parameters under study. Accordingly, it was decided that two-thirds of the sample would be from the rural areas and one-third from urban. Thus, 210 households were selected from rural areas and 105 from urban areas. 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 yield a sample of 315 individuals each in the 5, 12, 15, 35-44 and 65-74 age groups. Instructions were, however, issued to the field teams that they should visit more households if there was shortfall in any category in the 315 selected households.

It was also decided to have an 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 the 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 age groups with an equal number of males and females.

2.2.2 Selection of sample

The Planning Commission of India in an exercise to group districts into homogeneous regions in a state had divided each of the 18 major states into a few homogeneous agro-climatic regions on the basis of socio-economic indicators and agricultural parameters. In the case of the remaining states/Union Territories, the homogeneous physio-geographic regions determined by the office of Registrar General of India, were used. Each homogeneous region thus formed a stratum for collection of data from 315 respondents/ examinees of each age, equally divided between males and females. **Annexure-3**

2.2.2.1 Rural sample

In order to get a sample of rural households in a stratum (region), the three-stage sampling method was adopted. The first stage saw the selection of one district from the group of districts in that particular region; the second stage, involved selection of 15 villages from this selected district and the third, selection of 14 households from the villages so selected. The district was selected randomly. For the selection of 14 sample villages, all villages in the selected district were arranged in an array according to their size, so as to get a cumulative total of their population. This cumulative total array was then divided into three sections, each having equal population size. Five villages with probability proportional to the population size (pps) of the village were then selected from each of three sections. 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) to get a sample of 14 respondents/ examinees from each of the five age groups – 5, 12, 15, 35-44 and 65-74, half of them being males. Thus, a sample of 210 or more households was selected to interview 14 members (half male and half female) in each of the five age groups of 5,12, 15, 35-44 and 65-74 years.

2.2.2.2 Urban sample

For the urban sample also, the three-stage sampling design was adopted. 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 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 seven or more households in each CEB to get seven members of each of the five age groups of 5, 12, 15, 35-44 and 65-74 years. Half of them were to be males in each age group. 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 in the state were 28,350 or more to cover 28,350 respondents/ examinees in each of the five age groups of 5, 12, 15, 35-44 and 65-74 years. Half of them were to be males. Thus, the total number of examinations to be done was 1,41,750. The actual coverage was a minimum of 18,585 households, a total of 92,925 examinations. Their state-wise, rural/urban distribution is shown below:

It may be noted that sample size shown, both on the basis of design and actual coverage, is for the minimum number of households. They were selected 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.

Table 2.1 State, 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			
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.

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.

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

Table 2.1(a) STATEMENT SHOWING REGIONS/DISTRICTS WITHIN REGIONS AND SAMPLED DISTRICT IN THE STATE OF **MAHRASHTRA**

Sl. No.	Region	Districts	Sampled District	*Coverage as per design*			*Actual Coverage*		
				No. of Households			*No. of Households*		
				Rural	Urban	Total	Rural	Urban	Total
1	East Vidarbha	i) Bhandara	Bhandara	210	105	315	210	105	315
		ii) Chandrapur							
		iii) Gandhehiroli							
		iv) Gendiya							
2	Western Hills & Plains	i) Kolhapur	Nasik	210	105	315	210	105	315
		ii) Nasik							
		iii) Pune							
		iv) Satara							
3	Scarcity Region	i) Ahmednagar	Ahmednagar	210	105	315	210	105	315
		ii) Dhule							
		iii) Sangli							
		iv) Solapur							
		v) Nandurbar							
4	Central Plateau	i) Akola	Amravati	210	105	315	210	105	315
		ii) Amravati							
		iii) Aurangabad							
		iv) Bid							
		v) Buldana							
		vi) Jalgaon							
		vii) Jalna							
		viii) Latur							
		ix) Osmanabad							
		x) Parbhani							
		xi) Hingoli							
		xii) Washim							
5	Central Vidarbha	i) Nagpur	Wardha	210	105	315	210	105	315
		ii) Nanded							
		iii) Wardha							
		iv) Yawatmal							
6	Konkan	i) Greater Bombay	Thane	210	105	315	Not Covered		
		ii) Raigad							
		iii) Ratnagiri							
		iv) Sindhudurg							
		v) Thane							
Total	**6**	**34**	**6**	**1260**	**630**	**1890**	**1050**	**525**	**1575**

2.3 STUDY TOOLS

In order to cover the total scope of the study, two types of questionnaire/ schedules were used for data collection. The first was the Oral Health Assessment Questionnaire (WHO, 1997) for recording the results of the examination of oral health of individuals. The second was the Individual Questionnaire (specially developed by DCI) 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. These questionnaires were pre-tested and finalised by the Central Survey Unit in Delhi with the help of a 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 the World Health Organization. It followed all the instructions given in the WHO publication, "Oral Health Surveys: Basic Methods". By keeping the WHO form unchanged, it was considered possible to collect data comparable to other sets of data in the WHO databank.

2.3.2 Questionnaire on food habits and oral health practices

As indicated, this survey did not limit itself only to oral health assessment because its aim 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 the people.

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

1. Socio-economic and demographic characteristics of the 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 individuals of different ages and sex were to be examined/ interviewed, it was necessary that dentists should be involved in the data collection teams. Therefore, it was decided that dental colleges, particularly their Departments of Community Dentistry, should be involved in the data collection work. It was also hoped that their involvement would help reduce the cost of the survey

as not only could their manpower but also their infrastructure and equipment be deployed in the survey work. However, this was based on the assumption that it would be in their interest, both professionally and personally, if they cooperated with the Dental Council of India in conducting the national survey, a long overdue activity of immense importance to the dental profession. Keeping this in mind, the technical group formed for the survey identified dental colleges and individuals in each state whose involvement could be helpful in quality data collection work. The President of the Dental Council of India then wrote to these identified individuals and dental colleges seeking their cooperation in this national effort. The response was very positive and almost all the invitees were very enthusiastic about their involvement. **Annexure-4**

The first stage in the data collection work was to set up a Central Survey Unit in the Dental Council of India's Office in New Delhi to coordinate all activities related to the survey in each state. Because of the limited resources available, a small nucleus was set up in the office of the DCI. This nucleus consisted of an experienced senior public health dental surgeon, whose services were taken on deputation from the Delhi Municipal Corporation, 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 minimum cost. Based on the pre-test and the experience of the WHO Assessment Form, it was found that two field teams, each comprising two dentists and one worker having a social science background, could complete field work in one village – i.e. cover 14 or more households, involving interviews/ examinations of 14 individuals in each of the five age groups — in one day. The two dentists in the team had an inter-changeable role of examining the mouths of the respondents and completing the WHO Assessment Form, in order to reduce the fatigue factor. The worker with the social science background, the third member of the 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 data collection work. They were to help the team select the households (as per the study design) whose members were to be interviewed/ examined, and also scrutinise the completed forms before sending them to the state headquarters. In view of the limited resources available, it was decided that there would be one supervisor for every four field teams. This would enable them to 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 the teams in each state that would be involved in the survey. Three types of persons were needed from each state, a Coordinator, a Supervisor and dentists for the field teams. The former was to coordinate all survey activities at the state-level and liase with the Central Survey Unit. The Supervisor was to supervise and guide fieldwork activities, working under the overall direction of the Coordinator. The Coordinators were expected to be senior, experienced professionals having an inclination for research – principals, deans or professors of the Departments of Community Dentistry in various dental colleges. The Coordinators were selected by the Technical Committee for the survey, which then asked them to select their field team Supervisors — senior dental surgeons from dental colleges. **Annexure-5**

These Coordinators and Supervisors were to identify the field teams. The number of field teams was to be equal to the number of homogeneous zones/ regions in the state so that each team could

complete fieldwork in a district within two months. Again, the two-dentists/ dental surgeons/ interns for each team were to be from dental colleges in the state. This was not only to reduce costs but was also meant to give them 9 dentists with experience in oral examinations under the guidance of Supervisors.

2.5 CALIBRATION AND TRAINING

Before initiating work at the state level, it was necessary to evolve common standards for the examination and recording of dental problems. For such training and standardisation, the Dental Council of India, in collaboration with the Manipal Academy of Higher Education (MAHE), organised a three-day calibration workshop at Manipal, Karnataka in March 2002. All state Coordinators and selected Supervisors were invited to this workshop. They were explained the sampling design, study tools and the field logistics of data collection. They were taken to the field to practice selection of sample households and complete the questionnaire related to practices that affect oral health. They were also taken to dental chairs in the Manipal Dental College to get practical experience of the dental problems of the patients. A good deal of discussion was held along with the Coordinators and the Supervisors to ensure that all had a common and uniform understanding of the dental problems that were to be recorded. This was an ongoing exercise until it was felt that all the Coordinators and Supervisors had a uniform understanding on how to measure dental problems. The calibration workshop helped standardise measurement of dental problems, vital to ensure comparability of data from different states. After their training, the Coordinators and Supervisors then had to train their field teams, which would actually collect the data.

2.6 CLINICAL ASSESSMENT AND CONSIDERATIONS

The information on behavioural practices was sought directly from the respondents and their answers recorded on the prescribed proforma. In the case of clinical assessment of oral health status, however, there was need for common and uniform understanding of the recording criteria amongst the field teams. Therefore, special efforts were made to standardise 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 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 clinical data (column no. 32 to column no.180) were filled by the teams in the field.

The main instruments and utilities that formed a part of the field kit 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 sterilising solution was used in field conditions for the instruments, although these 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 aligned with the back of the 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 oral and dental tissues. The examiner stood behind and on-side of the subject during the examination. A combination of natural and torchlight was used to provide consistency and adequate visibility during examinations of different subjects. 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 the Manipal workshop to adopt this method so that the approach and results were uniform and widely comparable.)

Clinical oral examinations were carried out by previously trained and calibrated dental surgeons, who were normally interns, junior residents or other dental surgeons drawn from regional dental colleges. They were carefully selected 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. The other member was the recorder, who orally repeated the scores for the examiner to hear and correct, if necessary, and then entered it in the appropriate place in the paper proforma. In order to avoid monotony and fatigue, the roles of the examiner and recorder were interchanged from time to time, but not during the course of any one examination.

The teams used the instruments and utilities as detailed above for the detection of caries, periodontal disease and other conditions. Sufficient numbers of instruments were carried by the field teams after proper sterilisation.

The data was collected by the field teams led by their Supervisors and scrutinised by the State Coordinators, who forwarded the completed forms to the Central Project Cell in the office of the Dental Council of India in New Delhi. The clinical data forms were scrutinised again before being sent for analysis and preparation of tables.

The clinical findings are presented in Chapter VI 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 for purposes of reporting the results of the survey:

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 has been 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 decayed, missing or filled teeth. Further, the dentition has been divided into 4 equal parts (quarters) on the basis of the number of teeth normally present (maximum being 20 for primary teeth and 28 or 32 for permanent teeth). 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 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 as presented is based on the Dental Aesthetic Index (DAI) scores for the 12, 15 and 35-44 year age groups, computed as per the WHO's instructions.

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, drinking water samples from various states were directly sent for analysis 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 procedure was based on the Ion Chromatographic separation in Anion Exchange mode and Suppressed Conductivity Detection. The basic separation was performed by anion exchange mechanism of water samples on high efficiency IonPac AG 11RC and IonPac AS 11RC connected in series and through elution (the process of extracting one material from another by washing it 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 filtering them through a 0.45 u Nylon membrane. The effluent was collected into a clean dry conical glass tube. This was used for fluoride estimation. The actual water sample was loaded into a mobile phase container connected to a pump and made to run on the system. After about 20 minutes to enable stabilisation, the actual concentration of fluoride ion in the water was 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 FIELDWORK EXPERIENCES

2.8.1 Pre-fieldwork activity

In order to get help and support in the fieldwork, it was felt necessary to get Government clearances from the right authorities. All concerned authorities were approached and permissions 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 of 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 while the social scientists were taken from the Faculty of Social Sciences of the university.

In the month of July, extensive training was given to the field teams. They were explained the questionnaire and logistics of the fieldwork. In order to make sure that these dentists followed the

standardised methods of assessing and recording problems as decided in the Manipal training, the dentists were taken to the OPD of the Regional Dental College where they were given a thorough training on clinical examinations and on assessment of 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, fill the questionnaires and undertake clinical examination of the dental problems. Once it was found that the teams had understood all the issues and were in a position 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 initial problems. The Supervisors, who were accompanying the teams, helped them overcome these problems, acquire confidence and ensure smooth field operations.

The Supervisors were very alert to make sure that data was complete and consistent. They also ensured that all forms were scrutinised and corrected before they were submitted to the Coordinator.

In order to get cooperation from the respondents, the teams carried free samples of medicines and vitamins. These were distributed to the respondents to build the necessary equation with them. It was found that people in rural areas were more cooperative than those in the 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 completed forms before the team returned from the field. It was his/ her responsibility to scrutinise the forms, if they could not be checked in the field. This scrutiny was necessary before they were submitted to the state Coordinator and then to the Central Survey Unit. The Coordinator was also responsible of scrutinising the forms, fully in the initial stages and then on sample basis before sending them to the Central Survey Unit in New Delhi.

The Central Survey Unit was particularly careful in scrutinising forms from each state. First two batches of forms from each survey team from each state were scrutinised to determine gaps in the form of blanks, wrong recording and inconsistencies. The Coordinators were immediately contacted in case such problems were spotted, both telephonically and by facsimile transmission. In such cases, the next batch again scrutinised carefully to ensure that deficiencies were not repeated. Subsequent to this initial scrutiny, the form was scrutinised on a sample basis to ensure that there had been no slackness – the fatigue factor should not affect the quality of data.

2.10 DATA ANALYSIS

In the absence of any resources for data analysis at the Dental Council of India, all the work relating to data entry, validity checks and production of desired tables (as per analysis plan) was contracted out to TNS MODE, an organisation with research experience in studies related to health. All efforts were also made to monitor work quality at this stage. The Central Survey Unit had worked out the type of tables needed, and the level (Zone or Region/ State/ Country) for which

such the analysis was needed. The necessary weights were also worked out to ensure that the estimates were valid for the level to which they related. These blank tables were given to the agency (TNS MODE) to complete. In order to ensure that the values given in each cell 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 Maharashtra, as model reports after detailed discussions on the report and tabular format. 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. The idea was to conduct a report writing workshop to orient them with the chapterisation plan, data tables of their own states and share with them the style of writing adopted in the model reports (Delhi and Maharashtra). This was felt necessary to make sure that all state reports were written in a uniform style/pattern. For other states, it was decided that the Central Survey Unit, Delhi would write the reports and send it to 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 to all reports. These chapters were also given to the Coordinators involved in the report writing workshop.

Dr. S. G. Damle, Dean, Nair Dental Hospital, Mumbai & Director, Medical Education & Public Health, Municipal Corporation of 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 Coordinators from the States of Andhra Pradesh, Goa, Haryana, Himachal Pradesh, Karnataka, Kerala, Maharashtra, Pondicherry, Punjab and Tamil Nadu. They were given two reports (models), a set of tables for their own state and even a CD containing raw data. They were told that their state report should adopt the format shown in the model reports; they could 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 THE SURVEYED POPULATION

3.1 CHARACTERISTICS OF HOUSEHOLDS

The household characteristics are shown in Table 3.01. It may be noted that only about 39 per cent households live in Pucca houses – 29 per cent in rural areas and 64 per cent in urban areas. Another one-fourth of the households live in Kuccha houses in the state. However, in E. Vidarbha only 3 per cent live in Kuccha houses.

Most of the respondents (about 62 per cent) had a monthly expenditure (proxy for household income) less than or equal to Rs. 2,500. This income level was found among more rural respondents. In the case of urban areas, almost 52 per cent respondents reported their monthly

Table : 3.1 Percent distribution of the households by characteristics. STATE : Maharashtra

	Household Charactersties		REGIONS					STATE		
			1	2	3	4	5	R	U	T
1	**Type of household**	n=	394	369	673	315	493	1534	710	2244
	Kuccha		2.9	23.2	23.0	31.3	28.0	31.4	8.8	24.1
	Semi Pucca		24.5	12.6	48.1	46.0	38.6	40.1	27.6	36.7
	Pucca		72.6	64.3	28.9	22.7	33.4	28.5	63.6	39.2
2	**Monthly expenditure (in Rs.)**									
	<= 2500		56.2	45.5	73.9	65.1	62.2	73.9	36.1	62.1
	2,501 - 5,500		41.1	44.6	23.3	29.9	27.3	22.7	51.5	31.0
	5,501 - 10,000		2.7	9.4	2.0	5.0	5.1	2.4	10.6	5.1
	10,000 +		0.0	0.5	0.8	0.0	5.4	1.0	1.7	1.8
3	**Religon**									
	Hindus		93.6	97.8	84.8	79.8	94.7	91.8	82.2	90.0
	Muslims		4.9	1.4	5.5	15.6	3.1	4.6	10.9	5.8
	Sikhs		0.0	0.2	0.0	0.0	0.4	0.2	0.0	0.1
	Christians		0.9	0.2	1.4	1.6	0.4	0.7	1.5	0.8
4	**Caste**									
	Scheduled Caste		19.2	6.6	12.6	10.0	10.0	11.5	8.9	10.8
	Scheduled Tribe		10.0	5.8	2.3	5.3	7.8	6.0	3.7	5.4
	Other Backward Classes		34.2	23.4	7.5	58.6	50.8	34.3	27.4	34.1
	Others		36.6	64.3	77.6	26.0	31.4	48.3	60.1	49.7
5	**Sources of drinking water**									
	Pipe/tap		23.4	75.5	61.0	41.2	57.4	39.4	94.2	55.9
	Tubewell/handpump		47.3	12.5	15.7	49.1	23.6	36.7	3.6	26.5
	Others		29.3	12.0	23.3	9.6	19.1	23.9	2.3	17.6
6	**Nature of food**									
	Vegetarian		30.4	66.2	49.9	70.4	64.2	58.9	60.4	59.7
	Non-vegetarian		69.6	33.8	50.1	29.6	35.8	41.1	39.6	40.3

expenditure in the range of Rs. 2,501-5,500. Lower monthly expenditures were reported mostly from Scarcity Region, C. Plateau and C. Vidarbha regions.

About 90 per cent households of the state was of Hindu, followed by 6 per cent of Muslim. Christians and Sikhs constituted only 0.8 and 0.1 per cent, respectively.

Also, 50 per cent households belonged to Scheduled Castes (SC), Scheduled Tribes (ST) and Other Backward Castes (OBCs) categories – the break-up was 10 per cent, 5 per cent and 31 per cent, respectively. C. Plateau and C. Vidarbha had a higher percentage of OBCs (more than 50 per cent) while Scarcity Region had a higher percentage from other categories.

About 56 per cent of the households cited taps as their main source of drinking water, while 27 per cent were using tube wells or hand pumps. Piped water supply was much higher in urban areas (94 per cent) compared to in rural areas (39 per cent). The supply of piped water was the highest in W. Hills & Plains (76 per cent). In the case of C. Plateau, 49 per cent got drinking water from tube wells or hand pumps.

Wheat was the staple food of the people. Almost 60 per cent of the households reported that they were vegetarians.

CHARACTERISTICS OF HOUSEHOLDS SURVEYED (SUMMING UP)

- All the households were almost evenly distributed between Pucca, semi Pucca and Kuccha houses. Pucca houses in more percentage were in urban areas of the state.
- About 62 percent of households had monthly expenditure of Rs 2500 & below.
- About 90 per cent of the households were comprised of Hindus and 6 per cent of Muslims. About 50 percent of household belonged to SC, ST, and Other Backward Castes.
- About 60 per cent of the subjects said piped/tapes their source of drinking water.
- The staple food was wheat, with 60 per cent of the respondents reported non-vegetarians.

3.2 PROFILE OF POPULATION

3.2.2 12 year olds

About 98 per cent across both sexes and little more in rural were literate.

3.2.3 15 year olds

3.2.3.1 Educational levels

The literacy level in this age group was about 97 per cent. About 45 per cent of the respondents had education up to the middle level and 53 per cent reported education up to high school and above (Table 3.2.3). The picture was similar in the regions and for both males and females. Rural and urban differentials were marginal.

Table 3 . 2 . 2 Percent distribution of 12 year olds by educational level and media exposure, sex & geographical area.

AGE: 12 yrs **STATE: Maharashtra**

Educational level & Media Exposure		MALES								FEMALES								STATE TOTAL
		REGIONS					STATE			REGIONS					STATE			
		1	2	3	4	5	R	U	T	1	2	3	4	5	R	U	T	
1 Educational level	**n=**	**178**	**101**	**157**	**157**	**215**	**532**	**276**	**808**	**170**	**109**	**159**	**141**	**201**	**523**	**257**	**780**	1588
Illiterate		0.3	0.0	0.0	1.7	2.6	1.1	1.1	1.1	2.4	3.1	2.6	2.7	1.9	3.1	1.5	2.5	**1.8**
Upto middle		99.7	100.0	96.3	95.0	94.1	95.8	97.7	96.4	96.5	93.0	94.8	89.1	93.6	92.7	92.3	92.6	**94.5**
High school & above		0.0	0.0	3.7	3.3	3.3	3.1	1.2	2.4	1.0	3.9	2.6	8.2	4.5	4.2	6.2	4.9	**3.7**
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																		

Table 3 . 2 . 3 Percent distribution of 15 year olds by educational level and media exposure, sex & geographical area.

AGE: 15 yrs STATE: Maharashtra

Educational level & Media Exposure		MALES								FEMALES								STATE TOTAL
		REGIONS					STATE			REGIONS					STATE			
		1	2	3	4	5	R	U	T	1	2	3	4	5	R	U	T	
1 Educational level	n=	128	104	159	133	211	468	267	735	116	103	159	154	206	482	256	738	1473
Illiterate		0.0	1.6	0.7	2.3	2.7	2.4	0.5	1.7	0.6	10.0	2.2	1.9	3.3	4.7	1.7	3.6	2.7
Upto middle		58.0	24.5	60.8	40.7	54.2	47.9	42.0	45.7	60.4	22.4	54.7	43.1	48.5	46.3	37.7	43.3	44.5
High school & above		42.0	73.8	38.5	57.0	43.1	49.7	57.5	52.6	39.1	67.6	43.2	55.0	48.2	49.1	60.6	53.0	52.8
2 Newspaper reading habits																		
Daily		22.0	12.0	34.2	30.8	21.0	20.9	33.1	25.4	25.2	9.4	23.4	28.6	16.1	18.6	26.8	21.4	23.4
Sometimes		49.5	26.6	52.4	31.9	26.8	35.4	35.2	35.3	48.0	19.4	62.5	30.2	22.1	34.2	34.1	34.2	34.8
Not at all		28.4	61.4	13.4	37.3	52.2	43.7	31.6	39.2	26.8	71.2	14.1	41.3	61.8	47.2	39.1	44.5	41.9
3 Radio listening habits																		
Daily		16.5	1.6	29.4	14.5	21.2	15.4	19.2	16.8	20.7	1.9	22.4	12.3	20.1	10.6	22.6	14.7	15.8
Sometimes		60.0	8.5	51.2	36.0	21.6	33.3	30.4	32.2	58.1	4.4	55.2	24.8	19.0	30.8	21.7	27.7	30.0
Not at all		23.5	89.9	19.4	49.5	57.1	51.3	50.4	50.9	21.2	93.7	22.4	63.0	60.9	58.7	55.7	57.6	54.3
4 TV watching habits																		
Daily		46.6	67.9	53.0	69.8	57.8	55.3	73.9	62.2	44.8	66.8	43.1	69.1	48.7	52.1	70.3	58.3	60.3
Sometimes		35.4	12.9	37.5	18.7	19.9	25.7	17.7	22.8	38.5	9.0	43.4	12.1	23.9	24.1	16.7	21.6	22.2
Not at all		18.0	19.3	9.5	11.4	22.3	19.0	8.4	15.1	16.7	24.2	13.6	18.9	27.5	23.8	12.9	20.1	17.6
5 Cinema watching habits																		
Once in 3 months		20.0	4.2	7.6	12.0	9.5	4.6	18.7	9.8	25.8	5.3	4.8	7.6	4.6	4.7	12.0	7.2	8.5
Less often		56.1	10.9	45.5	27.6	21.6	27.2	31.7	28.8	42.5	8.3	38.5	17.2	19.9	19.0	28.1	22.1	25.5
Not at all		23.9	85.0	46.9	60.4	68.9	68.2	49.6	61.3	31.8	86.4	56.6	75.2	75.5	76.3	59.9	70.7	66.0

3.2.3.2 Exposure to media

About 23 per cent of respondents in the 15-year age group reported reading newspapers daily but this percentage in the urban areas was higher at 30 per cent, and was more for males than females. Against this, 20 per cent rural respondents reported reading newspapers daily. Also, the urban/rural differential in percentages of subjects not reading newspapers at all was large – more than 45 per cent in the rural areas compared to only 28 per cent in the urban areas.

Exposure to radio was limited in the state – more than 54 per cent reported no exposure to radio. In contrast, only 18 per cent of the respondents reported no exposure to TV. The exposure to cinema, at least once in three months or less often, was only 9 per cent.

Exposure to both radio and TV in rural areas was more in E. Vidarbha and Scarcity Region. A high 90 per cent in W. Hills & Plains reported no radio exposure but exposure to cinema was more frequent.

3.2.4 35-44 year olds

3.2.4.1 Educational level

About 19 per cent respondents in this age group was illiterate; more percent of tham in the rural areas and more in Scarcity Region (Table 3.2.4). More males in this age group had achieved educational level of high school and above than the females.

3.2.4.2 Exposure to media

About 28 per cent of respondents in this age group read newspapers daily (24 per cent females and 33 per cent males). Urban areas had much greater exposure than rural areas. Daily exposure to radio was just 16 per cent.

TV viewership in this population grouping was 59 per cent, the percent of which was much higher in urban areas. Exposure to TV was found to be higher in W. Hills & Plains and C. Plateau. Not many differences were observed between males and females. Also, not much exposure was found to cinema, with about 8 per cent viewing cinema once in three months. This percentage was higher in the urban areas.

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: Maharashtra

Educational level & Media Exposure		MALES								FEMALES								STATE TOTAL
		REGIONS					STATE			REGIONS					STATE			
		1	2	3	4	5	R	U	T	1	2	3	4	5	R	U	T	
1 Educational level	n=	**180**	**102**	**162**	**145**	**210**	**530**	**269**	**799**	**212**	**106**	**154**	**164**	**204**	**567**	**273**	**840**	**1639**
Illiterate		11.0	12.4	17.7	6.5	11.5	13.0	8.0	11.2	7.8	24.5	44.7	22.6	28.5	32.4	13.3	26.1	**18.7**
Upto middle		43.0	27.8	39.4	30.1	45.9	38.9	30.1	35.7	50.6	37.1	38.2	33.2	44.4	38.2	39.9	38.8	**37.3**
High school & above		45.9	59.8	42.9	63.4	42.7	48.1	62.0	53.0	41.6	38.5	17.2	44.1	27.1	29.4	46.8	35.1	**44.1**
2 Newspaper reading habits																		
Daily		32.6	33.0	32.9	39.0	22.4	28.3	41.6	33.0	32.6	16.2	14.9	30.7	19.0	18.6	33.5	23.5	**28.3**
Sometimes		36.5	8.6	46.4	27.8	29.4	30.4	26.9	29.2	43.3	17.8	26.5	28.8	22.8	26.3	27.8	26.8	**28.0**
Not at all		30.9	58.4	20.7	33.2	48.2	41.3	31.5	37.8	24.1	66.1	58.6	40.4	58.2	55.0	38.6	49.6	**43.7**
3 Radio listening habits																		
Daily		12.4	3.6	27.0	19.7	20.6	15.1	22.9	17.9	13.5	2.7	21.7	14.2	18.4	11.4	20.7	14.4	**16.2**
Sometimes		68.4	9.0	51.7	26.1	19.9	32.8	27.5	30.9	69.1	4.9	44.7	30.1	23.4	33.3	25.9	30.9	**30.9**
Not at all		19.2	87.5	21.2	54.2	59.5	52.1	49.6	51.2	17.4	92.4	33.6	55.7	58.3	55.3	53.3	54.7	**53.0**
4 TV watching habits																		
Daily		49.6	64.7	50.8	63.9	57.0	51.3	73.2	59.1	49.8	72.1	35.6	70.5	53.6	51.0	77.3	59.7	**59.4**
Sometimes		37.7	9.7	35.0	15.9	17.7	24.2	14.9	20.9	39.0	5.1	42.3	16.1	20.1	25.0	15.4	21.9	**21.4**
Not at all		12.7	25.7	14.2	20.2	25.4	24.5	11.9	20.0	11.2	22.9	22.1	13.4	26.3	23.9	7.3	18.5	**19.3**
5 Cinema watching habits																		
Once in 3 months		14.3	5.0	6.3	7.5	8.1	4.1	14.6	7.8	16.9	0.0	3.8	9.6	6.8	4.5	12.7	7.2	**7.5**
Less often		58.7	10.7	48.3	21.0	22.4	27.2	31.5	28.7	59.9	11.5	28.6	19.1	17.1	20.2	30.5	23.6	**26.2**
Not at all		27.0	84.2	45.4	71.5	69.6	68.8	53.9	63.5	23.2	88.5	67.7	71.3	76.1	75.3	56.8	69.2	**66.4**

3.2.5 65-74 year olds

3.2.5.1 Educational levels

In this age group, 61 per cent of the respondents were illiterate (76 per cent females and 46 per cent males) (Table 3.2.5). As expected, literacy level was higher in the urban areas and among males. Among regions, E. Vidharba and C. Plateau had higher literacy levels among regions.

3.2.5.2 Exposure to media

Educational levels clearly affect the reading habits of a population. Only 21 per cent of the respondents in this age group read newspaper daily with more males (30 per cent) than females (13 per cent) doing so. Again, readership was higher in the urban areas than in the rural areas.

Exposure to radio was much lower than TV, especially in the rural areas where only 9 per cent females as against 13 per cent males reported listening to radio daily. Similarly, 42 per cent females and 67 per cent males said they watched TV daily. In urban areas, overall exposure was quite high: 21 per cent to the radio and about 66 per cent to TV. Exposure to radio was the least in W. Hills & Plains.

Exposure to cinema was very low, only about 4 per cent respondents watched cinema once in 3 months, with their percentage being more among males and more in urban areas.

PROFILE OF POPULATION ACROSS AGE GROUPS (SUMMING UP)

1. Literacy was very high in the younger population and more in urban areas and more among males.
2. About 21 per cent of the respondents across age groups were illiterate. The level of illiteracy increased with increase in age group.
3. With regard to exposure to media, TV was found to be the most utilised media. 57 per cent watched TV while 24 per cent read newspapers and 15 per cent listened to the radio daily across age groups. Exposure to cinema was much lower, with only 7 per cent respondents across age groups watched cinema once in 3 months.

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: Maharashtra

Educational level & Media Exposure		MALES								FEMALES								STATE TOTAL
		REGIONS					STATE			REGIONS					STATE			
		1	2	3	4	5	R	U	T	1	2	3	4	5	R	U	T	
1 Educational level	n=	**189**	**107**	**157**	**167**	**220**	**573**	**267**	**840**	**149**	**109**	**157**	**122**	**189**	**474**	**252**	**726**	**1566**
Illiterate		43.1	54.4	45.9	40.8	48.9	46.9	43.9	45.9	39.9	80.6	90.6	69.6	78.6	78.7	70.0	75.6	**60.8**
Upto middle		46.1	28.9	44.5	31.7	37.9	36.0	36.5	36.2	47.9	14.0	8.0	26.2	16.8	17.3	24.2	19.8	**28.0**
High school & above		10.8	16.8	9.6	27.5	13.2	17.1	19.6	17.9	12.2	5.3	1.4	4.3	4.6	4.0	5.8	4.6	**11.3**
2 Newspaper reading habits																		
Daily		22.6	27.2	22.9	42.6	16.5	25.1	38.3	29.5	23.6	6.1	7.1	17.0	14.3	11.0	15.6	12.6	**21.1**
Sometimes		30.3	7.0	25.0	21.5	19.5	20.7	18.3	19.9	24.8	8.7	7.9	23.0	14.8	13.1	19.3	15.3	**17.6**
Not at all		47.0	65.8	52.1	35.9	64.0	54.2	43.4	50.6	51.6	85.2	85.1	60.1	70.9	75.9	65.1	72.0	**61.3**
3 Radio listening habits																		
Daily		15.8	5.9	28.0	13.9	17.7	12.5	24.0	16.3	6.9	1.5	14.1	15.3	18.5	9.1	17.9	12.3	**14.3**
Sometimes		61.9	6.7	42.1	28.7	19.6	31.4	22.2	28.4	69.5	3.4	35.6	28.5	18.9	27.4	23.8	26.1	**27.3**
Not at all		22.3	87.4	29.9	57.4	62.6	56.1	53.8	55.3	23.6	95.1	50.3	56.1	62.6	63.5	58.3	61.6	**58.5**
4 TV watching habits																		
Daily		44.6	55.1	44.5	66.0	51.3	49.7	67.4	55.6	40.7	58.1	30.7	59.6	48.3	41.7	64.2	49.8	**52.7**
Sometimes		37.7	12.3	32.0	12.9	18.4	20.7	17.6	19.7	32.9	6.9	29.8	17.1	16.6	19.6	17.5	18.8	**19.3**
Not at all		17.6	32.6	23.5	21.1	30.3	29.6	15.0	24.7	26.4	35.1	39.5	23.3	35.1	38.7	18.3	31.4	**28.1**
5 Cinema watching habits																		
Once in 3 months		11.5	0.8	5.1	2.4	6.8	2.4	8.5	4.5	13.0	0.8	1.9	7.8	1.6	3.8	5.0	4.2	**4.4**
Less often		41.5	1.1	30.6	12.9	14.2	16.5	18.2	17.1	33.8	1.1	26.2	12.5	10.2	13.3	16.4	14.4	**15.8**
Not at all		47.0	98.1	64.3	84.7	79.0	81.0	73.3	78.5	53.2	98.2	71.9	79.8	88.2	82.9	78.6	81.3	**79.9**

CHAPTER IV

MAPPING OF FLUORIDE LEVELS

4.1 INTRODUCTION

As stated in Chapter 2 (Objectives), 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 drinking water samples from the households they visited for collection of information related to oral health practices and the current situation of oral health. This chapter presents results of the analysis of fluoride levels from such 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 would carry along with it a set of sterilised plastic bottles. These bottles had been specially ordered for the purpose of the survey from a Hyderabad-based manufacturer and had the following characteristics:

   (1) A capacity of 500 ml as had been recommended by M/s Medlar Labs, Mumbai, where the water samples were to be analysed for fluoride levels. (M/s Medlar Labs have since accepted that a sample of even 200 ml would have been enough). This quantity of water was decided to take account of any possible spillage during transportation.

   (2) The plastic was of a quality able to withstand transportation pressures, first from Hyderabad to each state where the survey was being conducted, then with the field teams and then to Mumbai where the samples were sent for analysis.

   (3) The bottles were sterilised to ensure that samples did not get contaminated, and

   (4) Two corks were provided for each bottle so as to minimise any spillage and ensure the M/s Medlar Labs got sufficient quantity of water to analyse the fluoride levels.

2. Each field team was instructed to collect water samples from the first household they visited every day. Subsequent samples were to be collected only if the sources of supply were different from that in the first house. In other words, water samples were collected from all sampled households that had different sources of drinking water in the area of coverage. It means that water samples were collected from a representative sample of households of the villages/urban blocks. 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.

3. All water sample bottles had to carry identification particulars of the household, including the state, zone and serial number given to the household for the purpose of the survey Thus, every household covered had a unique serial number within a zone. The water sample bottles were labelled with this number, thereby uniquely matching each sample with the information on oral health collected from that household.

4. This linkage of the water sample with other information from the household was done for two purposes. The first was that the collected household drinking water samples would represent the situation of water supply in rural and urban households in the zone and ultimately that of the state (after proper weights had been assigned to the rural and urban areas). This analysis would help map the fluoride levels in different areas of the state and the country. The other purpose was to try to link the fluoride levels in drinking water, with the oral health related dental practices and the actual status of oral health of the households and individuals.

4.3 ANALYSIS OF WATER SAMPLES

Since analysis of water samples for their fluoride levels requires special equipment, Dr. R. K. Bali, the President, Dental Council of India, contacted Colgate-India for help. Colgate-India, which has been very supportive of effort of the Dental Council of India in conducting the National Oral Health Survey having also provided financial assistance for it, agreed to his request and nominated M/s Medlar Labs, Mumbai for such analysis.

The methodology M/s Medlar Labs adopted for analysing the fluoride levels has been described in section 2.3.3 of the chapter on Methodology and Data Collection.

4.4 FINDINGS

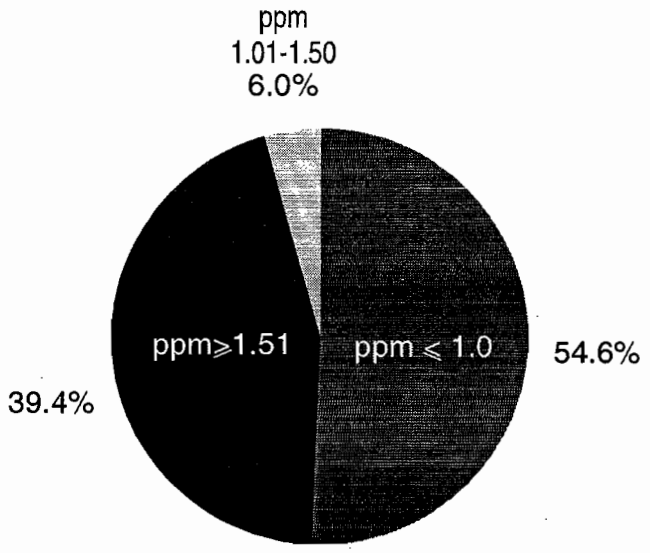
The fluoride levels in different regions, rural, urban areas and total Maharashtra are shown in Table 4.1. A graphical representation of prevailing fluoride levels is given in Fig. 4.01

Table 4.1 Per cent distribution of water samples by levels of fluoride and geographical area.

Levels of ppm	Regions				State		
	I	II	III	V	Rural	Urban	Total
0.0-0.5	28.5	61.9	20.2	0.0	26.0	57.7	32.7
0.51-1.00	24.1	25.9	15.3	22.1	20.5	23.0	21.9
1.01-1.50	0.0	0.0	10.1	15.1	8.1	0.0	6.0
1.51-2.00	8.0	2.1	43.7	27.9	25.0	13.3	24.1
2.01-4.00	39.5	10.1	10.8	34.9	20.4	6.0	15.3
4.01-8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.01+	0.0	0.0	0.0	0.0	0.0	0.0	0.0

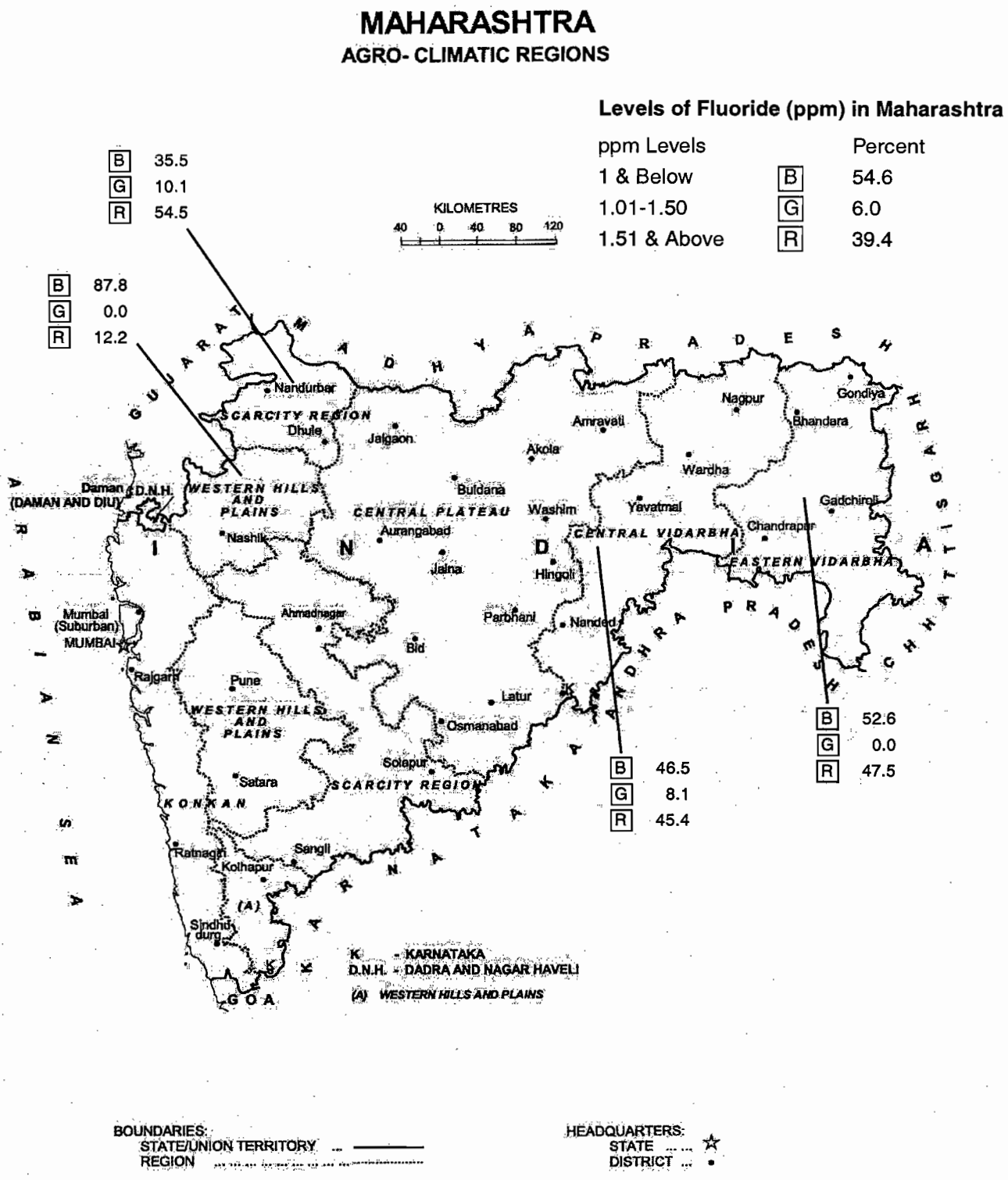
Note: Maharashtra has been divided into six regions. Namely (1) E. Vidharba, (2) W. Hills & Plains, (3) Scarcity Region, (4) C. Plateau, (5) C. Vidharba, (6) Konkan. District within each region is shown in Table 2.1(a). Their boundaries and the districts within them may be seen in the State map. The results of fluoride levels on water samples were available only for the four regions – E. Vidarbha, W. Hills & Plains, Scarcity Region and C, Vidarbha. The state figures have been worked out on the basis of data for four regions.

Fig. 4.1 Drinking water levels of fluoride in Maharashtra



It may be noted that over 45 per cent of the drinking water sources in Regions/Zones in Maharashtra had fluoride levels of between 1 ppm and 4 ppm. Rural areas also had higher fluoride levels than urban areas. Higher levels were found more in E. Vidarbha and C. Vidarbha.

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



CHAPTER V

FOOD HABITS & ORAL HEALTH PRACTICES

A series of questions were asked on food habits and other habits/practices that could affect oral health during the survey. Prevalence of each of those practices for different ages/age groups, males and females, rural and urban areas and for each Region is discussed in this chapter. These figures should help suggest appropriate educational activities to improve practices related to oral health and thus improve oral health of the population.

5.1 ABNORMAL ORAL HABITS

Five questions on abnormal habits, "breathing from mouth", "habit of sucking or biting fingers or thumb", "thrusting tongue on teeth", "biting nails, lips or objects like pencil", and "habit of grinding/gritting teeth" were enquired from each adult respondent (from his/her caretaker for a child). Responses are reported in Table 5.1

It may be seen that prevalence of these practices was generally very low. But the habit of "grinding/gritting was slightly higher across age groups. While habit of "biting nails/lips/objects like pencil" was more prevalent among the 5-year & 12 year age groups, and in rural areas.

E. Vidharba reported higher percentages of all habits, irrespective of sex and across all age groups.

ABNORMAL ORAL HABITS ACROSS AGE GROUPS (SUMMING UP)

- About 4 per cent children in 5-year & 12 year age groups reported "biting nails, lips, objects like pencils", etc. The habit decreased with increase in age. The prevalence of habit of "grinding/gritting teeth" was comparatively higher than other abnormal habit across age groups & more in rural.

5.2 SUGAR-CONSUMPTION HABITS

Since sweets eating habits affect oral health, the respondents were asked how many times had they taken sugar during the last 24 hours. (Table 5.2)

(1) About 49 per cent respondents across age groups had not taken sugar or sweets at all in the last 24 hours. However, it was seen that intake decreased with age in both rural and urban areas. (Fig. 5.1)

Fig 5.1. Percent subjects with sugar intake of one and more times in last one day by age

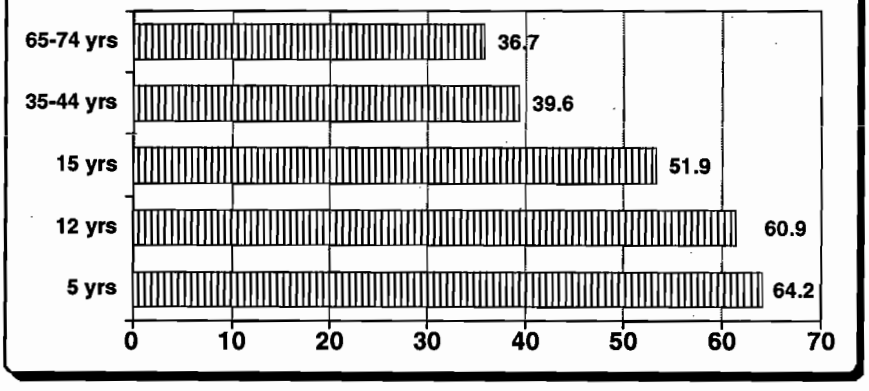


Table 5.1. Percent respondents by habits affecting oral health age, sex & geographical area.

AGE: 5 yrs **STATE: Maharashtra**

Habits affecting oral health		MALE								FEMALE								State Total
		Regions					State			Regions					State			
		1	2	3	4	5	R	U	T	1	2	3	4	5	R	U	T	
	n=	169	103	159	164	208	542	261	803	156	107	158	123	202	504	242	746	1549
1 Breathing from mouth		9.1	4.4	0.5	0.0	4.1	3.0	1.1	2.4	3.7	0.8	1.5	2.4	3.9	2.8	1.2	2.2	2.3
2 Sucking or biting fingers/thumb		19.5	5.2	0.7	1.8	3.3	4.9	2.1	3.9	19.9	3.2	1.9	1.8	1.5	3.9	3.1	3.6	3.8
3 Thrusting tongue on teeth		10.1	0.0	0.7	0.7	0.9	1.9	0.3	1.4	10.9	1.1	0.7	0.0	0.0	1.6	0.8	1.3	1.4
4 Biting nails/lips/objects like pencil		19.2	10.5	0.0	1.8	4.7	5.2	4.8	5.1	15.7	5.8	0.7	2.4	3.3	5.1	1.9	4.0	4.6
5 Grinding / gritting teeth		43.2	9.1	2.1	3.8	14.4	11.7	5.6	9.7	38.9	6.7	2.7	3.5	12.2	9.5	7.5	8.8	9.3

AGE: 12 yrs **STATE: Maharashtra**

Habits affecting oral health		MALE								FEMALE								State Total
		Regions					State			Regions					State			
		1	2	3	4	5	R	U	T	1	2	3	4	5	R	U	T	
	n=	178	101	157	157	215	532	276	808	170	109	159	141	201	523	257	780	1588
1 Breathing from mouth		4.0	2.8	2.7	0.0	2.4	1.8	2.0	1.9	5.6	1.1	2.1	0.0	1.4	1.5	1.3	1.4	1.7
2 Sucking or biting fingers/thumb		12.2	1.2	0.7	0.0	1.4	1.9	1.3	1.7	9.1	2.3	0.0	0.8	0.5	2.2	0.4	1.6	1.7
3 Thrusting tongue on teeth		6.1	1.2	3.7	0.0	0.4	1.9	0.8	1.5	7.7	0.8	2.8	0.0	1.4	2.4	0.2	1.6	1.6
4 Biting nails/lips/objects like pencil		17.2	1.7	0.7	1.4	2.2	3.8	1.0	2.8	14.4	5.5	0.0	1.3	1.4	3.2	2.8	3.1	3.0
5 Grinding / gritting teeth		35.8	4.8	3.7	6.1	13.0	10.8	6.8	9.4	46.5	5.5	0.0	1.3	5.6	7.6	5.0	6.7	8.1

AGE: 15 yrs **STATE: Maharashtra**

Habits affecting oral health		MALE								FEMALE								State Total
		Regions					State			Regions					State			
		1	2	3	4	5	R	U	T	1	2	3	4	5	R	U	T	
	n=	128	104	159	133	211	468	267	735	116	103	159	154	206	482	256	738	1473
1 Breathing from mouth		4.5	0.8	0.0	0.0	1.4	0.8	0.6	0.8	6.1	1.1	1.4	0.0	1.0	0.7	1.7	1.1	1.0
2 Sucking or biting fingers/thumb		1.5	0.0	0.0	0.0	0.0	0.1	0.1	0.1	6.7	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.3
3 Thrusting tongue on teeth		2.0	0.0	1.4	0.8	0.4	1.2	0.0	0.8	6.2	0.8	0.7	0.5	0.0	0.9	0.7	0.8	0.8
4 Biting nails/lips/objects like pencil		9.0	1.1	0.0	0.0	0.9	0.9	1.2	1.0	19.0	2.2	0.0	0.7	0.5	1.7	2.1	1.8	1.4
5 Grinding / gritting teeth		47.9	1.9	0.0	0.0	9.3	5.7	5.3	5.5	39.1	4.2	1.4	4.7	4.2	6.0	5.3	5.8	5.7

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

Habits affecting oral health		MALE								FEMALE								State Total
		Regions					State			Regions					State			
		1	2	3	4	5	R	U	T	1	2	3	4	5	R	U	T	
	n=	180	102	162	145	210	530	269	799	212	106	154	164	204	567	273	840	1639
1 Breathing from mouth		7.8	2.5	0.7	0.0	1.5	2.1	0.7	1.6	8.7	3.5	0.0	0.5	1.5	1.9	2.2	2.0	1.8
2 Sucking or biting fingers/thumb		3.2	0.0	0.0	0.0	0.0	0.3	0.4	0.3	3.9	0.0	0.0	0.0	0.0	0.3	0.6	0.4	0.4
3 Thrusting tongue on teeth		0.7	0.0	0.7	0.0	0.0	0.3	0.0	0.2	0.6	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.2
4 Biting nails/lips/objects like pencil		16.6	0.0	0.0	0.0	0.0	2.0	0.8	1.6	19.9	0.0	0.0	0.7	0.0	2.7	1.4	2.3	2.0
5 Grinding / gritting teeth		56.0	3.1	0.0	0.8	7.1	8.2	6.2	7.5	65.7	1.6	0.7	4.3	6.2	11.5	6.4	9.8	8.7

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

Habits affecting oral health		MALE								FEMALE								State Total
		Regions					State			Regions					State			
		1	2	3	4	5	R	U	T	1	2	3	4	5	R	U	T	
	n=	189	107	157	167	220	573	267	840	149	109	157	122	189	474	252	726	1566
1 Breathing from mouth		7.1	1.9	0.7	0.7	1.4	1.6	1.6	1.6	2.8	0.8	0.0	0.0	2.6	1.1	0.5	0.9	1.3
2 Sucking or biting fingers/thumb		1.5	0.0	0.0	0.0	0.0	0.0	0.5	0.2	1.6	0.0	0.0	0.0	0.0	0.2	0.0	0.1	0.2
3 Thrusting tongue on teeth		0.3	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.8	0.0	0.0	0.0	0.6	0.1	0.4	0.2	0.1
4 Biting nails/lips/objects like pencil		4.6	0.0	0.0	0.0	0.0	0.4	0.5	0.4	6.5	0.0	0.0	0.9	0.0	0.9	0.6	0.8	0.6
5 Grinding / gritting teeth		51.7	0.0	0.0	2.6	7.9	9.1	3.1	7.1	50.8	1.1	0.0	1.6	7.4	6.6	5.8	6.3	6.7

Table 5.2. Percent respondents by pattern of sugar in take age, sex & geographical area.

AGE: 5 yrs **STATE: Maharashtra**

Pattern of sugar intake in last one day		MALES								FEMALES								State Total
		Regions					State			Regions					State			
		1	2	3	4	5	R	U	T	1	2	3	4	5	R	U	T	
	n=	169	103	159	164	208	542	261	803	156	107	158	123	202	504	242	746	1549
1 Not taken		7.6	46.6	23.8	26.8	67.9	37.5	32.7	35.9	5.2	51.8	24.9	21.5	65.3	36.8	34.2	35.9	35.9
2 Taken one time		37.3	16.7	29.8	18.7	16.4	21.0	23.3	21.8	34.1	20.0	35.5	24.1	20.7	24.0	29.9	26.0	23.9
3 Taken two times		32.4	28.7	4.3	37.4	11.8	22.2	27.9	24.1	35.6	19.3	4.4	35.7	11.6	20.9	20.5	20.8	22.5
4 Taken 2+ times		22.7	8.1	42.1	17.1	3.8	19.3	16.1	18.3	25.1	8.8	35.2	18.6	2.4	18.3	15.3	17.3	17.8

AGE: 12 yrs **STATE: Maharashtra**

Pattern of sugar intake in last one day		MALES								FEMALES								State Total
		Regions					State			Regions					State			
		1	2	3	4	5	R	U	T	1	2	3	4	5	R	U	T	
	n=	178	101	157	157	215	532	276	808	170	109	159	141	201	523	257	780	1588
1 Not taken		7.4	54.3	27.5	22.5	68.6	37.5	36.1	37.0	7.3	54.4	32.3	30.5	71.1	44.4	35.0	41.2	39.1
2 Taken one time		30.0	24.4	30.5	23.1	20.0	22.3	29.8	25.0	41.3	19.1	31.1	21.4	23.3	24.0	27.4	25.2	25.1
3 Taken two times		40.9	15.4	1.2	41.7	8.5	23.8	19.5	22.2	30.4	20.0	5.0	37.9	4.5	18.0	25.6	20.6	21.4
4 Taken 2+ times		21.6	6.0	40.8	12.7	2.9	16.4	14.6	15.7	21.0	6.5	31.7	10.2	1.0	13.6	12.0	13.0	14.4

AGE: 15 yrs **STATE: Maharashtra**

Pattern of sugar intake in last one day		MALES								FEMALES								State Total
		Regions					State			Regions					State			
		1	2	3	4	5	R	U	T	1	2	3	4	5	R	U	T	
	n=	128	104	159	133	211	468	267	735	116	103	159	154	206	482	256	738	1473
1 Not taken		7.5	68.7	31.0	32.0	71.7	46.5	45.1	46.0	6.7	71.3	43.8	36.8	74.4	52.8	45.9	50.4	48.2
2 Taken one time		40.0	23.3	27.9	22.9	21.7	22.0	30.5	25.1	38.0	18.5	30.3	21.5	19.7	22.1	25.9	23.4	24.3
3 Taken two times		30.5	6.9	4.3	36.6	6.6	18.4	14.0	16.7	35.2	8.0	1.9	31.7	5.4	15.8	16.4	16.0	16.4
4 Taken 2+ times		22.0	1.1	36.8	8.5	0.0	13.1	10.5	12.2	20.2	2.2	24.0	10.1	0.6	9.3	11.9	10.2	11.2

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

Pattern of sugar intake in last one day		MALES								FEMALES								State Total
		Regions					State			Regions					State			
		1	2	3	4	5	R	U	T	1	2	3	4	5	R	U	T	
	n=	180	102	162	145	210	530	269	799	212	106	154	164	204	567	273	840	1639
1 Not taken		15.6	76.7	83.7	45.6	71.6	63.0	58.8	61.5	11.8	86.3	78.0	39.2	77.5	56.8	64.4	59.3	60.4
2 Taken one time		43.0	16.8	12.7	22.8	23.9	20.6	24.0	21.8	48.0	11.5	18.7	22.9	15.8	21.8	20.3	21.3	21.6
3 Taken two times		18.2	5.4	2.0	25.5	4.1	11.4	13.1	12.0	21.7	2.2	0.7	29.8	5.8	15.5	11.0	14.0	13.0
4 Taken 2+ times		23.1	1.1	1.6	6.1	0.5	5.0	4.1	4.7	18.5	0.0	2.6	8.1	0.9	5.9	4.3	5.3	5.0

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

Pattern of sugar intake in last one day		MALES								FEMALES								State Total
		Regions					State			Regions					State			
		1	2	3	4	5	R	U	T	1	2	3	4	5	R	U	T	
	n=	189	107	157	167	220	573	267	840	149	109	157	122	189	474	252	726	1566
1 Not taken		21.1	89.9	75.0	44.0	75.5	63.0	60.0	62.0	17.5	87.9	77.9	40.2	80.2	61.3	71.0	64.8	63.4
2 Taken one time		46.4	7.2	14.9	17.1	21.7	16.8	22.5	18.7	50.0	9.2	17.6	24.6	15.0	21.5	17.1	19.9	19.3
3 Taken two times		20.4	1.1	5.9	31.3	2.8	15.2	12.9	14.4	24.0	1.8	2.1	27.6	4.8	13.1	9.0	11.7	13.1
4 Taken 2+ times		12.1	1.9	4.3	7.6	0.0	5.0	4.6	4.9	8.5	1.1	2.4	7.6	0.0	4.0	2.9	3.6	4.3

In the urban areas, the percentage of subjects who had taken sweets was 48 per cent compared to 50 per cent in the rural areas.

(2) Females were found to have slightly more sugar/sweets than males.

(3) Prevalence of the habit was found to be less in Scarcity Region.

EATING HABITS ACROSS AGE GROUPS (SUMMING UP)

- About 49 per cent of the subjects, across all ages had not taken sugar in last 24 hours. The intake of sugar/sweets decreased with the age of respondents in rural as well as in urban. There were more females than males who had taken more sugar.

5.3 ORAL HYGIENE PRACTICES

A series of questions were asked about oral hygiene practices, like how teeth are cleaned, what material is used to clean them, whether this is fluoridated or not, how often teeth are cleaned and whether and how often mouth is rinsed after meals. The responses to these questions are shown in Tables 5.3.1 to 5.3.5 and are discussed in the sections below by age group of the respondents.

5.3.1 5 year olds

About 48 per cent children in this age group reported the use of toothbrush to clean teeth in the state (about 36 per cent in rural areas and 68 per cent in urban areas) (Table 5.3.1). Usage was slightly more in males. Usage was also found to be more in E. Vidarbha and W. Hills & Plains. While more respondents in urban areas reported changing their toothbrushes once in three months. In the rural areas, the change of tooth brushes took place mostly once in between three to six months.

It was encouraging to note that almost everybody reported cleaning teeth daily—about 97 per cent once a day and about 3 per cent twice a day. There were no significant differences between rural and urban areas, or among regions.

Less than half the children were using toothpaste (about 47 per cent) and more than one-third reported using tooth powder (37 per cent). However, more subjects in urban areas used toothpaste (65 per cent) than in the rural areas (38 per cent). The situation was the same across both sexes. Fluoridated toothpaste/powder was used by only 15 per cent subjects in the rural areas and 25 per cent in the urban areas.

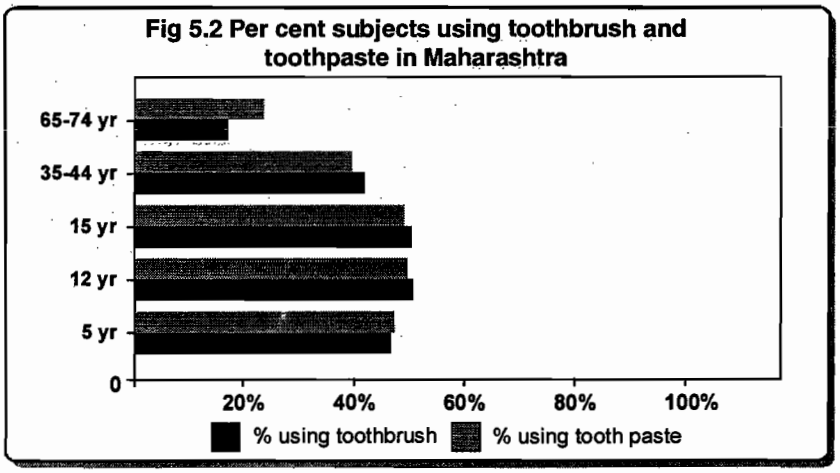


Fig 5.2 Per cent subjects using toothbrush and toothpaste in Maharashtra

On rinsing practices, about 34 per cent reported doing so after every meal – there were no significant rural/urban differentials or between sexes. Another one-third rinsed their mouth "sometimes". Also, the practice of rinsing one's mouth was less prevalent in C. Vidarbha.

Table 5. 3. 1 Percent 5 year olds by oral hygiene practices, sex & geographical area.

AGE: 5 yrs **STATE: Maharashtra**

Oral Hygiene Practices		MALES								FEMALES								STATE TOTAL
		REGIONS					STATE			REGIONS					STATE			
		1	2	3	4	5	R	U	T	1	2	3	4	5	R	U	T	
1 Clean teeth with	n=	**169**	**103**	**159**	**164**	**208**	**542**	**261**	**803**	**156**	**107**	**158**	**123**	**202**	**504**	**242**	**746**	**1549**
finger		35.6	34.7	55.8	49.3	54.1	57.1	26.9	47.0	36.7	35.6	54.4	56.9	53.6	58.6	29.9	48.8	**47.9**
brush		59.2	54.7	39.3	48.7	38.8	36.1	70.8	47.7	58.1	57.5	38.4	41.5	39.1	35.7	65.7	45.8	**46.8**
datun		0.0	0.0	0.5	0.0	0.5	0.1	0.3	0.2	1.5	0.8	0.7	0.0	0.5	0.8	0.0	0.5	**0.4**
others		5.2	10.6	4.5	2.0	6.7	6.6	2.1	5.1	3.7	6.1	6.5	1.5	6.9	4.9	4.5	4.8	**5.0**
2 Frequency of cleaning teeth	n=	**159**	**90**	**151**	**161**	**193**	**504**	**250**	**754**	**147**	**99**	**147**	**121**	**187**	**472**	**229**	**701**	**1455**
Once a day		97.4	98.7	99.5	95.7	95.2	98.4	94.0	96.9	95.3	100.0	99.5	94.7	98.5	97.9	97.0	97.6	**97.3**
Twice a day		1.5	0.0	0.5	4.3	3.9	1.2	5.2	2.6	4.0	0.0	0.5	5.3	1.0	1.9	3.0	2.3	**2.5**
After every meal		1.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.8	0.0	0.0	0.0	0.0	0.1	0.0	0.1	**0.1**
3 Material used for cleaning teeth																		
Tooth paste		62.2	62.7	47.8	37.5	38.7	38.6	62.1	46.7	57.7	67.3	44.0	39.2	38.0	37.7	67.7	48.0	**47.4**
Tooth powder		33.4	26.4	38.3	42.8	44.1	42.9	29.4	38.3	39.9	23.2	33.9	37.2	46.7	40.6	25.3	35.4	**36.9**
4 Type of toothpaste/ powder	n=	**153**	**80**	**131**	**131**	**159**	**422**	**232**	**654**	**144**	**88**	**116**	**94**	**158**	**388**	**212**	**600**	**1254**
Flouridated		34.6	13.8	4.6	22.4	18.9	14.2	24.7	18.1	21.9	10.9	9.5	25.4	28.1	15.8	25.5	19.5	**18.8**
Non flouridated		12.7	82.1	92.8	32.1	42.2	51.5	56.4	53.3	14.2	88.2	86.8	41.8	35.5	55.6	58.5	56.7	**55.0**
5 Change of toothbrush once in	n=	**100**	**51**	**68**	**84**	**80**	**210**	**173**	**383**	**89**	**57**	**66**	**53**	**78**	**195**	**148**	**343**	**726**
1-3 months		7.0	70.4	36.0	34.8	34.5	28.4	51.9	40.1	6.4	63.9	55.5	30.2	40.5	37.0	49.4	43.1	**41.6**
4-6 months		23.6	21.9	39.5	21.0	28.7	26.7	24.6	25.7	24.5	25.3	37.6	32.1	31.5	29.4	31.5	30.4	**28.1**
6 + months		67.6	7.7	24.5	40.1	35.6	41.8	23.2	32.5	65.8	8.9	5.7	35.6	25.6	31.2	17.4	24.5	**28.5**
6 Rinse mouth after eating	n=	**169**	**103**	**159**	**164**	**208**	**542**	**261**	**803**	**156**	**107**	**158**	**123**	**202**	**504**	**242**	**746**	**1549**
Sometimes		59.3	8.0	24.3	41.0	35.1	32.2	32.3	32.3	62.6	8.7	21.1	30.3	40.1	30.1	25.8	28.7	**30.5**
Always		31.7	39.0	36.5	36.1	23.8	34.4	33.0	33.9	23.2	49.7	26.4	36.5	21.9	32.0	35.1	33.0	**33.5**

5.3.2 12 and 15 year olds

About 52 per cent children aged 12 & 15 years reported the use of toothbrush in the state – about 42 per cent in rural areas and 72 per cent in urban areas. (Tables 5.3.2 and 5.3.3). In the rural areas, they changed their toothbrushes mostly in four to six months time while this period in the urban areas was more often – about 50 per cent in the first three months and another 25 per cent in 4-6 months.

Toothpaste was used by about 48 per cent across both the age groups. Toothpaste was however more popular in urban areas where about 64 per cent reported using the same. Use of fluoridated toothpaste/tooth powder was quite low in the rural areas and slightly higher in the urban areas, where also only about 27 per cent of the respondents reported its use.

About 97 per cent reported cleaning their teeth once a day – this was higher at 98 per cent in the rural areas as against 95 per cent in urban areas.

Only one-third of the respondents across age group reported rinsing their mouth after every meal, both in the urban and rural areas. Another one-third rinsed their mouth only "sometimes". The practice of always rinsing the mouth after eating was more common in the W. Hills & Plains and C. Plateau.

5.3.4 35-44 year olds

About 42 per cent of the respondents in this age group reported the use of toothbrush to clean teeth. —about 34 per cent in rural areas and 59 per cent in urban areas (Table 5.3.4). A large percentage of the users in the rural areas replaced their toothbrushes in four to six months, or once in after six months. In urban areas, replacement was mostly done once in one to three months while 30 per cent of them did so in four to six months. There was not much difference between males and females. Among regions, use of toothbrush was more common in E. Vidarbha and W. Hills & Plains.

A high 95 per cent of the respondents said they cleaned their teeth once a day. Not much difference was noticed between males and females in this regard. Region-wise, more people in E. Vidarbha and C. Plateau cleaned their teeth twice a day.

The use of toothpaste was reported by about 39 per cent more males than females and more in urban (31 per cent in the rural areas against 55 per cent in the urban areas. The others 32 percent across both sexes & more in rural reported using tooth powder. Among regions, usage of toothpaste was reported more in E. Vidarbha and W. Hills & Plains. The use of fluoridated toothpaste was quite low – about 15 per cent in rural areas and 24 per cent in urban areas. Again, gender differences were not found.

About 47 per cent of the population reported rinsing mouth after every meal (nearly 49 per cent in rural areas and 45 per cent in urban areas). This practice was found to be most prevalent in W. Hills & Plains followed by C. Plateau.

Table 5. 3. 2 Percent 12 year olds by oral hygiene practices, sex & geographical area.

AGE: 12 yrs STATE: Maharashtra

Oral Hygiene Practices		MALES								FEMALES								STATE TOTAL
		REGIONS					STATE			REGIONS					STATE			
		1	2	3	4	5	R	U	T	1	2	3	4	5	R	U	T	
1 Clean teeth with	n=	178	101	157	157	215	532	276	808	170	109	159	141	201	523	257	780	1588
finger		33.1	37.8	41.1	49.4	55.0	54.0	27.4	44.7	34.2	31.8	47.2	51.5	57.1	58.1	20.8	45.3	**45.0**
brush		61.8	61.3	55.5	49.9	40.8	43.1	71.3	53.0	60.5	63.8	48.6	48.5	39.9	38.8	77.1	51.9	**52.5**
datun		0.7	0.0	0.7	0.0	0.9	0.6	0.0	0.4	0.0	2.3	0.0	0.0	0.9	0.9	0.0	0.6	**0.5**
others		4.4	0.8	2.7	0.7	3.3	2.3	1.2	1.9	5.2	2.1	4.3	0.0	2.0	2.1	2.2	2.1	**2.0**
2 Frequency of cleaning teeth	n=	169	100	152	156	206	513	270	783	160	104	153	141	195	504	249	753	1536
Once a day		96.1	98.8	98.0	95.0	97.4	98.2	94.1	96.7	96.7	100.0	97.6	95.1	98.5	98.1	95.7	97.3	**97.0**
Twice a day		2.8	0.0	2.0	5.0	2.6	1.7	5.2	2.9	2.6	0.0	2.4	4.9	1.5	1.8	4.3	2.6	**2.8**
After every meal		1.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.7	0.0	0.0	0.0	0.0	0.1	0.0	0.1	**0.1**
3 Material used for cleaning teeth																		
Tooth paste		59.1	60.8	50.0	38.7	39.9	37.8	65.5	47.6	67.9	63.1	50.4	38.3	39.2	40.1	66.0	49.0	**48.3**
Tooth powder		38.0	28.5	30.9	38.2	44.8	40.7	27.5	36.0	29.1	27.2	31.9	44.1	43.7	40.4	29.5	36.7	**36.4**
4 Type of toothpaste/ powder	n=	165	88	125	122	174	421	253	674	156	92	127	118	161	418	236	654	1328
Flouridated		26.4	15.2	9.7	25.8	25.0	15.7	29.3	21.0	29.3	11.9	3.5	23.4	23.9	13.4	25.6	18.1	**19.6**
Non flouridated		15.8	82.5	87.4	39.0	39.0	56.0	50.9	54.0	11.8	86.0	92.9	30.9	40.9	53.3	56.4	54.5	**54.3**
5 Change of toothbrush once in	n=	108	58	92	82	87	242	185	427	99	64	84	72	79	218	180	398	825
1-3 months		4.4	60.7	38.0	34.9	27.3	25.9	49.8	37.1	5.8	61.8	50.7	32.2	38.3	32.7	50.6	41.8	**39.5**
4-6 months		27.9	26.9	36.3	21.2	31.5	28.8	26.7	27.8	29.5	22.5	37.6	25.7	27.3	29.7	25.9	27.8	**27.8**
6 + months		64.5	10.5	24.9	42.5	38.0	43.2	22.0	33.2	61.8	14.0	11.7	39.0	34.4	35.7	22.0	28.7	**31.0**
6 Rinse mouth after eating	n=	178	101	157	157	215	532	276	808	170	109	159	141	201	523	257	780	1588
Sometimes		62.5	15.2	34.1	40.7	41.9	38.5	34.1	37.0	59.8	10.8	33.6	33.5	45.1	35.4	29.6	33.4	**35.2**
Always		26.7	40.6	34.6	38.7	23.4	34.4	33.5	34.1	30.8	48.1	33.0	41.9	24.8	36.8	37.5	37.0	**35.6**

Table 5. 3. 3 Percent 15 year olds by oral hygiene practices, sex & geographical area.

AGE: 15 yrs STATE: Maharashtra

Oral Hygiene Practices		MALES								FEMALES								STATE TOTAL
		REGIONS					STATE			REGIONS					STATE			
		1	2	3	4	5	R	U	T	1	2	3	4	5	R	U	T	
1 Clean teeth with	n=	**128**	**104**	**159**	**133**	**211**	**468**	**267**	**735**	**116**	**103**	**159**	**154**	**206**	**482**	**256**	**738**	**1473**
finger		37.0	36.4	34.2	46.3	55.5	51.7	26.5	42.4	36.8	33.7	31.8	56.2	62.2	55.6	28.5	46.3	**44.4**
brush		58.0	60.6	59.6	53.1	41.6	45.2	70.4	54.5	56.5	61.6	64.7	41.9	34.4	41.4	67.6	50.3	**52.4**
datun		0.0	0.0	1.2	0.0	0.4	0.4	0.3	0.3	0.0	0.8	1.6	0.0	1.4	0.8	0.6	0.8	**0.6**
others		5.0	3.0	5.0	0.6	2.4	2.6	2.9	2.7	6.7	3.9	1.9	1.9	2.0	2.2	3.3	2.6	**2.7**
2 Frequency of cleaning teeth	n=	**121**	**101**	**150**	**132**	**205**	**452**	**257**	**709**	**108**	**98**	**153**	**151**	**199**	**465**	**244**	**709**	**1418**
Once a day		97.9	98.0	96.7	96.7	97.6	97.9	96.0	97.2	96.4	100.0	96.6	93.3	97.3	96.8	94.9	96.2	**96.7**
Twice a day		2.1	2.0	3.3	3.3	2.4	2.1	4.0	2.8	3.6	0.0	3.4	6.7	2.7	3.2	5.1	3.8	**3.3**
After every meal		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	0.0	**0.0**
3 Material used for cleaning teeth																		
Tooth paste		64.3	61.0	59.5	40.0	38.6	41.5	64.8	50.1	58.1	61.4	59.4	37.3	32.7	39.6	61.8	47.2	**48.7**
Tooth powder		33.6	25.8	27.2	42.4	46.3	40.2	28.5	35.9	37.7	23.5	29.3	37.4	50.7	38.4	30.1	35.6	**35.8**
4 Type of toothpaste/ powder	n=	**119**	**86**	**130**	**110**	**173**	**377**	**241**	**618**	**104**	**81**	**136**	**115**	**166**	**378**	**224**	**602**	**1220**
Flouridated		31.2	15.6	6.2	27.0	22.9	13.9	29.4	20.1	33.8	15.8	6.3	23.9	26.4	16.0	26.1	19.8	**20.0**
Non flouridated		9.2	80.8	92.0	36.2	43.8	60.9	49.4	56.3	15.0	81.4	91.6	38.4	41.2	58.1	56.5	57.5	**56.9**
5 Change of toothbrush once in	n=	**73**	**58**	**97**	**73**	**87**	**214**	**174**	**388**	**62**	**59**	**105**	**67**	**70**	**205**	**158**	**363**	**751**
1-3 months		6.0	61.6	44.0	27.5	26.6	28.1	48.8	38.0	2.0	63.6	48.8	36.9	34.6	38.4	51.0	44.2	**41.1**
4-6 months		35.4	28.3	33.8	32.0	43.3	35.9	31.0	33.6	29.7	20.3	32.4	17.5	24.2	26.1	20.9	23.7	**28.7**
6 + months		55.1	8.2	21.4	40.6	28.0	35.4	18.3	27.2	65.4	16.1	18.8	42.2	39.9	33.4	27.7	30.8	**29.0**
6 Rinse mouth after eating	n=	**128**	**104**	**159**	**133**	**211**	**468**	**267**	**735**	**116**	**103**	**159**	**154**	**206**	**482**	**256**	**738**	**1473**
Sometimes		58.0	24.8	37.6	47.3	51.5	43.0	41.0	42.3	57.0	19.2	41.0	37.0	48.7	38.8	35.8	37.8	**40.1**
Always		27.0	40.8	39.6	35.9	24.2	35.7	32.3	34.5	34.7	55.7	32.9	45.0	27.6	42.8	35.5	40.3	**37.4**

Table 5. 3. 4 Percent 35-44 year olds by oral hygiene practices, sex & geographical area.

AGE: 35-44 yrs STATE: Maharashtra

Oral Hygiene Practices		MALES								FEMALES								STATE TOTAL
		REGIONS					STATE			REGIONS					STATE			
		1	2	3	4	5	R	U	T	1	2	3	4	5	R	U	T	
1 Clean teeth with	n=	**180**	**102**	**162**	**145**	**210**	**530**	**269**	**799**	**212**	**106**	**154**	**164**	**204**	**567**	**273**	**840**	**1639**
finger		35.8	41.0	54.4	60.3	61.9	60.1	40.2	53.0	33.1	44.5	67.8	64.6	68.6	68.2	38.0	58.3	**55.7**
brush		60.0	57.9	42.6	38.4	37.2	38.2	57.7	45.2	63.8	52.8	29.5	33.8	27.1	29.0	59.6	39.1	**42.2**
datun		1.3	0.0	0.0	0.8	0.0	0.5	0.0	0.4	1.1	0.0	2.0	0.0	1.9	1.1	0.3	0.8	**0.6**
others		2.9	1.1	3.0	0.6	1.0	1.2	2.1	1.5	2.0	2.7	0.7	1.6	2.4	1.7	2.2	1.8	**1.7**
2 Frequency of cleaning teeth	n=	**173**	**101**	**157**	**143**	**208**	**519**	**263**	**782**	**206**	**103**	**150**	**161**	**195**	**548**	**267**	**815**	**1597**
Once a day		87.1	98.0	98.1	93.1	97.1	96.1	93.7	95.2	90.4	96.4	96.3	94.4	94.2	95.3	93.2	94.6	**94.9**
Twice a day		9.9	2.0	1.2	6.9	2.4	3.3	5.8	4.2	9.0	2.8	3.7	5.6	4.2	4.2	6.4	4.9	**4.6**
After every meal		3.1	0.0	0.7	0.0	0.6	0.6	0.4	0.5	0.6	0.8	0.0	0.0	1.1	0.4	0.4	0.4	**0.5**
3 Material used for cleaning teeth																		
Tooth paste		65.7	55.2	44.7	27.7	31.3	33.7	54.5	41.1	68.2	55.0	29.3	26.4	27.6	28.6	55.3	37.4	**39.3**
Tooth powder		26.8	24.1	21.8	40.3	37.7	33.2	28.8	31.6	26.6	13.5	22.1	44.4	46.7	33.7	32.1	33.2	**32.4**
4 Type of toothpaste/ powder	n=	**162**	**78**	**107**	**99**	**143**	**366**	**223**	**589**	**197**	**66**	**80**	**117**	**144**	**370**	**234**	**604**	**1193**
Flouridated		26.8	10.8	7.1	20.2	26.8	13.7	24.7	18.2	29.0	13.2	3.8	24.0	18.8	16.0	24.0	19.2	**18.7**
Non flouridated		11.4	84.2	92.2	34.6	35.4	51.8	54.8	53.0	6.7	82.3	91.4	41.7	44.8	49.1	55.0	51.5	**52.3**
5 Change of toothbrush once in	n=	**104**	**56**	**73**	**57**	**77**	**220**	**147**	**367**	**126**	**50**	**50**	**58**	**54**	**196**	**142**	**338**	**705**
1-3 months		10.9	51.4	37.2	35.5	27.5	30.7	41.0	35.4	3.1	69.6	40.9	30.0	29.7	21.0	54.2	37.6	**36.5**
4-6 months		44.1	29.2	34.5	27.9	30.6	33.4	30.2	31.9	45.4	22.7	35.9	25.2	21.1	30.7	27.3	29.0	**30.5**
6 + months		40.8	19.4	26.7	34.6	33.0	32.3	26.7	29.8	46.7	7.7	23.3	39.5	47.5	44.4	17.2	30.8	**30.3**
6 Rinse mouth after eating	n=	**180**	**102**	**162**	**145**	**210**	**530**	**269**	**799**	**212**	**106**	**154**	**164**	**204**	**567**	**273**	**840**	**1639**
Sometimes		53.4	23.5	40.4	28.2	46.8	35.6	36.8	36.0	56.8	17.5	47.8	37.5	45.5	40.2	37.0	39.2	**37.6**
Always		36.2	63.8	45.0	51.8	33.5	49.2	44.0	47.3	30.7	69.6	36.1	51.6	37.5	47.9	45.5	47.1	**47.2**

5.3.5 65-74 year olds

The use of toothbrush, in this age group was relatively low at 18 per cent (about 14 per cent in rural areas and 26 per cent in urban areas (Table 5.3.5). While people in the rural areas changed their toothbrushes mostly once in four to six months or after six months. But in urban areas a majority did so once in 1-3 months and once in 4-6 months. There was no difference between males and females in this regard. People in W. Hills & Plains tended to change their toothbrushes more often than in the other regions.

About 96 per cent of the subjects reported cleaning teeth once a day. In the rural areas more people cleaned teeth once a day. Comparatively, more males reported cleaning teeth twice a day. More people cleaned their teeth twice a day in E. Vidarbha.

Only one-fourth of the respondents in this age group across both sexes & more in urban reported using toothpaste. In the rural areas, 18 per cent people reported using toothpaste for cleaning their teeth while 37 per cent did so in the urban areas. The use of tooth powder was greater than that of toothpaste. The use of fluoridated toothpaste/tooth powder was much less in the rural areas (12 per cent) than in the urban areas (20 per cent). A large percentage of respondents were unaware whether they were using fluoridated or non-fluoridated toothpaste/powder.

Rinsing after meals was not so common. Only 55 per cent respondents reported that they had the habit of rinsing their mouth "always" after the meals while one-third reported rinsing "sometimes" in the state.

Comparatively more had habit of rinsing mouth always in Western Hills & Plain region. While more had habit of rinsing mouth sometimes in E. Vidarbha region.

ORAL HYGIENE PRACTICES ACROSS AGE GROUPS (SUMMING UP)

- The practice of cleaning teeth was universal.
- About 48 percent in all age groups, except in the age group 65-74 years, across both sexes and more in urban areas, reported using toothbrush to clean teeth.
- About 96 per cent of the subjects across both sexes & more in rural cleaned their teeth at least once a day. In urban areas more in all regions, both sexes and in urban and rural areas reported cleaning teeth twice a day.
- About 42 per cent, across ages and sexes, and more in the urban areas reported the use of toothpaste. Usage was more in E. Vidarbha and W. Hills and Plains.
- About 81 per cent, across all ages and both sexes, and more in rural areas reported the use of non-fluoridated toothpaste/powder. Greater use of fluoridated toothpaste/powder was reported in E. Vidarbha. C. Plateau and C. Vidarbha.
- About 38 per cent, across all ages, more males and more in urban areas changed toothbrushes once in 1-3 months. The change was less frequent in rural areas. This was mostly made once in four to six months or even after six months. Change of toothbrushes was less frequent in E. Vidarbha and C. Plateau.
- About one-third of the respondents, across all ages and both sexes, and more in urban areas reported rinsing mouth after every meal. The practice was more prevalent with increase in age. This percentage was also higher in W. Hills & Plains.

Table 5. 3. 5 Percent 65-74 year olds by oral hygiene practices, sex & geographical area.

AGE: 65-74 yrs STATE: Maharashtra

Oral Hygiene Practices		MALES								FEMALES								STATE TOTAL
		REGIONS					STATE			REGIONS					STATE			
		1	2	3	4	5	R	U	T	1	2	3	4	5	R	U	T	
1 Clean teeth with	**n=**	**189**	**107**	**157**	**167**	**220**	**573**	**267**	**840**	**149**	**109**	**157**	**122**	**189**	**474**	**252**	**726**	**1566**
finger		49.5	68.3	75.3	75.4	77.9	75.8	63.9	71.9	53.2	74.8	80.3	81.1	75.8	80.2	68.2	75.9	**73.9**
brush		39.3	21.1	10.4	22.4	17.6	16.5	29.6	20.9	40.3	13.6	6.3	13.8	16.9	10.7	23.3	15.2	**18.1**
datun		4.0	0.0	1.9	0.0	1.3	1.3	0.4	1.0	3.7	0.8	3.4	0.9	2.5	2.7	0.4	1.9	**1.5**
others		7.1	10.6	12.4	2.3	3.2	6.4	6.2	6.3	2.8	10.8	10.1	4.3	4.8	6.3	8.1	7.0	**6.7**
2 Frequency of cleaning teeth	**n=**	**168**	**95**	**135**	**163**	**210**	**524**	**247**	**771**	**140**	**97**	**137**	**116**	**175**	**431**	**234**	**665**	**1436**
Once a day		82.6	99.1	99.5	93.7	94.0	95.3	93.4	94.7	86.1	98.8	98.6	95.1	97.1	96.6	95.4	96.2	**95.5**
Twice a day		13.9	0.9	0.5	6.3	4.5	4.1	5.9	4.7	13.5	0.0	1.4	3.0	1.1	2.4	2.9	2.6	**3.7**
After every meal		3.5	0.0	0.0	0.0	1.6	0.6	0.7	0.6	0.4	1.2	0.0	1.9	1.3	0.9	1.6	1.1	**0.9**
3 Material used for cleaning teeth																		
Tooth paste		53.4	31.8	19.9	20.3	20.5	20.5	35.7	25.6	57.0	31.4	17.0	16.4	15.8	15.7	37.3	23.5	**24.6**
Tooth powder		36.9	19.9	20.1	44.6	40.4	35.3	32.8	34.4	29.5	21.0	8.5	45.9	39.9	28.8	33.7	30.5	**32.5**
4 Type of toothpaste/ powder	**n=**	**153**	**47**	**55**	**108**	**127**	**314**	**176**	**490**	**123**	**47**	**39**	**74**	**96**	**209**	**170**	**379**	**869**
Flouridated		21.2	4.7	3.5	19.8	20.9	13.6	20.5	16.2	21.1	6.9	5.4	16.8	21.5	11.1	20.3	15.5	**15.9**
Non flouridated		13.1	88.9	91.7	37.7	34.0	44.1	53.9	47.8	10.1	88.5	82.9	36.2	35.0	41.1	55.6	48.0	**47.9**
5 Change of toothbrush once in	**n=**	**71**	**20**	**18**	**39**	**38**	**112**	**74**	**186**	**55**	**13**	**13**	**18**	**31**	**72**	**58**	**130**	**316**
1-3 months		9.5	51.4	38.6	32.5	18.2	22.1	40.1	30.6	4.0	60.7	33.6	36.9	27.2	23.7	39.0	32.1	**31.4**
4-6 months		33.1	24.3	33.6	21.1	24.2	26.1	24.9	25.5	45.5	15.7	36.9	22.6	31.1	29.9	29.4	29.6	**27.6**
6 + months		49.6	19.1	27.8	38.4	47.3	44.2	28.6	36.9	45.5	23.6	22.1	33.9	28.5	38.1	26.8	31.9	**34.4**
6 Rinse mouth after eating	**n=**	**189**	**107**	**157**	**167**	**220**	**573**	**267**	**840**	**149**	**109**	**157**	**122**	**189**	**474**	**252**	**726**	**1566**
Sometimes		46.2	19.2	36.8	29.7	37.7	31.9	33.0	32.3	52.9	16.7	43.2	34.8	38.2	36.2	32.3	34.8	**33.6**
Always		43.0	76.0	55.1	57.3	48.6	58.5	54.3	57.1	36.6	77.6	45.9	52.0	44.8	51.2	57.9	53.6	**55.4**

5.4 DENTAL PROBLEMS AND TREATMENT PRACTICES

The respondents were asked whether they had any dental problem in the last one year and whom they consulted for this. Furthermore, they were asked about the access they had to dental facilities. They were also asked if they had problems like hypertension, diabetes, epilepsy, jaundice or asthma. Responses on all these aspects are shown in Tables 5.4.1 to 5.4.5.

5.4.1 5-year-olds

About 11 per cent of the respondents in this age group had oral health problems in the last one year. There were no significant rural-urban differentials. Males reported more dental problems. The problems mostly reported were dental decay (about 80 per cent) and gum disease (about 14 per cent). There were no significant differences among regions.

The practice of consultation was not followed by about half the respondents and there was not much difference between urban and rural areas. About one-fourth of those had problems, consulted trained dentist. Table 5.4.1

5.4.2 12-year-olds

About 16 per cent of the respondents in this age group, across both sexes & places of residence reported oral health problems in the last one year. Higher number of subjects reported problems in E. Vidarbha.

Most of those who had reported problems reported dental decay (66 per cent) followed by gum disease (18 per cent). Also, about 46 per cent of respondents who had faced problems did not consult anybody. Only 32 percent of them across both sexes & more in urban consulted trained dentist.

About 18 per cent of the respondents in rural areas reported no dental facility compared to only 6 per cent in the urban areas. Access to government facilities were reported more in urban areas. Majority of the respondents reported half-an-hour as the time to reach these facilities. Table 5.4.2

5.4.3 15 year olds

In this age group, 16 per cent of the respondents, more females and more in urban areas, reported that they had dental problems in last one year. While about 14 per cent respondents reporting such problems were from rural areas and about 19 per cent were from urban areas (Table 5.4.3). Most of them reported problems of dental decay (57 per cent), followed by gum disease (24 per cent). There was little difference in the prevalence of the problems between males and females, and between regions. More than 49 per cent respondents in rural areas and 37 per cent in urban areas did not consult any dentist for their problems. Another one-third of respondents across both sexes & more in urban areas, had consulted a trained dentist.

About 17 per cent of the respondents in rural areas reported unawareness of dental facility compared to only 7 per cent in the urban areas. Only 10 percent, across both sexes & more in urban were aware of Government dental care facilities in their areas. Majority of the respondents (62 percent) reported half-an-hour as the time to reach these facilities. There were no significant differences among regions.

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: Maharashtra

Nature of Dental Problems and Treatment related aspects		MALES								FEMALES								STATE TOTAL
		REGIONS					STATE			REGIONS					STATE			
		1	2	3	4	5	R	U	T	1	2	3	4	5	R	U	T	
1 Suffered from oral health	**n=**	**169**	**103**	**159**	**164**	**208**	**542**	**261**	**803**	**156**	**107**	**158**	**123**	**202**	**504**	**242**	**746**	**1549**
problems in last one year		36.6	10.2	7.2	12.9	6.1	10.6	15.1	12.1	36.4	9.6	6.2	8.1	7.4	10.7	9.7	10.3	**11.2**
2 Type of oral health problems	**n=**	**62**	**9**	**12**	**22**	**13**	**73**	**45**	**118**	**53**	**10**	**10**	**10**	**15**	**72**	**26**	**98**	**216**
Dental decay		85.7	55.6	87.5	91.0	77.7	89.2	72.3	82.1	79.4	80.6	53.3	81.2	81.1	74.7	82.4	77.2	**79.7**
Gum disease		18.1	11.1	6.3	16.5	14.9	12.9	17.4	14.8	32.0	0.0	11.7	7.9	6.3	16.0	9.2	13.9	**14.4**
Foul breath		23.9	0.0	0.0	0.0	0.0	9.8	0.6	6.0	18.6	0.0	0.0	10.9	12.6	13.3	2.2	9.8	**7.9**
Bleeding gums		1.9	0.0	6.3	3.8	0.0	0.0	6.7	2.8	5.1	0.0	0.0	0.0	0.0	1.8	1.1	1.6	**2.2**
Others		0.9	33.3	0.0	0.0	7.4	1.2	13.5	6.4	0.0	19.4	35.1	0.0	12.6	11.1	7.3	9.9	**8.2**
3 Consulted (out of those suffered)																		
None		45.7	77.8	42.0	46.2	61.2	49.6	55.3	52.0	45.4	77.5	69.2	29.7	64.3	54.9	51.0	53.7	**52.9**
Trained dentist		27.6	11.1	51.8	25.4	22.3	26.6	26.6	26.6	33.0	0.0	0.0	40.6	15.4	23.1	18.1	21.5	**24.1**
4 Availaibility of dental facility	**n=**	**169**	**103**	**159**	**164**	**208**	**542**	**261**	**803**	**156**	**107**	**158**	**123**	**202**	**504**	**242**	**746**	**1549**
None		27.2	1.1	2.1	19.0	24.7	17.9	6.3	14.0	25.8	4.3	2.2	20.2	28.2	19.3	6.5	15.0	**14.5**
Govt. facility		24.7	5.7	0.9	7.9	11.5	7.6	9.7	8.3	29.6	3.1	0.0	12.3	14.7	8.6	12.6	9.9	**9.1**
Pvt. facility		28.6	77.7	93.7	57.8	56.9	60.2	78.0	66.2	26.6	74.0	89.6	54.7	49.2	56.4	75.6	62.9	**64.6**
Do not know		21.5	15.4	3.3	16.7	11.2	14.4	10.5	13.1	18.7	18.6	8.2	16.0	12.5	15.8	11.3	14.3	**13.7**
5 Time taken to reach the facility	**n=**	**81**	**85**	**150**	**109**	**132**	**363**	**194**	**557**	**79**	**82**	**142**	**81**	**117**	**321**	**180**	**501**	**1058**
Less than 1/2 hr.		44.2	78.5	46.6	58.3	75.4	44.2	92.6	62.7	39.9	77.5	52.8	64.6	73.8	48.8	90.7	65.3	**64.0**
1/2 - 1 hr.		46.3	17.6	32.4	21.0	20.3	35.8	4.6	23.9	47.3	17.0	21.2	9.3	23.0	27.2	5.5	18.7	**21.3**
> 1 hr.		5.5	3.9	19.5	20.0	4.3	19.2	1.9	12.6	4.7	3.0	24.4	26.1	3.2	22.0	3.0	14.5	**13.6**
Cannot say		4.1	0.0	1.5	0.8	0.0	0.9	0.9	0.9	8.1	2.4	1.6	0.0	0.0	1.9	0.9	1.5	**1.2**

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: Maharashtra

Nature of Dental Problems and Treatment related aspects		MALES								FEMALES								STATE TOTAL
		REGIONS					STATE			REGIONS					STATE			
		1	2	3	4	5	R	U	T	1	2	3	4	5	R	U	T	
1 Suffered from oral health	**n=**	**178**	**101**	**157**	**157**	**215**	**532**	**276**	**808**	**170**	**109**	**159**	**141**	**201**	**523**	**257**	**780**	**1588**
problems in last one year		41.6	13.6	9.1	15.8	14.7	16.1	16.4	16.2	37.4	18.2	12.4	16.1	9.9	16.4	16.7	16.5	**16.4**
2 Type of oral health problems	**n=**	**71**	**14**	**15**	**26**	**32**	**107**	**51**	**158**	**63**	**20**	**20**	**23**	**20**	**97**	**49**	**146**	**304**
Dental decay		85.4	43.9	65.7	85.8	63.3	74.8	69.9	73.0	85.0	21.6	64.1	73.8	30.5	59.7	54.6	57.9	**65.5**
Gum disease		22.0	31.6	0.0	7.7	18.7	14.3	18.6	15.8	22.5	11.6	24.5	17.9	38.9	22.2	18.0	20.8	**18.3**
Foul breath		18.7	0.0	0.0	6.5	9.0	8.0	8.1	8.1	17.8	5.8	0.0	7.0	4.7	5.8	11.1	7.7	**7.9**
Bleeding gums		7.3	6.1	0.0	0.0	3.0	4.4	0.6	3.1	11.2	0.0	0.0	3.5	11.6	2.8	8.7	4.8	**4.0**
Others		1.6	24.6	13.1	0.0	18.0	12.2	1.7	8.5	0.0	45.2	17.2	4.8	18.9	20.3	8.0	16.0	**12.3**
3 Consulted (out of those suffered)																		
None		42.3	41.5	42.3	38.5	61.3	49.1	34.7	44.0	44.9	66.8	47.4	33.2	62.6	51.0	43.3	48.4	**46.2**
Trained dentist		26.0	29.2	49.7	40.5	15.7	25.9	44.2	32.4	26.2	21.6	41.2	42.8	16.3	26.6	41.6	31.8	**32.1**
4 Availaibility of dental facility	**n=**	**178**	**101**	**157**	**157**	**215**	**532**	**276**	**808**	**170**	**109**	**159**	**141**	**201**	**523**	**257**	**780**	**1588**
None		25.0	1.2	0.5	15.3	27.9	17.0	5.5	13.0	30.0	1.8	1.6	22.8	23.7	19.0	6.6	14.8	**13.9**
Govt. facility		27.1	4.2	1.4	14.5	12.7	9.3	14.1	11.0	28.0	3.8	0.5	13.1	13.2	7.6	15.0	10.2	**10.6**
Pvt. facility		31.5	72.7	92.5	63.7	53.0	60.4	77.3	66.3	27.3	59.1	89.0	51.5	58.1	55.6	69.0	60.2	**63.3**
Do not know		17.9	22.0	5.6	11.6	10.7	13.5	11.0	12.6	16.4	35.3	9.0	14.8	10.2	17.8	15.1	16.9	**14.8**
5 Time taken to reach the facility	**n=**	**93**	**77**	**148**	**118**	**130**	**360**	**206**	**566**	**85**	**67**	**143**	**91**	**131**	**331**	**186**	**517**	**1083**
Less than 1/2 hr.		42.6	76.8	51.4	58.1	68.4	43.7	89.7	61.8	37.9	77.2	44.2	59.6	72.9	43.5	87.6	60.8	**61.3**
1/2 - 1 hr.		48.5	17.8	29.9	17.5	26.4	34.7	6.0	23.5	51.0	15.8	29.6	14.8	21.2	32.2	6.3	22.0	**22.8**
> 1 hr.		5.9	4.3	17.2	22.3	3.0	19.8	2.3	12.9	9.8	3.6	24.6	25.6	4.3	23.4	3.6	15.6	**14.3**
Cannot say		3.0	1.1	1.6	2.1	2.1	1.7	2.0	1.8	1.3	3.4	1.6	0.0	1.6	0.9	2.4	1.5	**1.7**
6 Ever suffered from	**n=**	**178**	**101**	**157**	**157**	**215**	**532**	**276**	**808**	**170**	**109**	**159**	**141**	**201**	**523**	**257**	**780**	**1588**
Hypertension		0.3	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.7	0.0	0.0	0.0	0.5	0.2	0.0	0.1	**0.1**
Diabetes		0.7	0.0	0.0	0.7	0.0	0.4	0.0	0.3	0.7	0.0	0.0	0.0	0.5	0.2	0.0	0.1	**0.2**
Epilepsy		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.3	0.1	**0.1**
Jaundice		0.3	0.0	0.0	0.0	0.4	0.1	0.1	0.1	1.4	1.8	0.0	0.6	0.0	0.4	1.2	0.7	**0.4**
Asthma		0.0	0.0	0.0	0.5	0.0	0.0	0.5	0.2	0.7	0.0	0.0	0.0	0.0	0.1	0.0	0.1	**0.2**

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: Maharashtra

Nature of Dental Problems and Treatment related aspects		MALES								FEMALES								STATE TOTAL
		REGIONS					STATE			REGIONS					STATE			
		1	2	3	4	5	R	U	T	1	2	3	4	5	R	U	T	
1 Suffered from oral health	**n=**	**128**	**104**	**159**	**133**	**211**	**468**	**267**	**735**	**116**	**103**	**159**	**154**	**206**	**482**	**256**	**738**	**1473**
problems in last one year		27.5	13.5	8.0	15.2	19.6	12.6	19.7	15.2	48.1	8.5	6.5	18.1	21.1	15.3	17.9	16.2	**15.7**
2 Type of oral health problems	**n=**	**37**	**14**	**13**	**22**	**41**	**69**	**58**	**127**	**51**	**9**	**12**	**29**	**43**	**91**	**53**	**144**	**271**
Dental decay		69.1	51.1	65.0	55.5	51.9	57.1	55.7	56.4	88.4	13.1	64.0	63.6	44.3	60.9	51.9	57.5	**57.0**
Gum disease		21.9	6.0	26.1	32.5	19.7	22.9	21.4	22.2	18.6	13.1	29.0	26.8	32.0	25.4	25.9	25.6	**23.9**
Foul breath		23.6	0.0	8.9	8.0	11.9	9.7	9.6	9.6	12.8	19.0	7.0	9.5	14.5	10.9	14.3	12.2	**10.9**
Bleeding gums		25.5	6.0	0.0	0.0	5.6	6.7	4.4	5.6	10.5	0.0	11.0	0.0	14.0	7.3	4.5	6.3	**6.0**
Others		0.0	30.9	14.6	0.0	14.2	9.6	13.1	11.2	0.0	28.5	0.0	6.7	13.1	12.0	3.1	8.6	**9.9**
3 Consulted (out of those suffered)																		
None		36.4	63.1	41.4	32.5	45.8	48.2	37.0	42.9	37.2	64.3	46.9	45.2	49.9	52.3	37.5	46.8	**44.9**
Trained dentist		30.9	16.6	43.9	40.5	29.9	27.7	38.3	32.8	27.9	13.1	39.0	39.2	26.9	22.9	47.2	32.1	**32.5**
4 Availaibility of dental facility	**n=**	**128**	**104**	**159**	**133**	**211**	**468**	**267**	**735**	**116**	**103**	**159**	**154**	**206**	**482**	**256**	**738**	**1473**
None		26.9	0.8	0.5	13.8	24.5	14.2	6.2	11.3	25.1	2.2	2.2	21.9	29.1	19.8	6.8	15.4	**13.4**
Govt. facility		24.5	4.1	1.9	13.3	15.1	7.4	15.2	10.3	25.7	3.2	0.9	13.0	10.5	7.5	11.6	8.9	**9.6**
Pvt. facility		23.6	78.5	92.0	62.7	58.8	63.0	79.7	69.2	30.2	69.1	94.1	60.9	52.0	60.5	77.2	66.2	**67.7**
Do not know		27.0	16.6	5.7	13.8	9.3	15.5	6.9	12.3	20.6	25.4	2.9	8.2	10.1	12.2	9.9	11.4	**11.9**
5 Time taken to reach the facility	**n=**	**53**	**84**	**150**	**99**	**138**	**320**	**204**	**524**	**57**	**73**	**152**	**110**	**123**	**320**	**195**	**515**	**1039**
Less than 1/2 hr.		34.8	81.0	51.6	55.7	69.6	43.8	89.7	63.1	46.4	76.8	48.8	55.6	71.8	43.7	88.9	61.3	**62.2**
1/2 - 1 hr.		56.5	12.8	30.1	16.7	24.9	34.5	4.0	21.7	46.4	19.4	27.9	19.0	23.5	32.4	7.5	22.7	**22.2**
> 1 hr.		6.5	4.9	16.0	25.0	4.9	20.4	3.5	13.3	3.1	2.2	21.1	25.4	3.0	22.6	2.1	14.7	**14.0**
Cannot say		2.1	1.4	2.3	2.5	0.7	1.2	2.8	1.9	4.1	1.5	2.3	0.0	1.7	1.3	1.5	1.4	**1.7**
6 Ever suffered from	**n=**	**128**	**104**	**159**	**133**	**211**	**468**	**267**	**735**	**116**	**103**	**159**	**154**	**206**	**482**	**256**	**738**	**1473**
Hypertension		3.0	0.0	0.5	0.0	0.0	0.2	0.5	0.3	1.1	0.0	0.0	0.0	0.9	0.4	0.0	0.2	**0.3**
Diabetes		0.0	0.0	0.0	0.0	0.4	0.1	0.0	0.1	1.1	0.0	0.0	0.7	0.0	0.5	0.0	0.3	**0.2**
Epilepsy		0.0	1.1	0.0	0.0	0.0	0.0	0.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.1**
Jaundice		1.0	0.8	0.0	0.0	0.0	0.2	0.2	0.2	2.2	0.0	0.0	0.5	0.0	0.2	0.6	0.3	**0.3**
Asthma		1.0	0.0	0.0	0.6	0.0	0.1	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.2**

5.4.4 35-44 and 65-74 year olds

As expected, the reporting of problems and their treatment by these two age groups (35-44 and 65-74 years) were similar (Tables 5.4.4 and 5.4.5).

About one-third of the respondents belonging to each of the two age groups (31 per cent) reported dental problems in the last one year. This was slightly more for the 35-44 age group (34 per cent) as compared to 65-74 age group (27 per cent).

Reporting was slightly higher in rural areas than in urban areas. About 31 per cent males and 37 per cent females in the 35-44 age group reported dental problems in the last year. For the age group 65-74 years, such percentages were 29 and 25, respectively). Reporting was found to be much higher in E. Vidarbha.

In the state, most of the respondents reported problems of dental decay, followed by gum disease and foul breath. While the problems of dental decay and gum disease were reported by large & percent from each age group, but a large percentage of the respondents in the 35-44 and 65-74 age groups reported the problem of foul breath. The problem of foul breath was reported by more people in E. Vidarbha.

More from those age groups who reported problems, had gone in for consultation than the respondents of earlier ages. More people in urban areas consulted trained dentist (nearly 52 per cent) and less in rural areas (35 per cent).

The reporting on awareness of availability of dental care facilities, was similar to that reported by respondents from earlier age groups—more people in urban areas reported access to private facilities, with a reach time of half-an-hour to one hour to reach such places.

The problem of hypertension and diabetes was reported by respondents of these age groups. Around 4 per cent respondents in the 65-74 age group reported diabetes – there were no significant differentials either between rural/urban or among sexes. Even asthma was reported by about 5 per cent respondents in this age group. Reporting of all these diseases was seen to be higher in E. Vidarbha and C. Plateau regions.

DENTAL PROBLEMS AND TREATMENT PRACTICES ACROSS AGE GROUPS (SUMMING UP)

1. Around 14 per cent in the below 15-year age group and about 31 per cent in the over 35-year age group suffered from dental problems in the last one year. This was the case across sexes and more in rural areas and was reported more in E. Vidarbha.
2. The most common problem reported was dental decay. The problem of gum disease was reported by about 18 per cent of those affected in below 15-year age group and 32 per cent in higher age groups. About 16 per cent in higher age groups (35+) also reported problems of foul breath.
3. One-third subjects, across all ages, consulted trained doctors. E. Vidarbha, W. Hills & Plains and C. Plateau reported similar percentages. However, only 13 per cent subjects, across all ages and both sexes, but more in urban areas reported the availability of governmental dental facility. Against this, more respondents were aware of private facilities.
4. Most respondents reported that it took less than half-an-hour to reach the private dental health facilities. This was especially so in urban areas. About 14 per cent even reported said it took more than one hour to reach the dental facility.

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: Maharashtra

Nature of Dental Problems and Treatment related aspects		MALES								FEMALES								STATE TOTAL
		REGIONS					STATE			REGIONS					STATE			
		1	2	3	4	5	R	U	T	1	2	3	4	5	R	U	T	
1 Suffered from oral health	**n=**	**180**	**102**	**162**	**145**	**210**	**530**	**269**	**799**	**212**	**106**	**154**	**164**	**204**	**567**	**273**	**840**	**1639**
problems in last one year		61.2	15.6	25.8	32.3	36.6	33.0	28.4	31.4	63.8	29.2	34.2	38.8	30.8	40.6	29.9	37.1	**34.3**
2 Type of oral health problems	**n=**	**110**	**16**	**40**	**48**	**77**	**201**	**90**	**291**	**135**	**31**	**51**	**62**	**63**	**243**	**99**	**342**	**633**
Dental decay		70.8	34.3	65.1	64.7	38.4	57.9	55.0	56.9	70.5	51.2	42.2	52.9	55.9	52.9	59.5	54.6	**55.8**
Gum disease		48.4	0.0	13.4	29.4	29.5	26.7	29.5	27.6	53.3	10.2	38.5	42.9	20.3	37.1	32.5	35.9	**31.8**
Foul breath		65.5	5.3	7.2	8.6	19.3	21.8	19.3	21.0	59.9	11.3	2.2	8.1	13.9	18.0	16.6	17.6	**19.3**
Bleeding gums		52.7	10.5	11.6	3.5	30.6	23.3	15.3	20.7	53.4	9.2	10.8	7.6	12.1	19.3	10.6	17.0	**18.9**
Others		0.0	50.0	8.2	1.7	12.3	8.8	10.8	9.4	0.0	32.0	14.9	3.0	13.6	10.5	9.1	10.2	**9.8**
3 Consulted (out of those suffered)																		
None		4.3	65.8	41.6	34.9	47.5	39.4	28.3	35.8	11.0	46.0	40.8	26.0	43.9	32.7	27.3	31.3	**33.6**
Trained dentist		48.9	21.8	47.8	48.7	38.2	40.5	51.0	43.9	44.9	50.2	51.3	43.7	35.5	40.5	58.5	45.3	**44.6**
4 Availaibility of dental facility	**n=**	**180**	**102**	**162**	**145**	**210**	**530**	**269**	**799**	**212**	**106**	**154**	**164**	**204**	**567**	**273**	**840**	**1639**
None		18.9	1.1	2.6	12.9	28.2	15.6	5.3	11.9	19.9	3.0	2.7	22.4	24.3	19.8	5.0	15.0	**13.5**
Govt. facility		34.8	4.9	0.4	13.5	12.7	9.7	13.9	11.2	34.8	4.0	1.4	15.8	14.7	9.9	19.3	13.0	**12.1**
Pvt. facility		41.7	87.9	96.5	68.8	58.2	67.4	85.4	73.8	41.9	85.6	93.2	57.4	59.8	62.5	80.6	68.4	**71.1**
Do not know		10.4	6.1	0.4	9.8	3.7	7.9	2.1	5.9	6.2	7.5	2.7	8.9	7.9	8.2	4.3	6.9	**6.4**
5 Time taken to reach the facility	**n=**	**125**	**94**	**157**	**115**	**141**	**397**	**235**	**632**	**152**	**94**	**146**	**116**	**136**	**414**	**230**	**644**	**1276**
Less than 1/2 hr.		43.8	78.4	52.8	64.1	67.0	47.5	89.1	64.2	36.0	75.2	45.4	52.6	76.3	42.8	85.1	58.9	**61.6**
1/2 - 1 hr.		47.4	16.8	29.9	18.8	26.8	35.2	7.5	24.1	56.8	18.8	27.3	18.6	19.6	33.5	8.4	23.9	**24.0**
> 1 hr.		6.5	3.5	15.9	16.4	4.1	16.3	1.5	10.3	6.4	2.7	25.8	27.4	3.4	22.7	3.7	15.4	**12.9**
Cannot say		2.3	1.2	1.4	0.7	2.1	1.0	1.9	1.4	0.7	3.3	1.6	1.4	0.7	1.0	2.8	1.7	**1.6**
6 Ever suffered from	**n=**	**180**	**102**	**162**	**145**	**210**	**530**	**269**	**799**	**212**	**106**	**154**	**164**	**204**	**567**	**273**	**840**	**1639**
Hypertension		22.8	1.1	0.0	5.1	4.2	4.1	6.4	4.9	18.8	0.0	0.5	8.1	2.5	3.1	10.2	5.4	**5.2**
Diabetes		9.8	1.1	0.0	2.7	1.0	2.1	2.4	2.2	8.7	1.9	0.7	1.6	0.5	1.9	2.4	2.0	**2.1**
Epilepsy		0.3	1.1	0.0	0.0	0.5	0.1	0.7	0.3	1.4	1.9	0.5	0.0	0.5	0.4	1.2	0.7	**0.5**
Jaundice		1.9	0.0	0.0	0.0	0.0	0.2	0.2	0.2	3.9	0.0	0.0	0.5	0.0	0.4	0.9	0.6	**0.4**
Asthma		2.3	0.0	1.4	1.9	0.5	1.1	1.3	1.2	7.0	0.0	0.5	1.1	0.0	1.2	1.3	1.2	**1.2**

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: Maharashtra

Nature of Dental Problems and Treatment related aspects		MALES								FEMALES								STATE TOTAL
		REGIONS					STATE			REGIONS					STATE			
		1	2	3	4	5	R	U	T	1	2	3	4	5	R	U	T	
1 Suffered from oral health	**n=**	**189**	**107**	**157**	**167**	**220**	**573**	**267**	**840**	**149**	**109**	**157**	**122**	**189**	**474**	**252**	**726**	**1566**
problems in last one year		48.3	23.1	19.4	31.5	28.1	30.2	25.0	28.5	39.4	24.3	20.1	25.9	25.3	27.3	21.3	25.1	**26.8**
2 Type of oral health problems	**n=**	**92**	**24**	**28**	**52**	**62**	**184**	**74**	**258**	**58**	**28**	**32**	**32**	**49**	**139**	**60**	**199**	457
Dental decay		46.8	3.4	39.5	29.4	42.3	32.3	31.7	32.1	47.3	7.6	36.8	38.9	42.0	33.1	35.9	33.9	**33.0**
Gum disease		72.5	8.1	15.9	67.9	32.8	49.7	38.2	46.3	76.4	8.8	33.2	62.0	20.6	39.1	41.8	39.9	**43.1**
Foul breath		70.6	4.7	6.1	4.2	10.2	17.3	13.0	16.1	57.7	4.4	0.0	0.0	5.9	10.2	7.9	9.5	**12.8**
Bleeding gums		51.3	3.4	3.7	8.1	11.8	13.5	17.0	14.5	34.0	7.6	3.6	7.0	16.2	13.6	7.3	11.7	**13.1**
Others		1.3	75.6	29.7	5.7	20.0	17.6	30.2	21.3	2.1	65.3	22.7	9.5	17.7	26.1	18.3	23.7	**22.5**
3 Consulted (out of those suffered)																		
None		12.2	69.6	43.2	27.5	58.9	39.1	39.6	39.3	7.2	63.3	46.7	40.5	42.7	43.3	40.0	42.3	**40.8**
Trained dentist		32.7	26.9	49.3	44.4	32.8	35.0	47.5	38.7	33.0	22.7	42.5	35.1	28.9	25.5	49.7	32.9	**35.8**
4 Availaibility of dental facility	**n=**	**189**	**107**	**157**	**167**	**220**	**573**	**267**	**840**	**149**	**109**	**157**	**122**	**189**	**474**	**252**	**726**	1566
None		15.1	4.3	4.8	17.9	25.7	16.8	8.4	14.0	17.4	1.1	2.1	18.5	25.8	16.0	5.7	12.3	**13.2**
Govt. facility		36.2	3.9	0.5	14.7	14.0	10.0	16.4	12.1	32.6	3.9	0.9	12.8	14.7	8.7	13.5	10.4	**11.3**
Pvt. facility		35.0	83.3	92.1	63.7	60.2	63.9	81.1	69.6	35.8	71.8	94.8	63.9	52.8	63.9	75.5	68.1	**68.9**
Do not know		15.2	8.5	2.6	9.2	5.4	9.7	3.1	7.5	17.0	23.3	2.2	9.4	11.0	11.7	11.9	11.8	**9.7**
5 Time taken to reach the facility	**n=**	**127**	**93**	**146**	**125**	**150**	**420**	**221**	**641**	**90**	**82**	**150**	**90**	117	**337**	**192**	**529**	1170
Less than 1/2 hr.		41.8	75.9	52.7	55.4	68.5	44.6	88.8	61.2	46.6	80.6	46.3	56.1	73.1	43.7	90.5	61.9	**61.6**
1/2 - 1 hr.		48.5	19.6	26.2	17.9	24.4	32.6	7.4	23.1	44.7	16.3	28.0	22.8	22.8	34.8	6.1	23.7	**23.4**
> 1 hr.		7.1	3.6	19.5	25.8	5.0	21.1	3.0	14.3	6.8	3.1	23.5	20.3	4.1	20.3	2.6	13.4	**13.9**
Cannot say		2.6	0.9	1.6	0.9	2.0	1.7	0.8	1.4	1.9	0.0	2.3	0.9	0.0	1.1	0.8	1.0	**1.2**
6 Ever suffered from	**n=**	**189**	**107**	**157**	**167**	**220**	**573**	**267**	**840**	**149**	**109**	**157**	**122**	**189**	**474**	**252**	**726**	1566
Hypertension		23.2	2.2	2.2	14.4	6.1	8.6	10.2	9.1	24.8	5.3	1.7	15.4	3.8	8.0	10.4	8.8	**9.0**
Diabetes		4.7	4.3	1.6	7.1	2.3	2.9	7.8	4.5	4.1	3.2	3.1	4.9	2.6	3.4	4.1	3.7	**4.1**
Epilepsy		1.2	2.2	0.0	0.0	0.0	0.1	1.5	0.5	0.0	1.1	0.5	0.7	0.5	0.1	1.5	0.6	**0.6**
Jaundice		1.2	0.0	0.0	0.0	1.0	0.2	0.5	0.3	1.2	0.0	0.7	0.0	0.0	0.3	0.1	0.3	**0.3**
Asthma		15.8	1.9	4.1	5.7	5.6	6.8	3.1	5.5	6.5	3.4	2.2	8.3	3.0	5.8	2.6	4.6	**5.1**

5.5 AWARENESS OF DENTAL HEALTH PROBLEMS

The respondents were asked three questions about their awareness of dental health problems. The first was about the common dental problems, the second about the major factors responsible for such problems and the third about how these problems could be prevented. Their responses are shown in Tables 5.5.2 to 5.5.5 and are analysed below:

5.5.2 12 year olds

More than half the respondents (52 per cent) in this age group, across both sexes. reported knowledge of dental health problems (Table 5.5.2). Most of them knew about tooth decay (45 per cent), gum disease (16 per cent) and a small percentage knew of problems like bad smell (about 7 per cent).

Males were slightly more aware than females, and the rural-urban differential was not large. Subjects in W. Hills & Plains were found to be less aware than in other regions.

About 57 per cent of the respondents, across both sexes, reported knowledge about the factors that cause such problems. Awareness was less in W. Hills & Plains and Scarcity Region. Also, urban people were more aware. The most-often cited factors causing dental problems were "eating sweets/ice cream/chocolates" (38 per cent) and "not brushing regularly" (29 per cent). The other cause cited by about 6 per cent respondents was "not rinsing" while 4 per cent cited "consuming tobacco". There were no significant differences among regions.

When asked about the preventive measures, again about 57 per cent of the respondents reported knowledge of measures. The percentages were higher in urban areas (62 per cent) than in rural areas (55 per cent). Over one-third (35 per cent) cited cleaning teeth regularly as a preventive measure. Other preventive measures reported were "not consuming tobacco" (15 per cent), visiting dentist regularly (14 per cent) and "avoid sweet items" (12 per cent). There were no significant differences among regions.

5.5.3 15 year olds

About 61 per cent of the respondents of this age group, more males and more in urban areas, reported knowledge of oral health problems (Table 5.5.3). Most of them knew about tooth decay (49 per cent), gum disease (22 per cent) and bad smell (8 per cent). Among regions, awareness was relatively higher in C. Plateau.

Like the 12-year age group, almost two-third of the respondents aged 15 years had knowledge of the factors affecting oral health— this was more in urban areas (almost 73 per cent) than in urban area (62 per cent) and more in Eastern Vidarbha and Central Plateau regions. The most-often reported factor causing oral health problems was "not brushing regularly" (39 per cent), "eating sweets/ ice cream/chocolates" (38 per cent), not rinsing (6 per cent) and "consuming tobacco" (7 per cent).

Again, about two-third of the respondents of this age group reported knowledge of preventive measures. Such subjects were more in urban areas and less in rural. The four main preventive measures reported were "cleaning of teeth" regularly (41 per cent), "not consuming tobacco" (about 17 per cent), "visiting dentist regularly" (14 per cent) and "avoid sweets" (13 per cent). There were no significant differences among regions.

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: Maharashtra

Awareness of Oral Health Problems, Causes and Preventive Measures		MALES								FEMALES								STATE TOTAL
		REGIONS					STATE			REGIONS					STATE			
		1	2	3	4	5	R	U	T	1	2	3	4	5	R	U	T	
1 Awareness of Oral Health Problems	**n=**	**178**	**100**	**157**	**157**	**215**	**531**	**276**	**807**	**170**	**109**	**159**	**141**	**201**	**523**	**257**	**780**	**1587**
No knowledge		30.7	86.7	62.9	21.2	46.0	48.5	43.2	46.6	30.8	81.1	64.2	25.8	43.6	49.2	47.4	48.6	47.6
Tooth decay		58.8	13.8	28.4	73.2	44.2	44.4	51.8	47.0	58.0	15.4	26.6	69.7	41.2	42.3	46.0	43.6	**45.3**
Gum disease		21.6	5.5	2.6	27.6	18.7	17.1	15.4	16.5	25.2	5.0	2.6	24.9	21.3	15.2	16.7	15.7	**16.1**
Bad smell		23.6	2.0	2.2	8.7	5.1	7.1	6.5	6.9	23.4	2.1	4.0	5.1	5.5	5.8	6.3	6.0	**6.5**
Stained teeth		5.7	0.0	1.5	1.2	1.4	1.6	1.3	1.5	5.6	1.8	0.7	0.8	1.1	1.3	2.0	1.5	**1.5**
Others		0.7	0.8	3.1	0.0	0.0	0.9	0.6	0.8	0.0	0.0	1.9	0.0	0.5	0.6	0.3	0.5	**0.7**
2 Factors that cause Oral Health Problems																		
Eating sweets/ice cream		52.6	16.0	31.7	62.2	28.4	39.0	43.1	40.4	51.8	14.9	29.7	55.5	26.6	35.2	38.0	36.2	**38.3**
Not brushing regularly		60.5	14.2	11.4	37.8	26.6	27.7	29.3	28.3	53.6	11.8	10.3	39.3	38.2	28.3	30.2	28.9	**28.6**
Not rinsing		28.2	2.0	1.7	7.6	3.3	5.9	7.4	6.4	21.8	1.1	0.0	6.2	4.2	4.6	5.7	4.9	**5.7**
Consuming tobacco		12.3	0.8	0.0	6.8	8.6	4.6	6.7	5.3	11.2	1.1	1.4	1.3	4.4	2.7	2.9	2.8	**4.1**
Do not know		18.9	76.4	55.9	17.0	45.4	42.9	37.4	41.0	22.2	77.0	60.5	23.7	41.8	46.2	43.4	45.2	**43.1**
3 Reported Preventive Measures																		
Not consuming Tobacco		28.0	4.6	1.2	22.6	16.6	13.5	16.7	14.6	32.1	3.6	0.0	27.7	11.7	13.2	17.2	14.6	**14.6**
Cleaning teeth regularly		60.9	29.9	6.2	51.1	36.8	35.7	38.3	36.6	64.0	22.6	5.1	44.5	45.1	32.3	37.3	34.0	**35.3**
Visiting dentist regularly		51.4	3.1	31.4	6.1	1.0	14.6	11.3	13.4	47.3	2.6	31.6	6.5	2.5	15.5	10.0	13.6	**13.5**
Using flouride paste / powder		19.6	1.2	0.0	1.0	0.4	2.4	2.4	2.4	14.4	0.0	0.7	1.1	1.0	2.1	1.7	2.0	**2.2**
Avoid sweet items		19.3	8.3	1.7	24.0	7.2	11.6	16.0	13.1	15.4	2.9	3.2	21.9	7.6	10.9	10.9	10.9	**12.0**
Do not know		22.6	61.6	58.6	21.9	46.1	43.9	35.1	40.8	22.4	72.8	57.9	23.7	43.4	45.4	41.6	44.1	**42.5**

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: Maharashtra

Awareness of Oral Health Problems, Causes and Preventive Measures		MALES								FEMALES								STATE TOTAL
		REGIONS					STATE			REGIONS					STATE			
		1	2	3	4	5	R	U	T	1	2	3	4	5	R	U	T	
1 Awareness of Oral Health Problems	n=	**128**	**104**	**159**	**133**	**211**	**468**	**267**	**735**	**116**	**103**	**159**	**154**	**206**	**482**	**256**	**738**	**1473**
No knowledge		36.5	61.1	58.1	10.4	36.6	43.1	28.6	37.8	32.4	64.5	51.4	24.7	39.9	44.8	33.6	41.0	**39.4**
Tooth decay		47.5	36.4	26.8	81.2	46.9	45.3	61.8	51.4	56.4	32.2	28.3	67.5	36.9	43.4	51.4	46.2	**48.8**
Gum disease		27.5	17.0	6.3	36.1	20.9	18.5	28.8	22.3	16.8	12.8	9.7	29.5	26.9	19.0	25.2	21.1	**21.7**
Bad smell		23.5	1.1	3.1	11.8	7.5	7.6	7.8	7.6	19.5	2.2	5.0	8.3	11.8	6.5	10.6	7.9	**7.8**
Stained teeth		7.0	0.8	2.1	0.6	1.4	1.7	1.3	1.6	5.6	2.2	2.6	0.0	2.0	1.1	2.9	1.7	**1.7**
Others		0.0	1.1	5.0	0.8	0.4	2.2	0.6	1.6	1.1	0.0	4.0	0.7	0.0	1.5	0.3	1.1	**1.4**
2 Factors that cause Oral Health Problems																		
Eating sweets/ice cream		43.0	26.0	25.2	63.5	25.6	36.2	42.2	38.4	38.5	30.4	24.6	57.8	24.0	35.9	42.3	38.1	**38.3**
Not brushing regularly		55.5	39.4	18.6	48.6	45.1	35.6	48.4	40.3	58.1	31.6	28.1	42.4	35.8	34.1	43.2	37.2	**38.8**
Not rinsing		25.0	3.0	1.9	7.8	5.1	5.6	7.2	6.2	31.3	3.9	0.0	7.2	3.8	6.3	4.6	5.7	**6.0**
Consuming tobacco		15.5	3.0	3.0	6.0	10.5	5.5	8.0	6.4	17.3	3.4	2.3	7.0	9.3	5.5	8.3	6.5	**6.5**
Do not know		17.0	48.7	51.5	11.3	33.0	37.6	22.5	32.0	19.0	51.6	46.8	20.7	40.8	39.2	28.8	35.6	**33.8**
3 Reported Preventive Measures																		
Not consuming Tobacco		26.9	12.0	3.1	29.6	17.1	14.3	23.6	17.8	30.1	9.7	1.2	21.4	18.8	12.8	19.7	15.2	**16.5**
Cleaning teeth regularly		55.5	52.1	8.2	51.9	49.6	36.3	53.6	42.7	62.0	43.1	11.3	48.1	42.1	35.9	46.1	39.4	**41.1**
Visiting dentist regularly		44.1	1.9	29.3	9.5	2.8	14.1	11.2	13.0	52.0	2.2	37.6	9.0	2.6	14.5	15.2	14.7	**13.9**
Using flouride paste / powder		14.5	0.0	0.0	2.7	0.9	1.8	2.3	2.0	17.4	0.0	0.7	0.5	0.5	1.6	0.9	1.4	**1.7**
Avoid sweet items		10.0	9.1	5.6	28.6	7.2	12.4	16.9	14.0	20.1	6.3	2.3	23.9	9.0	14.2	10.3	12.8	**13.4**
Do not know		22.5	42.9	53.0	10.4	35.5	38.0	21.2	31.8	21.8	47.4	45.0	24.7	39.2	40.1	27.1	35.6	**33.7**

5.5.4 & 5.5.5 35-44 and 65-74 year olds

The responses of subjects on awareness of oral health problems and their causes were more or less similar in both these age groups (35-44 and 65-74 years), except for some differences in figures (Tables 5.5.4 and 5.5.5). Thus, their responses have been clubbed.

About 60 per cent respondents of these two age groups reported awareness of oral health problems. This percentage was more in urban areas than in the rural areas of the state. Many of them reported problems such as dental decay (almost 43 per cent), gum disease (over one-third in the 35-44 age group and one-fourth in the 65-74 age groups), bad smell (11 per cent) and stained teeth (2-4 per cent). Awareness was found to be higher in E. Vidarbha and C. Plateau.

About 59 per cent respondents in these age groups reported knowledge on the factors that can cause oral health problems. This was more in urban areas than in the rural. The factors most reported as causing problems were "not brushing regularly" (37 per cent in both age groups), "eating sweets/ice cream/chocolates" (36 per cent in 35-44 age group and 26 per cent in 65-74 age group), "consuming tobacco products" (17 per cent) and "not rinsing" (9 per cent). There were no significant differences among regions.

About preventive measures in regard to oral health problems, 65 per cent reported knowledge of the measures. Their percentage was more in urban areas as compared to in rural. Of those with knowledge of preventive measures, about 41 per cent said cleaning of teeth regularly was one such measure. Other three measures cited were "not consuming tobacco" (23 per cent), "visiting dentist regularly" (18 per cent) and "avoid sweets" (14 per cent). There were no significant differences among regions.

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

1. About 58 per cent of subjects across ages and both sexes, but more in urban areas, were aware of oral health problems in the state.
2. About 40 per cent of respondents were not aware of the factors that cause oral health problems.
3. Of those who were aware, most of them reported "not brushing regularly" (35 per cent), followed by "eating sweets/ice cream" (35 per cent) as two important factors.
4. About preventive measures in regard to oral health problems, 37 per cent subjects across all ages and sexes reported no knowledge.

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: Maharashtra

Awareness of Oral Health Problems, Causes and Preventive Measures		MALES								FEMALES								STATE TOTAL
		REGIONS					STATE			REGIONS					STATE			
		1	2	3	4	5	R	U	T	1	2	3	4	5	R	U	T	
1 Awareness of Oral Health Problems	n=	180	102	162	145	210	530	269	799	212	106	154	164	204	567	273	840	1639
No knowledge		16.0	45.9	53.3	15.2	31.3	36.8	22.4	31.7	12.9	50.6	63.0	13.6	32.4	37.5	22.4	32.5	**32.1**
Tooth decay		67.4	50.0	16.6	69.1	43.3	42.0	64.2	50.0	62.6	42.6	14.0	73.3	49.3	46.3	62.2	51.6	**50.8**
Gum disease		46.9	33.7	19.3	54.2	36.2	38.9	39.0	38.9	48.9	30.3	12.0	47.9	25.2	31.5	39.5	34.2	**36.6**
Bad smell		54.0	3.4	5.5	15.4	14.2	14.2	15.4	14.6	55.1	0.0	3.8	14.0	6.7	14.0	9.2	12.4	**13.5**
Stained teeth		35.5	0.8	2.5	2.1	6.4	6.8	4.3	5.9	35.1	0.0	2.4	3.0	4.5	6.3	5.3	5.9	**5.9**
Others		0.0	4.7	6.1	2.3	1.0	3.6	1.9	3.0	0.0	1.9	6.7	0.0	0.9	2.2	0.7	1.7	**2.4**
2 Factors that cause Oral Health Problems																		
Eating sweets/ice cream		43.6	38.4	12.1	51.1	23.5	30.8	41.7	34.7	40.7	31.1	14.1	60.5	20.0	32.8	46.7	37.3	**36.0**
Not brushing regularly		70.6	43.9	21.5	46.6	37.1	35.3	53.2	41.7	73.9	42.9	15.3	52.9	36.4	38.6	53.8	43.6	**42.7**
Not rinsing		36.8	4.5	2.3	14.4	5.4	10.1	10.9	10.4	38.8	5.7	0.5	11.6	7.3	10.5	10.6	10.5	**10.5**
Consuming tobacco		55.0	10.6	10.6	22.1	18.1	20.4	19.0	19.9	53.9	3.3	7.1	18.3	11.5	16.7	14.2	15.9	**17.9**
Do not know		12.4	39.2	55.4	23.2	37.4	40.9	21.9	34.1	12.1	46.1	63.0	11.1	37.9	36.7	21.7	31.8	**33.0**
3 Reported Preventive Measures																		
Not consuming Tobacco		65.1	14.6	2.0	40.9	27.9	26.2	30.7	27.8	62.1	9.6	1.2	37.1	17.7	23.4	26.9	24.6	**26.2**
Cleaning teeth regularly		73.0	62.9	10.2	45.1	44.9	37.9	55.6	44.2	70.2	55.5	4.3	59.9	49.3	44.1	56.6	48.2	**46.2**
Visiting dentist regularly		66.5	3.9	32.6	11.0	2.4	19.2	14.6	17.6	69.7	5.4	41.9	10.9	2.5	22.5	15.1	20.1	**18.9**
Using flouride paste / powder		31.0	0.0	0.0	3.3	0.5	4.1	4.0	4.1	30.4	0.0	0.0	3.1	0.5	4.4	4.0	4.3	**4.2**
Avoid sweet items		12.7	22.1	3.0	33.1	11.4	16.3	23.1	18.7	10.9	15.1	4.3	26.8	5.9	11.9	22.1	15.2	**17.0**
Do not know		10.1	32.7	53.1	22.5	35.1	38.1	19.8	31.6	9.6	37.2	44.0	12.9	37.9	31.7	17.4	27.0	**29.3**

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: Maharashtra**

Awareness of Oral Health Problems, Causes and Preventive Measures		MALES								FEMALES								STATE TOTAL
		REGIONS					STATE			REGIONS					STATE			
		1	2	3	4	5	R	U	T	1	2	3	4	5	R	U	T	
1 Awareness of Oral Health Problems	n=	189	107	157	167	220	573	267	840	149	109	157	122	189	474	252	726	1566
No knowledge		30.4	69.9	75.7	25.0	35.8	46.4	42.6	45.1	31.3	79.2	86.2	18.1	51.7	54.3	52.3	53.6	**49.4**
Tooth decay		34.0	26.6	11.2	56.0	43.2	35.0	43.9	37.9	41.0	14.2	6.4	63.2	28.1	29.7	35.7	31.8	**34.9**
Gum disease		46.2	15.3	3.8	43.0	28.0	27.8	28.3	28.0	40.7	8.4	3.6	53.5	21.7	26.8	23.5	25.6	**26.8**
Bad smell		42.4	0.0	3.1	10.4	10.0	10.9	8.2	10.0	39.4	0.0	1.7	7.3	6.4	6.2	8.5	7.1	**8.6**
Stained teeth		20.7	1.1	0.5	3.2	6.1	4.0	5.7	4.6	23.6	1.8	0.0	0.9	3.2	3.8	2.2	3.2	**3.9**
Others		0.6	1.6	6.5	1.8	0.9	3.1	0.5	2.3	0.0	2.6	2.9	0.0	1.5	1.9	0.7	1.5	**1.9**
2 Factors that cause Oral Health Problems																		
Eating sweets/ice cream		26.6	23.7	8.3	43.5	20.0	25.5	30.7	27.2	22.3	8.7	3.8	57.4	13.2	23.0	25.4	23.8	**25.5**
Not brushing regularly		57.0	28.8	7.8	41.7	38.0	31.5	38.8	33.9	55.7	13.5	5.7	45.6	23.2	24.8	30.0	26.6	**30.3**
Not rinsing		37.5	1.9	1.2	12.4	5.7	10.4	7.2	9.3	38.6	2.9	0.0	4.2	6.7	6.1	6.8	6.4	**7.9**
Consuming tobacco		41.2	7.0	6.0	19.9	17.3	16.7	15.9	16.4	43.9	4.4	2.8	16.3	10.7	12.6	11.0	12.0	**14.2**
Do not know		17.3	64.5	77.9	24.5	36.3	45.3	39.1	43.2	19.9	78.1	87.6	19.9	52.9	54.6	51.4	53.5	**48.4**
3 Reported Preventive Measures																		
Not consuming Tobacco		51.1	7.8	1.2	28.7	24.7	19.4	24.9	21.2	51.6	2.9	1.2	39.2	16.1	18.8	21.3	19.7	**20.5**
Cleaning teeth regularly		70.0	39.7	4.0	45.3	47.6	37.6	43.2	39.4	65.4	23.0	3.5	46.1	31.8	27.5	37.2	31.0	**35.2**
Visiting dentist regularly		65.4	0.8	30.4	12.2	4.5	18.8	12.9	16.9	59.8	5.8	40.7	6.0	2.0	18.7	14.0	17.0	**17.0**
Using flouride paste / powder		25.4	0.0	1.2	2.3	0.9	4.4	1.7	3.5	24.8	0.0	0.5	2.6	0.5	2.9	3.3	3.0	**3.3**
Avoid sweet items		7.1	15.6	3.8	18.6	8.1	11.3	14.0	12.2	3.6	4.0	0.9	23.1	3.3	8.4	9.3	8.7	**10.5**
Do not know		9.0	57.3	59.9	26.0	33.3	40.3	32.2	37.6	13.4	70.1	51.5	21.7	52.7	46.3	39.1	43.7	**40.7**

5.6 TOBACCO SMOKING AND CHEWING HABITS

As smoking habits and chewing tobacco have special affect on oral health, a set of questions on these aspects were asked. These questions related to smoking habits, chewing pan with tobacco and drinking alcohol. This section summarises findings on those questions for the age groups 35-44 years and 65-74 years since these age groups were considered more relevant for these questions. The findings are shown in Tables 5.6.4 and 5.6.5.

5.6.4 35-44 year olds

About 15 per cent of respondents 20 per cent males and 10 per cent females had the habit of smoking tobacco in the state (Table 5.6.4). There were no significant rural/urban differentials. The percentage of smokers was 53 per cent in E. Vidarbha, the highest among regions.

About 48 per cent of the respondents smoked Bidis followed by (31 per cent) reported smoking cigarettes. In the urban areas, over 30 per cent smoked cigarettes while in the rural areas, 53 per cent, 33 per cent and about 4 per cent smoked Bidis, Cigarettes and Chillum, respectively. When asked about frequency of smoking, almost everybody (87 per cent) reported smoking less than 10 times a day. While other 12 percent, more males & more in rural had the habit of smoking 10-20 times in a day.

The practice of chewing pan or pan masala with tobacco was low; only about 28 per cent males and only 9 per cent females reported this habit. This was more in rural than in urban. Not much difference was noticed between Regions. A majority of those who chewed pan or pan masala with tobacco said they have been using it for the last 5-10 years.

About 53 per cent of them were chewing tobacco less than 5 times a day. Also, 14 per cent males and 6 per cent females reported taking alcohol. Most of them said they took it occasionally.

5.6.5 65-74 age olds

About 15 per cent in this age group (21 per cent males and 9 per cent females) reported the habit of smoking. These were more males in rural areas and more females in urban areas (Table 5.6.5). Both Bidi and cigarette smoking was reported more in rural areas. The frequency of smoking Bidis and cigarettes was mostly less than 10 times in a day. Among Regions, the habit was reported more in E. Vidharbha.

In the state, about 20 per cent (27 per cent males and 13 per cent females) of this age group reported chewing pan/pan masala with tobacco. Their percentage was slightly more in the rural areas (20 per cent) as opposed to urban areas (19 per cent). About 85 per cent of them said they were chewing it less than 10 times a day. About 56 per cent men said they had this habit for more than 10 years.

About 8 per cent (mostly males) reported taking alcohol. Most of them took this occasionally and their number was more in the rural areas. More people with this habit were reported in E. Vidarbha and C. Plateau.

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

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

Tobacco Smoking or Chewing with Pan masala and Alcohol taking habits		MALES								FEMALES								STATE TOTAL
		REGIONS					STATE			REGIONS					STATE			
		1	2	3	4	5	R	U	T	1	2	3	4	5	R	U	T	
1 Smoking Habits		**180**	**102**	**162**	**145**	**210**	**530**	**269**	**799**	**212**	**106**	**154**	**164**	**204**	**567**	**273**	**840**	**1639**
Subjects smoking tobacco		56.4	15.6	11.6	18.0	16.4	19.0	20.7	19.6	49.7	1.1	2.9	7.7	10.5	11.7	7.9	10.4	15.0
2 Nature of Smoking		**97**	**16**	**18**	**28**	**34**	**132**	**61**	**193**	**102**	**1**	**5**	**13**	**22**	**104**	**39**	**143**	**336**
Chillum		1.7	0.0	6.0	7.4	2.7	4.2	3.0	3.8	3.4	0.0	0.0	8.6	14.2	6.4	6.9	6.5	5.2
Hookah		1.7	7.3	0.0	6.2	0.0	0.5	8.6	3.5	1.1	0.0	16.3	0.0	4.4	1.8	3.7	2.2	2.9
Cigars		4.0	0.0	3.9	6.2	3.4	1.5	8.5	4.1	9.6	100.0	32.6	8.6	17.6	10.6	24.3	14.0	9.1
Cigarettes		40.5	57.3	50.0	17.9	25.0	34.9	35.5	35.1	41.9	0.0	51.0	6.2	17.6	32.2	14.2	27.7	31.4
Bidis		50.8	35.5	40.1	54.9	68.9	56.5	42.0	51.1	44.1	0.0	0.0	59.3	41.7	42.4	51.0	44.6	47.9
3 Number of times Smoking in a day																		
< 10 times		94.8	87.5	94.0	76.6	73.5	83.8	86.6	84.9	92.1	100.0	100.0	91.4	76.0	89.7	88.7	89.5	87.2
10-20 times		5.2	12.5	6.0	23.4	23.8	15.5	13.4	14.7	7.9	0.0	0.0	8.6	19.6	9.2	11.3	9.7	12.2
20 + times		0.0	0.0	0.0	0.0	2.7	0.7	0.0	0.4	0.0	0.0	0.0	0.0	4.4	1.0	0.0	0.8	0.6
4 Chewing pan/pan masala with tobacco habits	n=	**180**	**102**	**162**	**145**	**210**	**530**	**269**	**799**	**212**	**106**	**154**	**164**	**204**	**567**	**273**	**840**	**1639**
Chew pan or pan masala with tobacco		30.0	25.9	25.8	29.1	30.0	29.3	25.5	28.0	22.8	5.9	3.4	11.7	8.1	11.6	5.0	9.4	18.7
5 Number of years of chewing pan or																		
pan masala with Tobacco	n=	**54**	**27**	**40**	**43**	**64**	**160**	**68**	**228**	**44**	**7**	**5**	**19**	**17**	**76**	**16**	**92**	**320**
Less than 5 years		35.8	22.6	24.3	28.9	35.3	27.7	32.1	29.1	29.6	40.6	78.4	26.8	31.2	33.0	34.2	33.2	31.2
5 - 10 years		58.8	57.2	46.0	29.3	19.8	37.3	40.2	38.3	61.7	18.7	21.6	25.2	51.6	36.5	42.3	37.5	37.9
> 10 years		5.4	20.2	29.7	41.8	44.8	34.9	27.7	32.6	8.6	40.6	0.0	47.9	17.2	30.6	23.5	29.3	31.0
6 Number of times of chewingpan or																		
pan masala with tobacco in a day																		
Less than 5 times		57.5	45.2	44.3	61.6	45.2	52.5	49.5	51.5	56.8	86.5	78.4	36.6	65.6	52.3	65.8	54.6	53.1
5 - 10 times		42.5	47.2	40.4	31.2	48.5	39.2	43.5	40.6	43.2	13.5	21.6	57.7	28.7	43.8	34.2	42.2	41.4
> 10 times		0.0	7.5	15.3	7.2	6.3	8.3	6.9	7.9	0.0	0.0	0.0	5.7	5.7	3.9	0.0	3.2	5.6
7 Alcohol consumption habits	n=	**180**	**102**	**162**	**145**	**210**	**530**	**269**	**799**	**212**	**106**	**154**	**164**	**204**	**567**	**273**	**840**	**1639**
Consumption of alcohol		42.1	15.0	3.7	12.6	11.8	14.9	11.9	13.8	40.5	0.0	0.0	2.7	6.8	8.4	1.8	6.3	10.1
8 Frequency of alcohol consumption	n=	**70**	**16**	**6**	**18**	**24**	**99**	**35**	**134**	**76**	**0**	**0**	**4**	**14**	**83**	**11**	**94**	**228**
Daily		6.2	0.0	0.0	6.1	8.5	5.8	2.8	4.9	4.2	0.0	0.0	0.0	8.3	3.0	19.1	4.6	4.8
3 times a week		17.1	30.2	0.0	12.2	28.4	15.7	28.6	19.6	25.7	0.0	0.0	0.0	6.8	19.6	5.3	18.2	18.9
Occasionally		72.9	45.8	62.1	75.5	54.7	66.4	59.7	64.3	66.0	0.0	0.0	100.0	71.2	71.5	75.5	71.9	68.1

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

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

Tobacco Smoking or Chewing with Pan masala and Alcohol taking habits		MALES								FEMALES								STATE TOTAL
		REGIONS					STATE			REGIONS					STATE			
		1	2	3	4	5	R	U	T	1	2	3	4	5	R	U	T	
1 Smoking Habits	n=	**189**	**107**	**157**	**167**	**220**	**573**	**267**	**840**	**149**	**109**	**157**	**122**	**189**	**474**	**252**	**726**	**1566**
Subjects smoking tobacco		40.6	12.2	15.8	24.1	19.6	22.1	18.5	20.9	36.2	2.1	4.0	8.8	9.3	8.2	9.7	8.7	**14.8**
2 Nature of Smoking	n=	**77**	**14**	**24**	**41**	**43**	**139**	**60**	**199**	**52**	**2**	**7**	**12**	**18**	**59**	**32**	**91**	**290**
Chillum		1.5	12.9	0.0	2.0	2.2	2.4	3.9	2.8	11.2	0.0	0.0	7.4	6.5	4.9	11.6	7.6	**5.2**
Hookah		3.1	0.0	7.5	2.7	4.4	4.2	1.5	3.4	1.1	0.0	0.0	7.4	5.4	1.8	6.9	3.8	**3.6**
Cigars		3.1	28.2	7.5	8.2	11.5	11.0	6.8	9.8	10.1	100.0	59.0	10.2	16.1	18.3	25.6	21.2	**15.5**
Cigarettes		11.4	26.7	13.7	12.2	7.1	10.4	19.4	13.1	22.5	0.0	29.5	7.4	26.8	22.8	11.0	18.2	**15.7**
Bidis		79.4	32.2	66.7	72.2	74.8	69.2	68.5	69.0	55.1	0.0	11.5	67.6	39.9	50.3	44.9	48.2	**58.6**
3 Number of times Smoking in a day																		
< 10 times		87.0	78.2	92.5	79.6	64.5	79.9	79.7	79.9	78.7	100.0	46.0	82.4	78.6	72.1	86.9	78.0	**79.0**
10-20 times		11.5	8.9	2.9	12.9	26.7	11.8	17.4	13.5	19.0	0.0	36.0	17.6	16.1	22.0	13.1	18.5	**16.0**
20 + times		1.5	12.9	4.6	7.4	8.8	8.3	2.8	6.7	2.3	0.0	18.0	0.0	5.4	5.9	0.0	3.5	**5.1**
4 Chewing pan/pan masala with tobacco habits	n=	**189**	**107**	**157**	**167**	**220**	**573**	**267**	**840**	**149**	**109**	**157**	**122**	**189**	**474**	**252**	**726**	**1566**
Chew pan or pan masala with tobacco		27.6	25.6	26.3	30.9	21.3	28.1	24.2	26.8	14.7	10.7	2.8	23.1	8.6	11.7	14.1	12.5	**19.7**
5 Number of years of chewing pan or pan masala with Tobacco	n=	**52**	**28**	**39**	**52**	**47**	**155**	**63**	**218**	**20**	**12**	**5**	**30**	**17**	**55**	**29**	**84**	**302**
Less than 5 years		41.5	15.8	27.2	13.7	18.7	19.4	21.4	20.0	19.4	0.0	41.8	14.6	5.8	16.0	6.8	12.3	**32.3**
5 - 10 years		22.5	14.6	32.7	15.0	21.1	16.9	27.5	20.1	33.3	48.6	58.2	23.0	24.5	28.7	34.0	30.8	**25.5**
> 10 years		36.0	69.6	40.1	71.3	60.2	63.7	51.1	59.9	47.3	51.4	0.0	62.4	69.7	55.3	59.2	56.9	**58.4**
6 Number of times of chewingpan or pan masala with tobacco in a day																		
Less than 5 times		58.3	30.4	51.1	29.9	37.8	37.3	39.1	37.9	41.6	68.5	83.7	26.3	52.3	49.2	29.8	41.4	**39.7**
5 - 10 times		19.1	53.1	28.2	46.3	39.1	39.0	44.3	40.6	33.4	31.5	16.3	60.2	47.7	40.6	61.5	49.0	**44.8**
> 10 times		22.5	16.5	20.7	23.8	23.1	23.7	16.6	21.6	25.0	0.0	0.0	13.5	0.0	10.2	8.7	9.6	**15.6**
7 Alcohol consumption habits	n=	**189**	**107**	**157**	**167**	**220**	**573**	**267**	**840**	**149**	**109**	**157**	**122**	**189**	**474**	**252**	**726**	**1566**
Consumption of alcohol		27.3	12.8	1.6	14.6	10.7	13.4	9.8	12.2	18.3	0.0	0.5	3.4	1.6	3.5	1.7	2.9	**7.6**
8 Frequency of alcohol consumption	n=	**50**	**14**	**3**	**23**	**23**	**82**	**31**	**113**	**25**	**0**	**1**	**4**	**3**	**25**	**8**	**33**	**146**
Daily		6.8	23.1	0.0	18.0	9.0	14.1	16.5	14.7	4.5	0.0	0.0	0.0	0.0	2.9	0.0	2.3	**8.5**
3 times a week		5.7	20.8	0.0	16.8	17.9	13.5	19.7	15.1	13.3	0.0	0.0	0.0	69.0	10.0	32.6	14.9	**15.0**
Occasionally		80.7	35.4	71.9	56.1	73.1	62.6	54.4	60.4	82.3	0.0	100.0	46.3	31.0	64.6	67.4	65.2	**62.8**

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

1. About 15 per cent in the 35-44 and 65-74 age groups had the habit of smoking in the state. The habit was more prevalent among males and in rural areas. Higher percentages were reported from E. Vidarbha. More than half of them, more males and more from rural areas, smoked bidis. Cigarette smokers were next, and they were in the urban areas. Fortunately, 83 per cent of smokers, across both sexes and place of residence, said they smoked less than 10 times a day.

2. About 19 per cent, across all ages and place of residence, but more males said they chewed pan or pan masala with tobacco. Around 38 per cent of them, across all ages and both sexes and place of residence, said they had been chewing it for more than five years.

3. About 9 per cent, across all ages, but more males and more in rural areas, said they drank alcohol.

CHAPTER VI
CLINICAL FINDINGS

6.1 INTRODUCTION

The clinical findings are presented under the following broad heads:

1. Dental Caries Status and 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 and Need; and Community Need for Immediate Care and Referrals.

The tabular data in this sections presents a detailed picture of the findings (male and female subjects) while the figures present the high points of the prevalence patterns based on totals (percentages combined for male and female subjects).

6.2 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.

6.2.1 Coronal caries

Table 6.01 presents the percentage of subjects by age and gender who were caries-free and those who had experienced caries (dmft/DMFT>0).

Table 6.01. Percent subjects (with permanent teeth) with caries and with dmft/ DMFT values by age, sex and geographical area.

State : Maharashtra

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=	**168**	**154**	***322***	**Region 1**	n=	**178**	**170**	***348***	**128**	**116**	***244***	**180**	**212**	***392***	**189**	**148**	***337***
With caries		79.3	78.2	***78.8***	With caries		91.6	91.2	***91.4***	88.3	83.6	***86.0***	85.0	81.6	***83.3***	66.1	62.8	***64.5***
dmft value 1-3		24.9	22.4	***23.7***	DMFT level 1-3		16.9	17.1	***17.0***	18.0	19.0	***18.5***	13.9	19.8	***16.9***	4.8	6.1	***5.5***
dmft value 4-5		20.1	20.5	***20.3***	DMFT level 4-8		50.6	48.8	***49.7***	44.5	41.4	***43.0***	61.1	51.9	***56.5***	25.9	29.7	***27.8***
dmft value 6-10		32.0	32.7	***32.4***	DMFT level 9-16		24.2	25.3	***24.8***	25.0	21.6	***23.3***	9.4	9.9	***9.7***	30.7	23.6	***27.2***
dmft value 11-15		2.4	1.9	***2.2***	DMFT level 17-24		0.0	0.0	***0.0***	0.8	1.7	***1.3***	0.6	0.0	***0.3***	1.1	2.0	***1.6***
dmft value 16 or more		0.0	0.6	***0.3***	DMFT level 25-28		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	1.1	0.7	***0.9***
					DMFT level 29 or more		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	2.6	0.7	***1.7***
Region 2	n=	**102**	**106**	***208***	**Region 2**	n=	**101**	**109**	***210***	**104**	**103**	***207***	**102**	**106**	***208***	**107**	**109**	***216***
With caries		43.7	35.5	***39.6***	With caries		42.6	56.9	***49.8***	66.3	61.2	***63.8***	73.5	82.1	***77.8***	85.0	89.0	***87.0***
dmft value 1-3		25.2	22.4	***23.8***	DMFT level 1-3		28.7	42.2	***35.5***	34.6	38.8	***36.7***	28.4	27.4	***27.9***	8.4	10.1	***9.3***
dmft value 4-5		8.7	9.3	***9.0***	DMFT level 4-8		10.9	10.1	***10.5***	27.9	19.4	***23.7***	38.2	41.5	***39.9***	29.9	31.2	***30.6***
dmft value 6-10		5.8	2.8	***4.3***	DMFT level 9-16		3.0	4.6	***3.8***	3.8	2.9	***3.4***	6.9	13.2	***10.1***	10.3	17.4	***13.9***
dmft value 11-15		2.9	0.9	***1.9***	DMFT level 17-24		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	13.1	11.0	***12.1***
dmft value 16 or more		1.0	0.0	***0.5***	DMFT level 25-28		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	9.3	5.5	***7.4***
					DMFT level 29 or more		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	14.0	13.8	***13.9***
Region 3	n=	**159**	**157**	***316***	**Region 3**	n=	**157**	**159**	***316***	**159**	**159**	***318***	**162**	**154**	***316***	**157**	**157**	***314***
With caries		57.2	46.2	***51.7***	With caries		43.9	35.8	***39.9***	44.7	43.4	***44.1***	56.8	69.5	***63.2***	89.2	88.5	***88.9***
dmft value 1-3		30.8	23.4	***27.1***	DMFT level 1-3		29.3	27.7	***28.5***	32.7	28.3	***30.5***	27.8	31.2	***29.5***	14.6	19.7	***17.2***
dmft value 4-5		11.9	12.0	***12.0***	DMFT level 4-8		13.4	8.2	***10.8***	11.3	13.2	***12.3***	25.9	29.2	***27.6***	21.0	17.8	***19.4***
dmft value 6-10		13.8	10.1	***12.0***	DMFT level 9-16		1.3	0.0	***0.7***	0.6	1.9	***1.3***	3.1	7.8	***5.5***	21.7	15.3	***18.5***
dmft value 11-15		0.6	0.0	***0.3***	DMFT level 17-24		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.6	***0.3***	7.0	11.5	***9.3***
dmft value 16 or more		0.0	0.6	***0.3***	DMFT level 25-28		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	7.0	3.2	***5.1***
					DMFT level 29 or more		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.6	***0.3***	17.8	21.0	***19.4***
Region 4	n=	**163**	**122**	***285***	**Region 4**	n=	**157**	**141**	***298***	**133**	**154**	***287***	**145**	**164**	***309***	**167**	**122**	***289***
With caries		54.9	57.7	***56.3***	With caries		41.4	42.6	***42.0***	60.9	61.7	***61.3***	77.9	78.0	***78.0***	91.0	87.7	***89.4***
dmft value 1-3		29.3	34.1	***31.7***	DMFT level 1-3		29.9	34.0	***32.0***	38.3	41.6	***40.0***	42.8	40.2	***41.5***	17.4	16.4	***16.9***
dmft value 4-5		14.0	14.6	***14.3***	DMFT level 4-8		10.8	8.5	***9.7***	19.5	18.2	***18.9***	30.3	31.1	***30.7***	17.4	19.7	***18.6***
dmft value 6-10		10.4	8.1	***9.3***	DMFT level 9-16		0.6	0.0	***0.3***	3.0	1.9	***2.5***	4.1	6.1	***5.1***	10.2	17.2	***13.7***
dmft value 11-15		1.2	0.8	***1.0***	DMFT level 17-24		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.6	***0.3***	8.4	6.6	***7.5***
dmft value 16 or more		0.0	0.0	***0.0***	DMFT level 25-28		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	4.2	3.3	***3.8***
					DMFT level 29 or more		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.7	0.0	***0.4***	33.5	24.6	***29.1***
Region 5	n=	**204**	**202**	***406***	**Region 5**	n=	**215**	**201**	***416***	**211**	**206**	***417***	**210**	**204**	***414***	**220**	**189**	***409***
With caries		37.0	39.1	***38.1***	With caries		60.9	57.7	***59.3***	72.5	70.4	***71.5***	79.0	87.3	***83.2***	92.7	94.7	***93.7***
dmft value 1-3		25.0	25.7	***25.4***	DMFT level 1-3		42.8	34.8	***38.8***	36.5	35.0	***35.8***	23.8	26.0	***24.9***	6.8	8.5	***7.7***
dmft value 4-5		6.3	7.4	***6.9***	DMFT level 4-8		15.8	21.9	***18.9***	30.8	31.1	***31.0***	39.0	36.3	***37.7***	19.1	15.9	***17.5***
dmft value 6-10		4.8	5.4	***5.1***	DMFT level 9-16		2.3	1.0	***1.7***	5.2	4.4	***4.8***	14.8	22.1	***18.5***	30.0	26.5	***28.3***
dmft value 11-15		1.0	0.0	***0.5***	DMFT level 17-24		0.0	0.0	***0.0***	0.0	0.0	***0.0***	1.4	1.5	***1.5***	10.5	9.5	***10.0***
dmft value 16 or more		0.0	0.5	***0.3***	DMFT level 25-28		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.5	***0.3***	5.5	7.4	***6.5***
					DMFT level 29 or more		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	1.0	***0.5***	20.9	27.0	***24.0***

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
State Rural	n=	536	502	*1038*	**State Rural**	n=	532	523	*1055*	468	482	*950*	530	567	*1097*	573	474	*1047*
With caries		54.6	50.6	***52.6***	With caries		57.7	56.4	***57.1***	63.0	58.1	***60.6***	74.0	78.7	***76.4***	87.3	85.7	***86.5***
dmft value 1-3		28.6	24.0	***26.3***	DMFT level 1-3		28.9	28.9	***28.9***	33.8	31.1	***32.5***	27.0	30.0	***28.5***	12.6	15.0	***13.8***
dmft value 4-5		12.4	12.9	***12.7***	DMFT level 4-8		22.7	22.6	***22.7***	25.0	22.4	***23.7***	38.9	36.9	***37.9***	22.7	22.6	***22.7***
dmft value 6-10		12.5	12.9	***12.7***	DMFT level 9-16		6.0	5.0	***5.5***	4.3	4.4	***4.4***	7.7	10.8	***9.3***	24.4	19.8	***22.1***
dmft value 11-15		1.1	0.6	***0.9***	DMFT level 17-24		0.0	0.0	***0.0***	0.0	0.2	***0.1***	0.2	0.7	***0.5***	7.3	8.4	***7.9***
dmft value 16 or more		0.0	0.2	***0.1***	DMFT level 25-28		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.2	***0.1***	5.8	3.8	***4.8***
					DMFT level 29 or more		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.2	0.2	***0.2***	14.5	16.0	***15.3***
State Urban	n=	260	239	*499*	**State Urban**	n=	276	257	*533*	267	256	*523*	269	273	*542*	267	251	*518*
With caries		54.0	52.9	***53.5***	With caries		59.4	60.3	***59.9***	71.9	73.8	***72.9***	77.0	83.2	***80.1***	79.4	83.3	***81.4***
dmft value 1-3		23.8	28.5	***26.2***	DMFT level 1-3		32.6	33.5	***33.1***	30.3	36.3	***33.3***	25.3	24.9	***25.1***	4.9	6.4	***5.7***
dmft value 4-5		11.9	12.0	***12.0***	DMFT level 4-8		18.8	17.5	***18.2***	29.2	28.5	***28.9***	41.3	42.1	***41.7***	20.6	21.1	***20.9***
dmft value 6-10		15.7	10.7	***13.2***	DMFT level 9-16		8.0	9.3	***8.7***	12.0	8.6	***10.3***	9.3	15.0	***12.2***	17.2	21.9	***19.6***
dmft value 11-15		2.3	0.8	***1.6***	DMFT level 17-24		0.0	0.0	***0.0***	0.4	0.4	***0.4***	1.1	0.4	***0.8***	8.2	7.6	***7.9***
dmft value 16 or more		0.4	0.8	***0.6***	DMFT level 25-28		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	3.4	4.8	***4.1***
					DMFT level 29 or more		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.7	***0.4***	25.1	21.5	***23.3***
State Total	n=	796	741	*1537*	**State Total**	n=	808	780	*1588*	735	738	*1473*	799	840	*1639*	840	725	*1565*
With caries		54.4	51.3	***52.9***	With caries		58.3	57.7	***58.0***	66.3	63.6	***65.0***	75.0	80.1	***77.6***	84.8	84.8	***84.8***
dmft value 1-3		27.0	25.5	***26.3***	DMFT level 1-3		30.2	30.4	***30.3***	32.5	32.9	***32.7***	26.4	28.3	***27.4***	10.1	12.0	***11.1***
dmft value 4-5		12.2	12.6	***12.4***	DMFT level 4-8		21.4	20.9	***21.2***	26.5	24.5	***25.5***	39.7	38.6	***39.2***	22.0	22.1	***22.1***
dmft value 6-10		13.6	12.2	***12.9***	DMFT level 9-16		6.7	6.4	***6.6***	7.1	5.8	***6.5***	8.3	12.1	***10.2***	22.1	20.6	***21.4***
dmft value 11-15		1.5	0.7	***1.1***	DMFT level 17-24		0.0	0.0	***0.0***	0.1	0.3	***0.2***	0.5	0.6	***0.6***	7.6	8.1	***7.9***
dmft value 16 or more		0.1	0.4	***0.3***	DMFT level 25-28		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.1	***0.1***	5.0	4.1	***4.6***
					DMFT level 29 or more		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.1	0.4	***0.3***	17.9	17.9	***17.9***

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 decayed, missng and filled teeth by age, sex and geographical area.

State : Maharashtra

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=	168	154	*322*	173	169	*342*	127	115	*242*	179	212	*391*	156	127	*283*
Mean no. of teeth present (mnt/MNT)		20.0	19.9	*20.0*	27.5	28.0	*27.8*	28.0	27.9	*28.0*	31.9	31.9	*31.9*	28.3	30.1	*29.2*
Mean dmft and Mean DMFT		4.1	4.3	*4.2*	5.0	4.9	*5.0*	4.8	4.6	*4.7*	5.0	4.7	*4.9*	7.1	5.5	*6.3*
Mean no. of Decayed teeth (dt/DT)		4.1	4.3	*4.2*	4.9	4.9	*4.9*	4.8	4.5	*4.7*	4.9	4.5	*4.7*	3.4	3.6	*3.5*
Mean no. of Missing teeth (mt/MT)		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.1	*0.1*	0.1	0.1	*0.1*	3.7	1.9	*2.8*
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*	0.0	0.0	*0.0*
SIC Index		7.9	8.2	*8.1*	8.1	8.0	*8.1*	8.3	8.6	*8.5*	8.7	8.3	*8.5*	14.0	11.7	*12.9*
No. of subjects edentulous		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	5	1	*6*
Region 2	n=	102	106	*208*	101	108	*209*	104	99	*203*	102	106	*208*	99	103	*202*
Mean no. of teeth present (mnt/MNT)		19.8	20.0	*19.9*	26.1	25.7	*25.9*	28.0	27.9	*28.0*	31.2	30.8	*31.0*	21.5	21.6	*21.6*
Mean dmft and Mean DMFT		2.0	1.2	*1.6*	1.5	1.8	*1.7*	2.5	2.0	*2.3*	3.7	4.5	*4.1*	12.2	12.2	*12.2*
Mean no. of Decayed teeth (dt/DT)		1.9	1.2	*1.6*	1.5	1.7	*1.6*	2.5	2.0	*2.3*	2.9	3.3	*3.1*	1.7	1.8	*1.8*
Mean no. of Missing teeth (mt/MT)		0.1	0.0	*0.1*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.8	1.2	*1.0*	10.5	10.4	*10.5*
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	0.0	*0.0*	0.0	0.0	*0.0*
SIC Index		5.1	3.3	*4.2*	3.8	4.1	*4.0*	5.3	4.5	*4.9*	7.1	8.5	*7.8*	26.5	25.2	*25.9*
No. of subjects edentulous		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	9	6	*15*
Region 3	n=	159	157	*316*	156	159	*315*	157	159	*316*	162	154	*316*	157	156	*313*
Mean no. of teeth present (mnt/MNT)		19.8	19.8	*19.8*	25.6	26.0	*25.8*	28.0	28.0	*28.0*	31.2	30.3	*30.8*	19.9	19.7	*19.8*
Mean dmft and Mean DMFT		2.2	1.9	*2.1*	1.3	0.9	*1.1*	1.1	1.3	*1.2*	2.2	3.3	*2.8*	12.8	12.7	*12.8*
Mean no. of Decayed teeth (dt/DT)		2.1	1.8	*2.0*	1.3	0.9	*1.1*	1.1	1.3	*1.2*	1.4	1.5	*1.5*	0.6	0.4	*0.5*
Mean no. of Missing teeth (mt/MT)		0.1	0.1	*0.1*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.8	1.7	*1.3*	12.1	12.3	*12.2*
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*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
SIC Index		5.4	5.1	*5.3*	3.5	2.5	*3.0*	3.2	3.7	*3.5*	5.6	7.7	*6.7*	27.6	28.2	*27.9*
No. of subjects edentulous		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	22	27	*49*
Region 4	n=	163	122	*285*	155	140	*295*	133	153	*286*	144	164	*308*	166	122	*288*
Mean no. of teeth present (mnt/MNT)		19.9	19.9	*19.9*	25.6	25.9	*25.8*	27.9	28.0	*28.0*	30.9	30.7	*30.8*	17.2	19.6	*18.4*
Mean dmft and Mean DMFT		2.1	2.0	*2.1*	1.1	1.0	*1.1*	1.9	1.9	*1.9*	3.0	3.2	*3.1*	15.6	13.4	*14.5*
Mean no. of Decayed teeth (dt/DT)		2.0	1.9	*2.0*	1.1	1.0	*1.1*	1.9	1.8	*1.9*	1.9	1.8	*1.9*	0.8	1.0	*0.9*
Mean no. of Missing teeth (mt/MT)		0.0	0.1	*0.1*	0.0	0.0	*0.0*	0.1	0.0	*0.1*	1.1	1.3	*1.2*	14.8	12.4	*13.6*
Mean no. of Filled teeth (ft/FT)		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*
SIC Index		5.3	4.7	*5.0*	3.0	2.7	*2.9*	4.6	4.4	*4.5*	6.5	6.8	*6.7*	32.0	29.6	*30.8*
No. of subjects edentulous		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	52	25	*77*
Region 5	n=	204	202	*406*	214	200	*414*	210	205	*415*	210	203	*413*	216	188	*404*
Mean no. of teeth present (mnt/MNT)		19.8	19.9	*19.9*	26.4	26.6	*26.5*	27.9	28.0	*28.0*	30.8	30.2	*30.5*	17.9	16.4	*17.2*
Mean dmft and Mean DMFT		1.3	1.4	*1.4*	1.8	1.8	*1.8*	2.8	2.7	*2.8*	4.6	5.8	*5.2*	15.6	17.4	*16.5*
Mean no. of Decayed teeth (dt/DT)		1.3	1.4	*1.4*	1.8	1.8	*1.8*	2.7	2.7	*2.7*	3.3	4.0	*3.7*	1.5	1.8	*1.7*
Mean no. of Missing teeth (mt/MT)		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.1	0.0	*0.1*	1.2	1.8	*1.5*	14.1	15.6	*14.9*
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*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
SIC Index		3.7	3.7	*3.7*	4.2	4.3	*4.3*	5.6	5.6	*5.6*	9.0	10.9	*10.0*	28.6	31.0	*29.8*
No. of subjects edentulous		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	1	*1*	37	41	*78*

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
State Rural	n=	536	502	*1038*	528	521	*1049*	465	476	*941*	528	566	*1094*	548	465	*1013*
Mean no. of teeth present (mnt/MNT)		19.9	19.9	***19.9***	26.4	26.7	***26.6***	27.9	28.0	***28.0***	31.1	30.8	***31.0***	20.5	21.1	***20.8***
Mean dmft and Mean DMFT		2.0	1.9	***2.0***	1.7	1.6	***1.7***	2.0	1.9	***2.0***	3.2	3.7	***3.5***	12.8	12.3	***12.6***
Mean no. of Decayed teeth (dt/DT)		1.9	1.9	***1.9***	1.7	1.6	***1.7***	1.9	1.9	***1.9***	2.3	2.5	***2.4***	1.3	1.4	***1.4***
Mean no. of Missing teeth (mt/MT)		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.1	0.0	***0.1***	0.9	1.2	***1.1***	11.5	10.9	***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***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
SIC Index		5.5	5.5	***5.5***	5.3	5.1	***5.2***	5.2	5.2	***5.2***	7.5	8.2	***7.9***	25.2	25.6	***25.4***
No. of subjects edentulous		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	1.0	*1*	64	53	*117*
State Urban	n=	260	239	*499*	271	255	*526*	266	255	*521*	269	273	*542*	246	231	*477*
Mean no. of teeth present (mnt/MNT)		19.8	19.9	***19.9***	25.3	25.2	***25.3***	28.0	27.9	***28.0***	31.0	30.3	***30.7***	17.9	18.8	***18.4***
Mean dmft and Mean DMFT		2.3	1.8	***2.1***	1.7	1.7	***1.7***	2.8	2.5	***2.7***	4.1	4.9	***4.5***	15.4	14.7	***15.1***
Mean no. of Decayed teeth (dt/DT)		2.2	1.7	***2.0***	1.7	1.7	***1.7***	2.8	2.5	***2.7***	3.0	3.2	***3.1***	1.3	1.5	***1.4***
Mean no. of Missing teeth (mt/MT)		0.1	0.1	***0.1***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	1.0	1.7	***1.4***	14.1	13.2	***13.7***
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	0.0	***0.0***	0.0	0.0	***0.0***
SIC Index		6.4	5.4	***5.9***	5.3	5.4	***5.4***	6.6	6.2	***6.4***	8.3	9.6	***9.0***	29.8	28.6	***29.2***
No. of subjects edentulous		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	61	47	*108*
State Total	n=	796	741	*1537*	799	776	*1575*	731	731	*1462*	797	839	*1636*	794	696	*1490*
Mean no. of teeth present (mnt/MNT)		19.8	19.9	***19.9***	26.2	26.3	***26.3***	27.9	28.0	***28.0***	31.0	30.6	***30.8***	19.6	19.9	***19.8***
Mean dmft and Mean DMFT		2.0	1.8	***1.9***	1.8	1.7	***1.8***	2.3	2.2	***2.3***	3.7	4.3	***4.0***	13.8	13.6	***13.7***
Mean no. of Decayed teeth (dt/DT)		2.0	1.8	***1.9***	1.7	1.7	***1.7***	2.3	2.2	***2.3***	2.7	2.9	***2.8***	1.4	1.5	***1.5***
Mean no. of Missing teeth (mt/MT)		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.1	0.0	***0.1***	1.0	1.4	***1.2***	12.4	12.1	***12.3***
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	0.0	***0.0***	0.0	0.0	***0.0***
SIC Index		5.8	5.5	***5.7***	5.3	5.2	***5.3***	5.8	5.6	***5.7***	7.8	8.7	***8.3***	26.8	26.7	***26.8***
No. of subjects edentulous		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	1.0	*1*	125	100	*225*

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.**

Table 6.02 presents the mean number of decayed, missing and filled teeth (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 percentage of subjects who were edentulous.

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

The overall percentage of 5-year-old subjects (primary teeth) who had experienced caries was about 53 per cent (54 per cent males and 51 per cent females). A frequency distribution of the dmft values by the percentage of subjects who had experienced caries (Table 6.01) shows that 12.9 per cent subjects had a dmft value of 6-10 followed by 12.4 per cent with a dmft value of 4-5. Thus, about 25 per cent of the 5-year-old subjects had experienced caries in 4 or more teeth. Only about 1.4 per cent subjects had a dmft value higher than 10.

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

State : Maharashtra

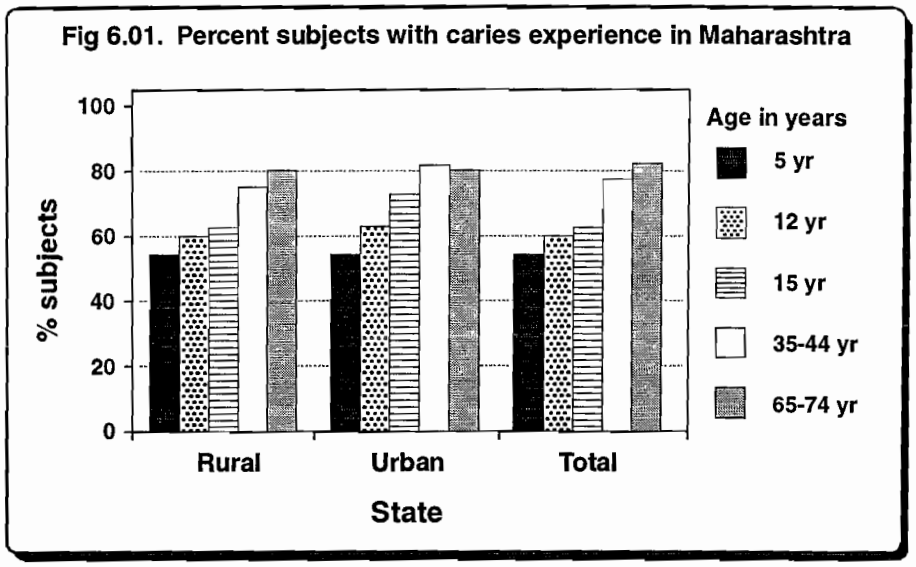
Missing Teeth		5 years			15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T	M	F	T
	n=	173	169	342	127	115	242	179	212	391	156	127	283
Mean nos. of teeth missing due to caries		0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	2.3	1.3	1.8
Mean nos. of teeth missing due to other reasons		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.6	1.0
	n=	101	108	209	104	99	203	102	106	208	99	103	202
Mean nos. of teeth missing due to caries		0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.7	0.7	6.0	5.3	5.7
Mean nos. of teeth missing due to other reasons		0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.4	4.6	5.1	4.9
	n=	156	159	315	157	159	316	162	154	316	157	156	313
Mean nos. of teeth missing due to caries		0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.8	0.7	1.0	1.3	1.2
Mean nos. of teeth missing due to other reasons		0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.9	0.6	11.1	11.0	11.1
	n=	155	140	295	133	153	286	144	164	308	166	122	288
Mean nos. of teeth missing due to caries		0.0	0.0	0.0	0.1	0.0	0.1	0.6	0.7	0.7	1.0	0.9	1.0
Mean nos. of teeth missing due to other reasons		0.1	0.0	0.1	0.0	0.0	0.0	0.5	0.6	0.6	13.8	11.5	12.7
	n=	214	200	414	210	205	415	210	203	413	216	188	404
Mean nos. of teeth missing due to caries		0.0	0.0	0.0	0.1	0.0	0.1	0.7	1.0	0.9	4.3	5.1	4.7
Mean nos. of teeth missing due to other reasons		0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.7	0.6	9.9	10.5	10.2
	n=	528	521	1049	465	476	941	528	566	1094	548	465	1013
Mean nos. of teeth missing due to caries		0.0	0.0	0.0	0.1	0.0	0.1	0.5	0.6	0.6	2.4	2.3	2.4
Mean nos. of teeth missing due to other reasons		0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.5	0.5	9.1	8.6	8.9
	n=	271	255	526	266	255	521	269	273	542	246	231	477
Mean nos. of teeth missing due to caries		0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.9	0.8	3.2	3.8	3.5
Mean nos. of teeth missing due to other reasons		0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.8	0.6	10.9	9.4	10.2
	n=	799	776	1575	731	731	1462	797	839	1636	794	696	1490
Mean nos. of teeth missing due to caries		0.0	0.0	0.0	0.1	0.0	0.1	0.6	0.7	0.7	2.9	3.1	3.0
Mean nos. of teeth missing due to other reasons		0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.6	0.5	9.5	9.0	9.3

Note: 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 : **6.01 and 6.02.**

The mean dmft in the state in 5 year olds was 1.9 (Table 6.02). The decayed teeth (dt) component contributed to the whole of dmft value in this age group. Since there were no missing teeth in this age group, the mean number of teeth present in the mouth was close to the expected 20. The SIC Index was more than twice the mean dmft value and stood at about 5.7 for the state. This indicates that at least one third of the surveyed population were at a much higher risk of caries (decayed teeth) than what is indicated by the mean dmft figures.

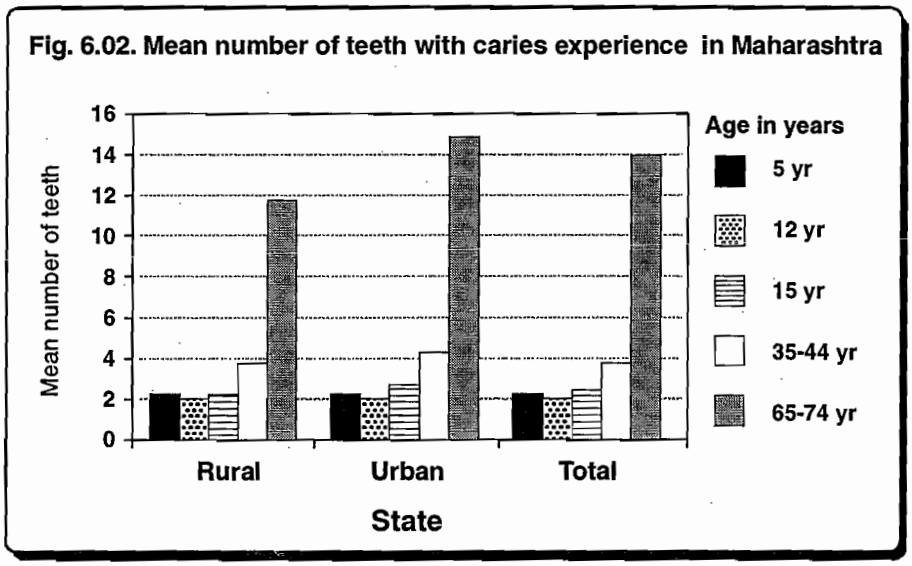
The picture was similar for male and female subjects, and between rural and urban areas. There was a high (4.2) dmft value on region 1.

The caries experience increased as age advanced (Fig 6.1). The prevalence of subjects with caries experience in permanent teeth (DMFT>0) was approximately 58 per cent (12 years); 65 per cent (15 years); 77.6 per cent (35-44 years); and 84.8 per cent (65-74 years).



About 52 per cent of the subjects (12 years) and 56 per cent (15 years) had experienced caries in more than one and up to a quarter (25 per cent) of the teeth normally present at that age. Another 7 per cent each had experienced caries in up to 50 per cent of their teeth at 12 years and 15 years of age. In the 35-44 and 65-74 age groups, there were a much higher percentage of subjects who had experienced caries in 25-50 per cent of their teeth. About 1 per cent of the subjects in the 35-44 age group and 30 per cent in the 65-74 age group had experienced caries in between 50 per cent and about 100 per cent of their teeth (Table 6.01).

The mean DMFT appeared to rise steadily as age advanced (Fig 6.2) and was the highest (13.7) for the 65-74 age group (Table 6.02). The decayed teeth (DT) component contributed most to the DMFT in subjects aged 12, 15 and 35-44 years. In the 65-74 age group and among both male and female subjects, the missing teeth component (MT) was 12.3 and contributed the most to the DMFT. Almost one-third the cases of missing teeth were reported to be due to caries (Table 6.03).



There were no filled teeth in any of the age groups surveyed.

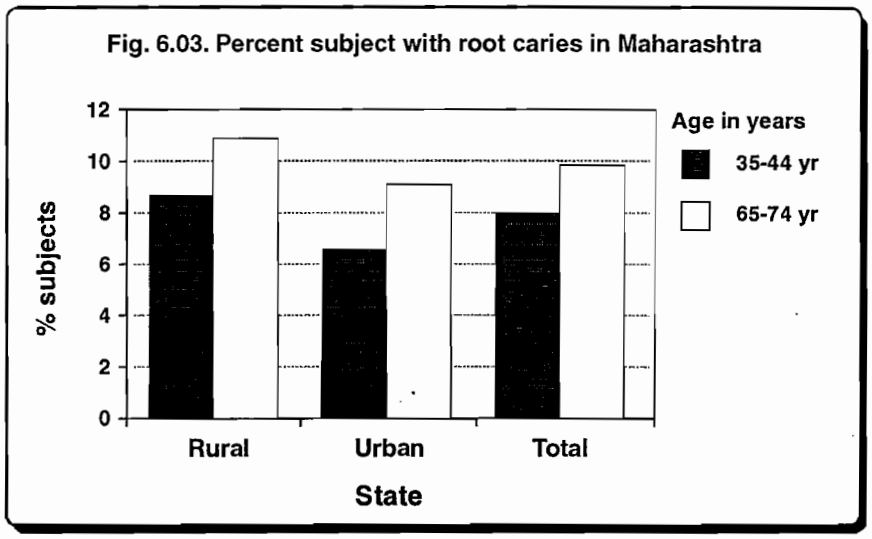
The Significant Caries (SIC) Index, which gives the mean of one-third of the subjects with the highest DMFT levels, was applied to all age groups. The corresponding figures for SIC index were almost twice the DMFT figures in all age groups.

The pattern of distribution of the components of DMFT was similar in rural and urban areas. There were no marked differentials between regions or between male and female subjects.

About 56 per cent of the subjects across both sexes in the 65-74 age group were edentulous or without natural teeth. Overall, the number of teeth present decreased as age advanced (Table 6.02). These findings suggest cumulative high tooth mortality, which could be due to caries and/or due to periodontal disease, orthodontic reasons or other causes.

6.2.2 Root caries

Table 6.04 presents the percentage of subjects with root caries and fillings, if any, and the mean number of teeth with root caries and fillings, if any. (See also Fig. 6.03)



Unlike coronal caries, root caries does not normally appear in children and young adults. Therefore, the data on root caries is presented only for the 35-44 and 65-74 age groups.

The prevalence proportion of subjects with root caries was approximately 8 and 11 per cent in the 35-44 and 65-74 year age groups, respectively. Less than 1 per cent subjects in the state had root fillings.

The mean number of teeth with root fillings was zero among both the age groups. Root caries was thus not a public health problem in the state.

There were no major differentials in rural and urban areas, in between regions while more female subjects reported root caries than males.

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

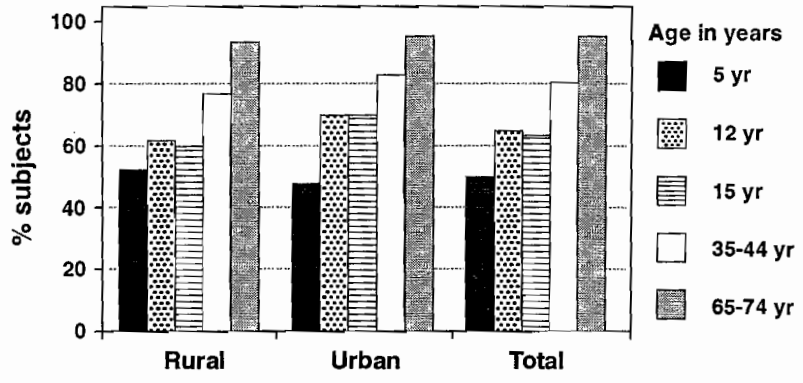
State : Maharashtra

Root Caries		35-44 years			65-74 years		
		M	F	T	M	F	T
Region 1	n=	180	212	*392*	186	147	*333*
% Subjects with Root caries		1.3	1.4	*1.4*	0.6	4.5	*2.6*
Mean nos of teeth with Root Caries		0.0	0.0	*0.0*	0.0	0.3	*0.2*
% Subjects with Root fillings		0.0	0.6	*0.3*	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=	102	106	*208*	107	109	*216*
% Subjects with Root caries		10.1	15.6	*12.9*	13.0	14.4	*13.7*
Mean nos of teeth with Root Caries		0.2	0.4	*0.3*	0.5	0.6	*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 3	n=	162	154	*316*	157	157	*314*
% Subjects with Root caries		9.8	20.0	*14.9*	25.5	31.6	*28.6*
Mean nos of teeth with Root Caries		0.3	0.5	*0.4*	1.2	1.1	*1.2*
% 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 4	n=	145	164	*309*	149	117	*266*
% Subjects with Root caries		9.0	11.2	*10.1*	5.8	7.2	*6.5*
Mean nos of teeth with Root Caries		0.2	0.2	*0.2*	0.2	0.2	*0.2*
% Subjects with Root fillings		0.8	0.0	*0.4*	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 5	n=	210	204	*414*	214	182	*396*
% Subjects with Root caries		5.4	2.9	*4.2*	6.0	3.8	*4.9*
Mean nos of teeth with Root Caries		0.1	0.1	*0.1*	0.2	0.1	*0.2*
% Subjects with Root fillings		0.5	0.0	*0.3*	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=	530	567	*1097*	560	465	*1025*
% Subjects with Root caries		7.3	9.3	*8.3*	10.5	12.9	*11.7*
Mean nos of teeth with Root Caries		0.2	0.2	*0.2*	0.4	0.4	*0.4*
% Subjects with Root fillings		0.4	0.2	*0.3*	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=	269	273	*542*	253	247	*500*
% Subjects with Root caries		4.7	8.0	*6.4*	6.4	11.4	*8.9*
Mean nos of teeth with Root Caries		0.1	0.3	*0.2*	0.3	0.4	*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 Total	n=	799	840	*1639*	813	712	*1525*
% Subjects with Root caries		6.5	8.9	*7.7*	9.4	12.4	*10.9*
Mean nos of teeth with Root Caries		0.1	0.2	*0.2*	0.4	0.4	*0.4*
% Subjects with Root fillings		0.2	0.2	*0.2*	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*

6.2.3 Treatment need

Table 6.05 presents the per cent subjects requiring preventive and treatment care, by type of treatment needed, and Table 6.06 presents the mean number of teeth requiring treatment, by type of treatment. (Fig. 6.04 and 6.05)

Fig 6.04. Percent subjects with treatment need in Maharashtra



The subjects were clinically assessed for their need for both preventive and treatment care, based on their caries experience and dentition status. Preventive care needs included caries arresting care and fissure sealing.

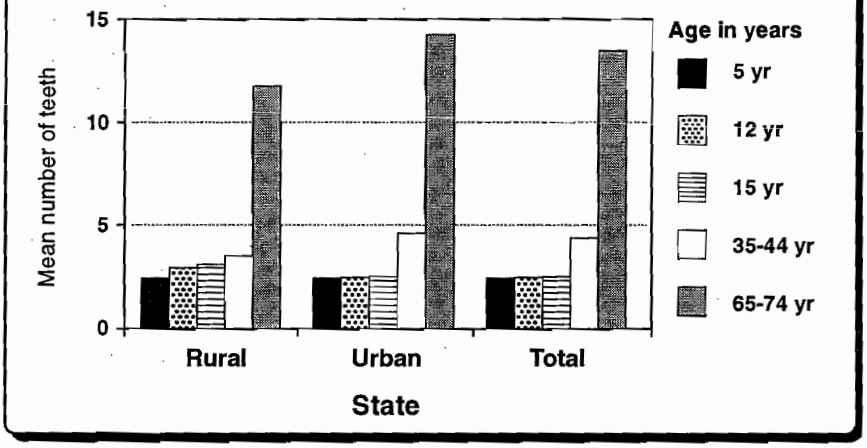
Treatment need included the need for one, two or more surface fillings, extractions of teeth, pulp care, crowns and veneers.

The treatment need in the surveyed population was high (about 68 per cent) in all age groups. About 85 per cent (65-74 years) needed some treatment.

The 5-year-olds had the least treatment need 49.8 per cent. It was 64.2 and 63.2 per cent respectively in 12 and 15 year olds; it was 81 and 86.3 per cent in 35-44 year olds and 65-74 year olds, respectively (Fig 6.04).

Invariably, the need for one surface filling was many times more than that for two or more surface fillings. The need for extractions was inversely related with age, with the youngest age group of 5-year-olds needing the least extractions and those in the 65-74 year age group needing the most. There was no difference between male and female subjects, and between rural and urban areas and between the regions on the pattern of need or by need type.

Fig. 6.05. Mean number of teeth with treatment need in Maharashtra



It was seen that a notable proportion of subjects in the higher age groups (35+) had been recommended other, but unspecified, treatment care.

At the state level, the mean number of teeth needing treatment was highest in the highest age group of 65-74 years (13). The mean number of teeth requiring treatment was the lowest in the subjects aged 5 years (2.0). The pattern was similar for rural and urban areas (Fig 6.4).

Table 6.05. Percent subjects with treatment need by age, sex and geographical area.

State : Maharashtra

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=	169	156	325	178	170	348	128	116	244	180	212	392	189	148	337
Treatment needed		79.4	79.4	79.4	94.6	90.2	92.4	87.5	79.8	83.7	85.3	83.7	84.5	70.0	71.5	70.8
Preventive care & fissure sealant		0.7	0.8	0.8	0.0	1.4	0.7	1.0	0.0	0.5	0.0	0.6	0.3	0.0	0.0	0.0
Filling one or more surfaces		76.3	73.5	74.9	94.6	89.1	91.9	86.0	78.7	82.4	83.1	80.1	81.6	36.6	39.2	37.9
Crown & Veneer		1.4	3.0	2.2	2.0	1.7	1.9	4.0	2.2	3.1	3.9	2.2	3.1	1.2	0.0	0.6
Pulp care		2.1	2.2	2.2	1.3	1.0	1.2	5.0	1.1	3.1	1.3	1.7	1.5	1.2	0.8	1.0
Extraction		3.1	0.0	1.6	1.0	2.1	1.6	1.5	1.1	1.3	10.1	10.4	10.3	26.7	28.2	27.5
Need for other care		0.7	0.4	0.6	0.3	0.3	0.3	0.5	2.8	1.7	4.6	2.2	3.4	31.6	22.5	27.1
Region 2	n=	103	107	210	101	109	210	104	103	207	102	106	208	107	109	216
Treatment needed		44.0	38.9	41.5	62.4	71.3	66.9	67.6	66.7	67.2	80.4	82.9	81.7	86.1	89.0	87.6
Preventive care & fissure sealant		0.0	2.2	1.1	2.3	5.3	3.8	0.0	4.5	2.3	0.0	0.0	0.0	0.0	0.0	0.0
Filling one or more surfaces		37.6	37.3	37.5	53.5	60.8	57.2	64.9	63.6	64.3	63.1	69.9	66.5	30.5	29.5	30.0
Crown & Veneer		0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.6	0.0	1.1	0.6	0.0	2.6	1.3
Pulp care		9.8	5.6	7.7	6.1	6.1	6.1	6.1	5.0	5.6	14.5	10.6	12.6	3.4	2.3	2.9
Extraction		8.1	1.6	4.9	11.6	15.6	13.6	2.7	2.2	2.5	27.9	29.7	28.8	35.6	44.5	40.1
Need for other care		1.1	1.9	1.5	1.2	2.6	1.9	2.7	3.9	3.3	20.2	22.5	21.4	68.4	69.5	69.0
Region 3	n=	159	158	317	157	159	316	159	159	318	162	154	316	157	157	314
Treatment needed		58.9	44.6	51.8	60.9	52.4	56.7	44.5	41.0	42.8	56.1	63.5	59.8	83.6	87.5	85.6
Preventive care & fissure sealant		1.4	0.9	1.2	10.1	9.6	9.9	10.2	10.2	10.2	3.0	3.1	3.1	0.0	0.0	0.0
Filling one or more surfaces		50.5	41.8	46.2	46.4	37.9	42.2	32.5	35.1	33.8	35.1	38.2	36.7	13.1	11.7	12.4
Crown & Veneer		0.0	0.0	0.0	1.2	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.3
Pulp care		10.3	9.1	9.7	9.2	6.5	7.9	3.3	5.2	4.3	13.2	8.8	11.0	4.7	5.0	4.9
Extraction		13.2	8.9	11.1	20.4	13.4	16.9	1.9	6.1	4.0	15.7	23.7	19.7	35.8	38.5	37.2
Need for other care		0.7	0.5	0.6	0.7	0.0	0.4	2.1	0.5	1.3	20.9	28.3	24.6	69.2	74.1	71.7
Region 4	n=	164	123	287	157	141	298	133	154	287	145	164	309	167	122	289
Treatment needed		54.8	59.6	57.2	57.9	56.3	57.1	60.4	60.5	60.5	76.5	76.5	76.5	89.3	83.2	86.3
Preventive care & fissure sealant		0.7	0.9	0.8	0.0	0.6	0.3	0.0	1.4	0.7	0.0	0.0	0.0	0.0	0.0	0.0
Filling one or more surfaces		48.1	51.3	49.7	49.1	52.9	51.0	56.1	57.9	57.0	48.1	45.7	46.9	16.0	14.6	15.3
Crown & Veneer		0.0	0.0	0.0	2.1	0.8	1.5	0.0	0.0	0.0	2.1	1.8	2.0	0.7	2.7	1.7
Pulp care		10.8	10.0	10.4	9.8	4.6	7.2	11.9	8.3	10.1	13.3	12.5	12.9	3.1	6.5	4.8
Extraction		4.7	4.4	4.6	8.3	4.6	6.5	2.3	3.1	2.7	21.6	23.9	22.8	17.4	22.4	19.9
Need for other care		0.5	1.5	1.0	1.2	4.4	2.8	1.7	2.1	1.9	25.9	29.3	27.6	76.2	67.3	71.8
Region 5	n=	208	202	410	215	201	416	211	206	417	210	204	414	220	189	409
Treatment needed		34.2	41.9	38.1	65.4	64.9	65.2	72.1	70.1	71.1	78.1	83.8	81.0	85.4	87.2	86.3
Preventive care & fissure sealant		0.5	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.3	0.0	0.0	0.0
Filling one or more surfaces		32.9	41.0	37.0	61.8	61.6	61.7	69.4	67.2	68.3	64.1	74.4	69.3	22.8	28.4	25.6
Crown & Veneer		0.9	0.5	0.7	0.4	0.0	0.2	0.0	0.0	0.0	1.8	3.2	2.5	1.0	2.6	1.8
Pulp care		4.1	0.9	2.5	3.3	2.3	2.8	4.0	2.8	3.4	4.5	6.8	5.7	3.5	2.1	2.8
Extraction		2.8	0.9	1.9	4.2	5.7	5.0	3.7	6.3	5.0	17.0	16.3	16.7	22.6	23.7	23.2
Need for other care		0.6	0.9	0.8	2.4	3.4	2.9	2.3	2.0	2.2	23.2	23.7	23.5	70.7	70.7	70.7

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
State Rural	n=	542	504	*1046*	532	523	*1055*	468	482	*950*	530	567	*1097*	573	474	*1047*
Treatment needed		53.6	50.9	***52.3***	62.5	58.9	***60.7***	59.6	55.3	***57.5***	71.2	75.5	***73.4***	85.5	83.6	***84.6***
Preventive care & fissure sealant		1.0	0.5	***0.8***	1.7	2.5	***2.1***	1.5	3.1	***2.3***	0.7	0.4	***0.6***	0.0	0.0	***0.0***
Filling one or more surfaces		47.5	46.6	***47.1***	53.7	52.5	***53.1***	53.9	52.1	***53.0***	50.5	54.5	***52.5***	20.6	22.2	***21.4***
Crown & Veneer		0.3	0.1	***0.2***	1.7	0.5	***1.1***	0.4	0.2	***0.3***	1.7	1.8	***1.8***	0.6	2.3	***1.5***
Pulp care		7.5	5.4	***6.5***	6.3	4.4	***5.4***	4.5	4.3	***4.4***	9.6	8.4	***9.0***	3.7	4.4	***4.1***
Extraction		7.2	4.6	***5.9***	9.6	8.2	***8.9***	2.9	3.3	***3.1***	20.0	23.6	***21.8***	30.4	33.1	***31.8***
Need for other care		0.2	0.9	***0.6***	1.0	3.0	***2.0***	2.6	2.0	***2.3***	20.6	21.9	***21.3***	67.1	62.7	***64.9***
State Urban	n=	261	242	*503*	276	257	*533*	267	256	*523*	269	273	*542*	267	251	*518*
Treatment needed		48.0	49.0	***48.5***	67.4	72.3	***69.9***	68.6	72.3	***70.5***	80.0	81.7	***80.9***	84.0	88.3	***86.2***
Preventive care & fissure sealant		0.0	2.0	***1.0***	3.8	5.0	***4.4***	3.7	4.2	***4.0***	0.6	1.4	***1.0***	0.0	0.0	***0.0***
Filling one or more surfaces		43.2	45.5	***44.4***	60.7	64.4	***62.6***	64.6	68.6	***66.6***	63.3	64.7	***64.0***	23.0	21.4	***22.2***
Crown & Veneer		0.2	0.8	***0.5***	0.3	0.1	***0.2***	0.0	0.7	***0.4***	0.7	1.4	***1.1***	0.3	1.3	***0.8***
Pulp care		10.7	8.4	***9.6***	8.4	4.8	***6.6***	10.9	8.1	***9.5***	12.5	11.2	***11.9***	2.6	3.0	***2.8***
Extraction		4.8	1.6	***3.2***	10.0	9.4	***9.7***	1.9	5.8	***3.9***	18.6	18.6	***18.6***	16.1	28.0	***22.1***
Need for other care		1.7	1.7	***1.7***	1.9	1.7	***1.8***	1.1	2.5	***1.8***	22.5	28.9	***25.7***	70.6	73.1	***71.9***
State Total	n=	803	746	*1549*	808	780	*1588*	735	738	*1473*	799	840	*1639*	840	725	*1565*
Treatment needed		50.1	49.4	***49.8***	64.7	63.7	***64.2***	64.2	62.2	***63.2***	75.1	78.7	***76.9***	85.2	85.5	***85.4***
Preventive care & fissure sealant		0.7	0.9	***0.8***	2.0	3.0	***2.5***	1.8	3.1	***2.5***	0.5	0.6	***0.6***	0.0	0.0	***0.0***
Filling one or more surfaces		44.9	46.0	***45.5***	57.5	57.3	***57.4***	59.5	58.9	***59.2***	56.7	60.4	***58.6***	22.3	23.2	***22.8***
Crown & Veneer		0.4	0.3	***0.4***	1.1	0.4	***0.8***	0.3	0.3	***0.3***	1.4	1.9	***1.7***	0.6	2.0	***1.3***
Pulp care		7.9	5.3	***6.6***	6.1	3.7	***4.9***	6.0	4.9	***5.5***	9.3	8.8	***9.1***	3.3	3.5	***3.4***
Extraction		6.2	3.2	***4.7***	8.8	8.2	***8.5***	2.7	4.3	***3.5***	18.9	21.4	***20.2***	25.6	29.9	***27.8***
Need for other care		0.7	1.0	***0.9***	1.5	2.6	***2.1***	2.1	2.1	***2.1***	21.4	23.8	***22.6***	68.1	66.5	***67.3***

The type of treatment need varied with age. The mean number of teeth needing fillings ranged from 1 to 2, except in the 65-74 age group where there was no need for fillings. The mean number of teeth indicated for extraction ranged from 0.1 to 1.5 and was higher in the 35-44 and 65-74 year age groups. A relatively high mean number of teeth (about 10) were indicated for other, but unspecified care, in the 65-74 year age group. The pattern was similar for males and females, for rural and urban areas in the state, and between regions.

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

State : Maharashtra

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=	168	154	*322*	177	169	*346*	127	115	*242*	179	212	*391*	156	127	*283*
Treatment needed		4.2	4.3	*4.3*	2.7	2.8	*2.8*	2.8	2.8	*2.8*	5.0	4.7	*4.9*	6.9	5.6	*6.3*
Preventive care/ fissure sealant		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*
Filling one or more surfaces		4.0	4.0	*4.0*	2.7	2.7	*2.7*	2.6	2.6	*2.6*	4.5	4.2	*4.4*	2.4	2.2	*2.3*
Crown/ Veneer		0.1	0.2	*0.2*	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*	0.1	0.0	*0.1*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
Extraction		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.3	0.3	*0.3*	0.9	1.2	*1.1*
Need for other care		0.1	0.0	*0.1*	0.0	0.0	*0.0*	0.0	0.2	*0.1*	0.1	0.1	*0.1*	3.6	2.2	*2.9*
Region 2	n=	102	107	*209*	101	108	*209*	104	99	*203*	102	106	*208*	99	103	*202*
Treatment needed		2.1	1.2	*1.7*	1.6	1.7	*1.7*	2.0	1.7	*1.9*	3.8	4.2	*4.0*	13.7	12.8	*13.3*
Preventive care/ fissure sealant		0.0	0.0	*0.0*	0.0	0.1	*0.1*	0.0	0.2	*0.1*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
Filling one or more surfaces		1.4	1.0	*1.2*	1.3	1.3	*1.3*	1.7	1.4	*1.6*	2.6	2.9	*2.8*	1.4	1.3	*1.4*
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		0.4	0.1	*0.3*	0.1	0.1	*0.1*	0.0	0.1	*0.1*	0.2	0.1	*0.2*	0.2	0.0	*0.1*
Extraction		0.2	0.0	*0.1*	0.2	0.2	*0.2*	0.0	0.0	*0.0*	0.5	0.6	*0.6*	2.4	2.7	*2.6*
Need for other care		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.2	0.0	*0.1*	0.6	0.6	*0.6*	9.7	8.7	*9.2*
Region 3	n=	159	157	*316*	156	159	*315*	157	159	*316*	161	154	*315*	153	154	*307*
Treatment needed		2.3	1.9	*2.1*	1.4	0.8	*1.1*	0.7	0.7	*0.7*	2.1	3.0	*2.6*	10.7	11.4	*11.1*
Preventive care/ fissure sealant		0.0	0.0	*0.0*	0.1	0.1	*0.1*	0.1	0.1	*0.1*	0.1	0.1	*0.1*	0.0	0.0	*0.0*
Filling one or more surfaces		1.8	1.5	*1.7*	0.9	0.5	*0.7*	0.6	0.5	*0.6*	1.1	1.2	*1.2*	0.3	0.2	*0.3*
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	0.2	*0.2*	0.1	0.1	*0.1*	0.0	0.0	*0.0*	0.2	0.1	*0.2*	0.1	0.1	*0.1*
Extraction		0.3	0.2	*0.3*	0.3	0.2	*0.3*	0.0	0.0	*0.0*	0.3	0.6	*0.5*	1.2	1.2	*1.2*
Need for other care		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.4	1.0	*0.7*	9.1	9.9	*9.5*
Region 4	n=	161	121	*282*	155	141	*296*	133	153	*286*	144	164	*308*	165	122	*287*
Treatment needed		2.1	2.0	*2.1*	1.4	1.3	*1.4*	1.5	1.4	*1.5*	2.9	3.0	*3.0*	15.5	13.0	*14.3*
Preventive care/ fissure sealant		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*
Filling one or more surfaces		1.6	1.7	*1.7*	1.0	1.1	*1.1*	1.2	1.1	*1.2*	1.3	1.2	*1.3*	0.4	0.4	*0.4*
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	0.0	*0.0*
Pulp care		0.3	0.2	*0.3*	0.2	0.0	*0.1*	0.2	0.2	*0.2*	0.3	0.2	*0.3*	0.1	0.1	*0.1*
Extraction		0.1	0.1	*0.1*	0.1	0.1	*0.1*	0.0	0.0	*0.0*	0.5	0.6	*0.6*	0.7	1.0	*0.9*
Need for other care		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.8	0.9	*0.9*	14.3	11.4	*12.9*
Region 5	n=	204	201	*405*	215	201	*416*	210	205	*415*	209	201	*410*	212	182	*394*
Treatment needed		1.3	1.4	*1.4*	1.2	1.3	*1.3*	1.8	1.7	*1.8*	4.3	5.3	*4.8*	13.9	15.4	*14.7*
Preventive care/ fissure sealant		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*
Filling one or more surfaces		1.0	1.3	*1.2*	1.1	1.2	*1.2*	1.7	1.6	*1.7*	3.0	3.3	*3.2*	0.9	1.0	*1.0*
Crown/ Veneer		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	0.1	*0.1*
Pulp care		0.1	0.0	*0.1*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.1	0.1	*0.1*	0.2	0.0	*0.1*
Extraction		0.1	0.0	*0.1*	0.1	0.1	*0.1*	0.0	0.1	*0.1*	0.5	0.6	*0.6*	1.5	1.8	*1.7*
Need for other care		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.7	1.3	*1.0*	11.3	12.4	*11.9*

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
State Rural	n=	535	502	*1037*	530	521	*1051*	465	476	*941*	526	565	*1091*	545	459	*1004*
Treatment needed		2.1	2.0	***2.1***	2.1	1.9	***2.0***	1.9	1.9	***1.9***	3.1	3.5	***3.3***	12.4	11.6	***12.0***
Preventive care/ fissure sealant		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.1	***0.1***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
Filling one or more surfaces		1.7	1.7	***1.7***	1.7	1.6	***1.7***	1.7	1.6	***1.7***	1.9	2.0	***2.0***	0.8	0.8	***0.8***
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	0.1	***0.2***	0.1	0.1	***0.1***	0.1	0.1	***0.1***	0.2	0.1	***0.2***	0.2	0.1	***0.2***
Extraction		0.2	0.1	***0.2***	0.2	0.2	***0.2***	0.1	0.1	***0.1***	0.4	0.6	***0.5***	1.4	1.6	***1.5***
Need for other care		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.5	0.8	***0.7***	10.1	9.1	***9.6***
State Urban	n=	259	238	*497*	274	257	*531*	266	255	*521*	269	272	*541*	240	229	*469*
Treatment needed		2.3	1.7	***2.0***	2.4	2.5	***2.5***	2.9	2.6	***2.8***	4.0	4.6	***4.3***	14.8	14.2	***14.5***
Preventive care/ fissure sealant		0.0	0.0	***0.0***	0.1	0.1	***0.1***	0.1	0.2	***0.2***	0.0	0.1	***0.1***	0.0	0.0	***0.0***
Filling one or more surfaces		1.8	1.4	***1.6***	2.0	2.1	***2.1***	2.5	2.2	***2.4***	2.6	2.7	***2.7***	1.0	0.9	***1.0***
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		0.3	0.1	***0.2***	0.2	0.1	***0.2***	0.2	0.1	***0.2***	0.2	0.1	***0.2***	0.0	0.0	***0.0***
Extraction		0.2	0.1	***0.2***	0.2	0.2	***0.2***	0.0	0.1	***0.1***	0.4	0.6	***0.5***	1.0	1.4	***1.2***
Need for other care		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.1	0.0	***0.1***	0.7	1.0	***0.9***	12.7	11.7	***12.2***
State Total	n=	794	740	*1534*	804	778	*1582*	731	731	*1462*	795	837	*1632*	785	688	*1473*
Treatment needed		2.1	1.9	***2.0***	2.2	2.2	***2.2***	2.3	2.2	***2.3***	3.5	4.1	***3.8***	13.1	12.8	***13.0***
Preventive care/ fissure sealant		0.0	0.0	***0.0***	0.0	0.1	***0.1***	0.0	0.1	***0.1***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
Filling one or more surfaces		1.6	1.6	***1.6***	1.8	1.8	***1.8***	2.1	1.9	***2.0***	2.3	2.4	***2.4***	0.9	0.9	***0.9***
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	0.1	***0.2***	0.1	0.1	***0.1***	0.1	0.1	***0.1***	0.1	0.1	***0.1***	0.1	0.0	***0.1***
Extraction		0.2	0.1	***0.2***	0.2	0.2	***0.2***	0.0	0.1	***0.1***	0.4	0.6	***0.5***	1.3	1.6	***1.5***
Need for other care		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.1	0.0	***0.1***	0.6	0.9	***0.8***	10.8	10.3	***10.6***

6.3 PERIODONTAL STATUS

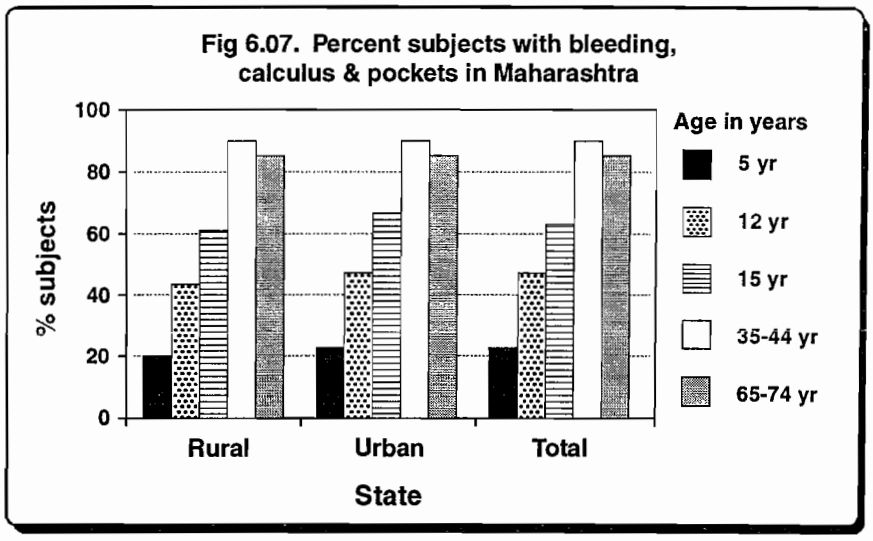
6.3.1 Bleeding, calculus and pockets

The periodontal status was assessed using the Community Periodontal Index (CPI) with its three indicators of gingival bleeding, calculus and periodontal pockets.

Table 6.07 presents the per cent subjects with their periodontal status (bleeding, calculus and pockets) by individual scores and by level of severity. Table 6.08 presents the mean number of teeth with bleeding, calculus and pockets.

The prevalence of periodontal disease was high in the state. It ranged from a peak level of about 91 per cent in subjects aged 35-44 years to about 43 per cent in subjects aged 12 years. Periodontal disease (bleeding and calculus) was recorded among 17 per cent subjects aged 5 years.

The severity of periodontal disease is measured by the components of bleeding, calculus and pockets (4-5 mm and 6 mm). Bleeding emerged as the dominant component in all age groups, followed by calculus, except in the 35-44 and 65-74 year age groups, where calculus was more dominant.



The prevalence of pockets (4-5 mm and 6 mm) was 13.7 per cent in 35-44 and 22.8 per cent in the 65-74 age group. Bleeding was a more prevalent condition in the lower age groups, while the problem of accumulated calculus increased as age advanced.

For assessment of the periodontal status, dentition is divided into six sextants, three upper and three lower.

The mean number of sextants with periodontal disease (i.e., those sextants in the mouth with bleeding, calculus or pockets) increased as age advanced from 15 years (2.5) to 35-44 years (4.9). It was 3.4 in subjects aged 65-74 years. Fig. 6.08 depicts the rural, urban and the state's total distribution of the mean number of sextants with the disease by age.

The prevalence of periodontal disease appeared to be higher in the rural areas compared with the urban areas. There were no marked differentials between male and female subjects, and between Regions.

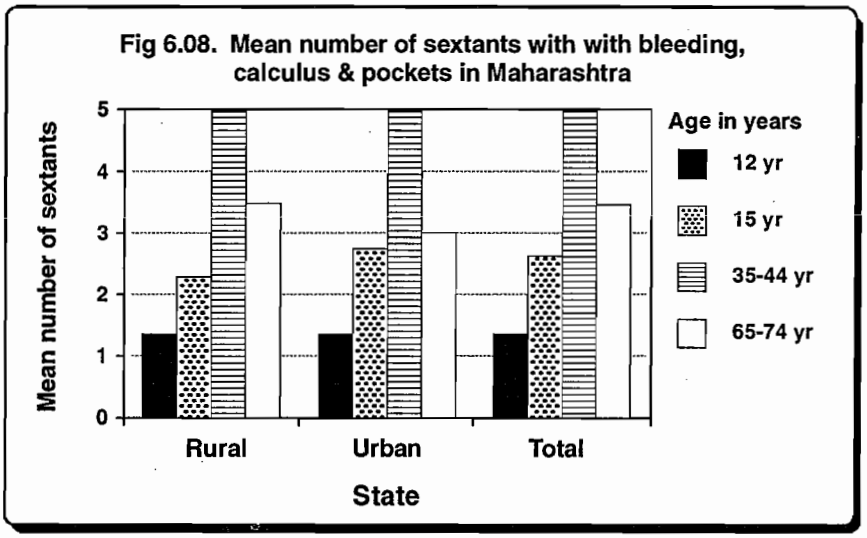


Table: 6.07 Percent subjects with bleeding, calculus and/ or pockets by age, sex, and geographical area.

State : Maharashtra

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=	158	144	302	165	155	320	126	115	241	179	211	390	165	135	300
With bleeding,calculus, or pockets		26.8	26.8	**26.8**	28.3	31.4	**29.9**	44.2	42.4	**43.3**	69.1	76.6	**72.9**	63.0	65.9	**64.5**
with bleeding		11.0	6.3	**8.7**	14.7	17.2	**16.0**	24.9	22.0	**23.5**	20.3	20.8	**20.6**	5.2	7.9	**6.6**
with calculus		8.4	7.1	**7.8**	3.6	4.5	**4.1**	6.6	2.3	**4.5**	12.0	21.6	**16.8**	20.0	23.9	**22.0**
with pockets 4-5 mm		0.0	0.0	**0.0**	0.0	0.0	**0.0**	0.0	0.0	**0.0**	0.3	0.0	**0.2**	2.1	0.9	**1.5**
with pockets 6 mm		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**
with bleeding or higher		18.4	19.7	**19.1**	24.7	26.9	**25.8**	37.6	40.1	**38.9**	52.2	49.6	**50.9**	39.8	33.7	**36.8**
with calculus or higher		8.4	7.1	**7.8**	3.6	4.5	**4.1**	6.6	2.3	**4.5**	16.6	26.7	**21.7**	21.0	29.6	**25.3**
with pockets 4-5 mm or higher		0.0	0.0	**0.0**	0.0	0.0	**0.0**	0.0	0.0	**0.0**	0.3	0.3	**0.3**	2.1	2.6	**2.4**
with pockets 6mm		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	103	200	99	107	206	104	96	200	102	105	207	99	102	201
With bleeding,calculus, or pockets		35.2	17.1	**26.2**	64.1	54.0	**59.1**	80.5	72.3	**76.4**	96.1	97.8	**97.0**	77.0	84.7	**80.9**
with bleeding		26.3	12.9	**19.6**	20.0	29.9	**25.0**	29.9	30.5	**30.2**	3.6	9.5	**6.6**	3.7	3.6	**3.7**
with calculus		2.1	0.8	**1.5**	12.0	11.9	**12.0**	18.5	21.5	**20.0**	51.0	50.7	**50.9**	41.7	57.9	**49.8**
with pockets 4-5 mm		0.0	0.0	**0.0**	0.0	0.0	**0.0**	0.0	0.0	**0.0**	0.0	0.0	**0.0**	3.2	0.0	**1.6**
with pockets 6 mm		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	1.1	**0.6**
with bleeding or higher		33.2	16.3	**24.8**	52.1	42.1	**47.1**	62.0	50.8	**56.4**	40.9	40.9	**40.9**	19.8	19.0	**19.4**
with calculus or higher		2.1	0.8	**1.5**	12.0	11.9	**12.0**	18.5	21.5	**20.0**	55.2	56.9	**56.1**	53.9	64.6	**59.3**
with pockets 4-5 mm or higher		0.0	0.0	**0.0**	0.0	0.0	**0.0**	0.0	0.0	**0.0**	0.0	0.0	**0.0**	3.2	0.0	**1.6**
with pockets 6mm		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	1.1	**0.6**
Region 3	n=	157	152	309	150	150	300	158	159	317	162	154	316	147	146	293
With bleeding,calculus, or pockets		5.2	4.5	**4.9**	32.7	29.2	**31.0**	52.6	52.8	**52.7**	90.7	93.3	**92.0**	84.6	81.3	**83.0**
with bleeding		1.4	3.2	**2.3**	13.7	20.0	**16.9**	18.5	26.5	**22.5**	10.4	10.2	**10.3**	2.0	0.0	**1.0**
with calculus		3.8	1.2	**2.5**	12.9	7.2	**10.1**	19.6	17.0	**18.3**	43.6	39.8	**41.7**	33.8	41.0	**37.4**
with pockets 4-5 mm		0.0	0.0	**0.0**	0.0	0.0	**0.0**	0.0	0.0	**0.0**	2.3	3.2	**2.8**	11.9	9.5	**10.7**
with pockets 6 mm		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**
with bleeding or higher		1.4	3.2	**2.3**	19.7	22.0	**20.9**	32.6	35.7	**34.2**	32.7	27.1	**29.9**	8.2	3.6	**5.9**
with calculus or higher		3.8	1.2	**2.5**	12.9	7.2	**10.1**	20.0	17.0	**18.5**	55.7	62.3	**59.0**	62.5	67.4	**65.0**
with pockets 4-5 mm or higher		0.0	0.0	**0.0**	0.0	0.0	**0.0**	0.0	0.0	**0.0**	2.3	3.9	**3.1**	13.2	10.3	**11.8**
with pockets 6mm		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 4	n=	11	9	20	63	65	128	133	153	286	144	163	307	117	95	212
With bleeding,calculus, or pockets		0.0	0.0	**0.0**	43.4	40.7	**42.1**	59.1	48.4	**53.8**	93.5	87.7	**90.6**	81.2	85.5	**83.4**
with bleeding		0.0	0.0	**0.0**	11.7	17.5	**14.6**	15.0	6.0	**10.5**	4.8	4.8	**4.8**	2.5	1.7	**2.1**
with calculus		0.0	0.0	**0.0**	30.0	20.0	**25.0**	35.8	31.0	**33.4**	64.5	55.2	**59.9**	42.1	51.4	**46.8**
with pockets 4-5 mm		0.0	0.0	**0.0**	0.0	0.0	**0.0**	0.0	0.0	**0.0**	2.3	5.2	**3.8**	7.4	13.2	**10.3**
with pockets 6 mm		0.0	0.0	**0.0**	0.0	0.0	**0.0**	0.0	0.0	**0.0**	0.0	0.0	**0.0**	3.6	2.3	**3.0**
with bleeding or higher		0.0	0.0	**0.0**	13.4	20.7	**17.1**	23.3	17.4	**20.4**	16.6	18.3	**17.5**	13.2	7.4	**10.3**
with calculus or higher		0.0	0.0	**0.0**	30.0	20.0	**25.0**	35.8	31.0	**33.4**	73.8	63.6	**68.7**	56.1	59.6	**57.9**
with pockets 4-5 mm or higher		0.0	0.0	**0.0**	0.0	0.0	**0.0**	0.0	0.0	**0.0**	3.1	5.8	**4.5**	8.4	16.3	**12.4**
with pockets 6mm		0.0	0.0	**0.0**	0.0	0.0	**0.0**	0.0	0.0	**0.0**	0.0	0.0	**0.0**	3.6	2.3	**3.0**
Region 5	n=	53	59	112	88	86	174	210	205	415	209	201	410	198	162	360
With bleeding,calculus, or pockets		18.7	22.0	**20.4**	58.3	43.0	**50.7**	66.5	65.7	**66.1**	90.4	95.4	**92.9**	83.4	79.5	**81.5**
with bleeding		15.0	18.6	**16.8**	22.5	20.4	**21.5**	26.1	26.9	**26.5**	18.8	20.3	**19.6**	9.7	7.5	**8.6**
with calculus		3.7	3.4	**3.6**	11.4	7.0	**9.2**	19.8	19.2	**19.5**	33.4	36.5	**35.0**	31.1	32.0	**31.6**
with pockets 4-5 mm		0.0	0.0	**0.0**	0.0	0.0	**0.0**	0.4	0.5	**0.5**	2.3	3.4	**2.9**	5.4	6.6	**6.0**
with pockets 6 mm		0.0	0.0	**0.0**	0.0	0.0	**0.0**	0.0	0.0	**0.0**	3.2	1.9	**2.6**	3.6	7.3	**5.5**
with bleeding or higher		15.0	18.6	**16.8**	46.9	36.1	**41.5**	45.2	45.6	**45.4**	43.5	44.7	**44.1**	27.7	19.0	**23.4**
with calculus or higher		3.7	3.4	**3.6**	11.4	7.0	**9.2**	20.3	19.7	**20.0**	40.6	43.0	**41.8**	43.3	44.1	**43.7**
with pockets 4-5 mm or higher		0.0	0.0	**0.0**	0.0	0.0	**0.0**	1.0	0.5	**0.8**	3.2	5.9	**4.6**	8.8	9.1	**9.0**
with pockets 6mm		0.0	0.0	**0.0**	0.0	0.0	**0.0**	0.0	0.0	**0.0**	3.2	1.9	**2.6**	3.6	7.3	**5.5**

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
State Rural	n=	332	325	*657*	383	395	*778*	466	476	*942*	527	563	*1090*	522	435	*957*
With bleeding,calculus, or pockets		17.3	14.8	*16.1*	43.4	40.7	*42.1*	60.4	55.3	*57.9*	90.5	90.4	*90.5*	79.9	81.9	*80.9*
with bleeding		13.0	11.9	*12.5*	30.7	29.0	*29.9*	38.1	33.1	*35.6*	33.6	31.2	*32.4*	19.1	12.6	*15.9*
with calculus		6.4	5.8	*6.1*	25.9	19.2	*22.6*	38.2	37.5	*37.9*	74.7	73.5	*74.1*	64.1	67.6	*65.9*
with pockets 4-5 mm		0.0	0.0	*0.0*	0.2	0.0	*0.1*	1.2	0.6	*0.9*	14.2	17.6	*15.9*	24.3	22.6	*23.5*
with pockets 6 mm		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	5.2	4.3	*4.8*	8.0	7.2	*7.6*
with bleeding or higher		13.0	11.9	*12.5*	30.7	29.0	*29.9*	38.1	33.1	*35.6*	33.6	31.2	*32.4*	19.1	12.6	*15.9*
with calculus or higher		4.3	2.9	*3.6*	12.7	11.8	*12.3*	22.2	22.1	*22.2*	53.1	54.0	*53.6*	50.0	58.2	*54.1*
with pockets 4-5 mm or higher		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.1	0.1	*0.1*	2.8	4.7	*3.8*	8.5	8.6	*8.6*
with pockets 6mm		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.9	0.5	*0.7*	2.4	2.5	*2.5*
State Urban	n=	144	142	*286*	182	168	*350*	265	252	*517*	269	271	*540*	204	205	*409*
With bleeding,calculus, or pockets		24.1	11.7	*17.9*	50.7	39.4	*45.1*	66.7	60.1	*63.4*	90.5	91.8	*91.2*	79.3	80.4	*79.9*
with bleeding		21.5	11.1	*16.3*	31.4	30.7	*31.1*	39.7	36.9	*38.3*	32.6	34.3	*33.5*	19.0	16.1	*17.6*
with calculus		8.9	4.2	*6.6*	37.0	16.7	*26.9*	44.5	35.5	*40.0*	78.1	74.1	*76.1*	65.9	63.9	*64.9*
with pockets 4-5 mm		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.6	0.4	*0.5*	9.3	10.9	*10.1*	23.4	21.4	*22.4*
with pockets 6 mm		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.3	0.0	*0.2*	3.8	2.5	*3.2*	5.9	6.0	*6.0*
with bleeding or higher		21.5	11.1	*16.3*	31.4	30.7	*31.1*	39.7	36.9	*38.3*	32.6	34.3	*33.5*	19.0	16.1	*17.6*
with calculus or higher		2.6	0.5	*1.6*	19.2	8.8	*14.0*	26.6	23.2	*24.9*	57.3	55.6	*56.5*	53.3	54.2	*53.8*
with pockets 4-5 mm or higher		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.3	0.0	*0.2*	0.7	1.9	*1.3*	6.0	8.4	*7.2*
with pockets 6mm		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.9	1.7	*1.3*
State Total	n=	476	467	*943*	565	563	*1128*	731	728	*1459*	796	834	*1630*	726	640	*1366*
With bleeding,calculus, or pockets		19.7	14.5	*17.1*	46.6	40.1	*43.4*	63.0	58.0	*60.5*	90.1	91.2	*90.7*	80.2	80.5	*80.4*
with bleeding		15.8	12.2	*14.0*	32.1	29.5	*30.8*	39.8	36.2	*38.0*	35.5	34.3	*34.9*	20.9	14.7	*17.8*
with calculus		7.4	5.7	*6.6*	29.7	18.8	*24.3*	39.6	36.7	*38.2*	73.2	71.9	*72.6*	63.7	64.2	*64.0*
with pockets 4-5 mm		0.0	0.0	*0.0*	0.2	0.0	*0.1*	1.2	0.7	*1.0*	12.2	15.2	*13.7*	24.0	21.5	*22.8*
with pockets 6 mm		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.2	0.0	*0.1*	5.8	4.8	*5.3*	8.6	8.5	*8.6*
with bleeding or higher		15.8	12.2	*14.0*	32.1	29.5	*30.8*	39.8	36.2	*38.0*	35.5	34.3	*34.9*	20.9	14.7	*17.8*
with calculus or higher		3.9	2.3	*3.1*	14.5	10.5	*12.5*	22.8	21.7	*22.3*	51.4	52.2	*51.8*	49.2	54.4	*51.8*
with pockets 4-5 mm or higher		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.3	0.1	*0.2*	2.2	4.1	*3.2*	7.9	8.5	*8.2*
with pockets 6mm		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	1.0	0.5	*0.8*	2.2	3.0	*2.6*

Note : Related Table is 6.08

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

State : Maharashtra

Missing Teeth		5 years			15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T	M	F	T
Region 1	n=	178	170	*348*	128	116	*244*	180	212	*392*	189	148	*337*
Mean no. of healthy sextants		4.8	4.5	*4.7*	4.2	4.2	*4.2*	2.6	1.9	*2.3*	2.3	2.3	*2.3*
With bleeding, calculus, pockets		0.9	1.1	*1.0*	1.7	1.7	*1.7*	3.4	4.0	*3.7*	2.8	3.1	*3.0*
with bleeding		0.5	0.6	*0.6*	1.1	1.2	*1.2*	1.8	1.9	*1.9*	1.0	0.9	*1.0*
with calculus		0.4	0.5	*0.5*	0.7	0.5	*0.6*	1.5	2.0	*1.8*	1.7	2.0	*1.9*
with pockets(4-5 mm)		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.1	0.1	*0.1*	0.2	0.2	*0.2*
with pockets (6mm or more)		0.0	0.0	*0.0*	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*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.1	0.0	*0.1*
Not recorded		0.3	0.4	*0.4*	0.1	0.1	*0.1*	0.0	0.0	*0.0*	0.8	0.5	*0.7*
Region 2	n=	101	109	*210*	104	103	*207*	102	106	*208*	107	109	*216*
Mean no. of healthy sextants		3.2	4.1	*3.7*	2.8	2.8	*2.8*	0.7	0.7	*0.7*	0.3	0.3	*0.3*
With bleeding, calculus, pockets		2.7	1.8	*2.3*	3.2	2.7	*3.0*	5.2	5.2	*5.2*	3.1	3.1	*3.1*
with bleeding		1.5	1.1	*1.3*	1.7	1.3	*1.5*	0.8	1.0	*0.9*	0.4	0.3	*0.4*
with calculus		1.2	0.6	*0.9*	1.5	1.4	*1.5*	4.2	4.0	*4.1*	2.3	2.6	*2.5*
with pockets(4-5 mm)		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.1	0.2	*0.2*	0.3	0.2	*0.3*
with pockets (6mm or more)		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.1	0.0	*0.1*	0.1	0.1	*0.1*
excluded sextants		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.1	*0.1*	2.1	2.2	*2.2*
Not recorded		0.1	0.1	*0.1*	0.0	0.4	*0.2*	0.1	0.1	*0.1*	0.5	0.4	*0.5*
Region 3	n=	157	159	*316*	159	159	*318*	162	154	*316*	157	157	*314*
Mean no. of healthy sextants		4.6	5.0	*4.8*	3.9	4.3	*4.1*	1.2	0.9	*1.1*	0.3	0.2	*0.3*
With bleeding, calculus, pockets		1.2	0.7	*1.0*	2.1	1.7	*1.9*	4.7	5.0	*4.9*	3.6	3.7	*3.7*
with bleeding		0.5	0.5	*0.5*	0.8	0.7	*0.8*	0.9	0.8	*0.9*	0.2	0.1	*0.2*
with calculus		0.7	0.2	*0.5*	1.3	1.0	*1.2*	3.3	3.4	*3.4*	2.4	2.6	*2.5*
with pockets(4-5 mm)		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.4	0.8	*0.6*	1.0	1.0	*1.0*
with pockets (6mm or more)		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.1	0.1	*0.1*
excluded sextants		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.1	*0.1*	1.7	1.7	*1.7*
Not recorded		0.3	0.3	*0.3*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.4	0.4	*0.4*
Region 4	n=	157	141	*298*	133	154	*287*	145	164	*309*	167	122	*289*
Mean no. of healthy sextants		1.5	1.9	*1.7*	3.6	3.7	*3.7*	0.7	1.2	*1.0*	0.8	0.7	*0.8*
With bleeding, calculus, pockets		0.9	0.9	*0.9*	2.4	2.3	*2.4*	5.2	4.8	*5.0*	3.0	3.4	*3.2*
with bleeding		0.2	0.4	*0.3*	0.8	0.5	*0.7*	0.5	0.6	*0.6*	0.3	0.2	*0.3*
with calculus		0.7	0.5	*0.6*	1.6	1.8	*1.7*	4.3	3.5	*3.9*	2.0	2.4	*2.2*
with pockets(4-5 mm)		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.4	0.6	*0.5*	0.5	0.8	*0.7*
with pockets (6mm or more)		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.1	0.1	*0.1*
excluded sextants		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.2	0.1	*0.2*
Not recorded		3.6	3.1	*3.4*	0.0	0.0	*0.0*	0.1	0.1	*0.1*	2.1	1.7	*1.9*
Region 5	n=	215	201	*416*	211	206	*417*	210	204	*414*	220	189	*409*
Mean no. of healthy sextants		1.5	1.8	*1.7*	3.1	3.1	*3.1*	1.1	0.8	*1.0*	0.6	0.7	*0.7*
With bleeding, calculus, pockets		0.8	0.7	*0.8*	2.9	2.9	*2.9*	4.8	5.1	*5.0*	3.5	3.4	*3.5*
with bleeding		0.5	0.4	*0.5*	1.3	1.4	*1.4*	1.5	1.5	*1.5*	0.7	0.5	*0.6*
with calculus		0.4	0.2	*0.3*	1.5	1.4	*1.5*	2.6	2.8	*2.7*	1.8	1.9	*1.9*
with pockets(4-5 mm)		0.0	0.0	*0.0*	0.1	0.0	*0.1*	0.3	0.4	*0.4*	0.5	0.5	*0.5*
with pockets (6mm or more)		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.5	0.4	*0.5*	0.5	0.5	*0.5*
excluded sextants		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	1.0	0.9	*1.0*
Not recorded		3.6	3.5	*3.6*	0.0	0.0	*0.0*	0.0	0.1	*0.1*	0.9	1.0	*1.0*

Missing Teeth		5 years			15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T	M	F	T
State Rural	n=	**532**	**523**	***1055***	**468**	**482**	***950***	**530**	**567**	***1097***	**573**	**474**	***1047***
Mean no. of healthy sextants		2.8	3.3	***3.1***	3.5	3.6	***3.6***	1.1	1.0	***1.1***	0.8	0.8	***0.8***
With bleeding, calculus, pockets		1.2	1.1	***1.2***	2.5	2.3	***2.4***	4.9	4.9	***4.9***	3.4	3.6	***3.5***
with bleeding		0.6	0.6	***0.6***	1.1	0.9	***1.0***	1.0	1.0	***1.0***	0.5	0.3	***0.4***
with calculus		0.7	0.5	***0.6***	1.4	1.4	***1.4***	3.4	3.2	***3.3***	2.1	2.5	***2.3***
with pockets(4-5 mm)		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.4	0.5	***0.5***	0.6	0.6	***0.6***
with pockets (6mm or more)		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.1	0.1	***0.1***	0.2	0.2	***0.2***
excluded sextants		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.9	0.9	***0.9***
Not recorded		2.0	1.6	***1.8***	0.0	0.1	***0.1***	0.1	0.1	***0.1***	0.9	0.8	***0.9***
State Urban	n=	**276**	**257**	***533***	**267**	**256**	***523***	**269**	**273**	***542***	**267**	**251**	***518***
Mean no. of healthy sextants		2.5	3.0	***2.8***	3.2	3.4	***3.3***	1.1	1.0	***1.1***	0.5	0.3	***0.4***
With bleeding, calculus, pockets		1.3	0.9	***1.1***	2.7	2.4	***2.6***	4.8	4.9	***4.9***	2.8	3.0	***2.9***
with bleeding		0.5	0.6	***0.6***	1.1	0.9	***1.0***	0.9	1.1	***1.0***	0.4	0.4	***0.4***
with calculus		0.7	0.3	***0.5***	1.6	1.5	***1.6***	3.6	3.4	***3.5***	1.9	2.0	***2.0***
with pockets(4-5 mm)		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.2	0.3	***0.3***	0.4	0.5	***0.5***
with pockets (6mm or more)		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.1	0.1	***0.1***	0.1	0.1	***0.1***
excluded sextants		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.1	***0.1***	1.1	1.5	***1.3***
Not recorded		2.2	2.1	***2.2***	0.0	0.2	***0.1***	0.0	0.1	***0.1***	1.6	1.2	***1.4***
State Total	n=	**808**	**780**	***1588***	**735**	**738**	***1473***	**799**	**840**	***1639***	**840**	**725**	***1565***
Mean no. of healthy sextants		2.6	3.1	***2.9***	3.4	3.5	***3.5***	1.1	1.0	***1.1***	0.7	0.7	***0.7***
With bleeding, calculus, pockets		1.2	1.0	***1.1***	2.6	2.4	***2.5***	4.8	4.9	***4.9***	3.3	3.4	***3.4***
with bleeding		0.5	0.6	***0.6***	1.1	1.0	***1.1***	1.1	1.1	***1.1***	0.5	0.3	***0.4***
with calculus		0.6	0.4	***0.5***	1.4	1.4	***1.4***	3.3	3.2	***3.3***	2.0	2.3	***2.2***
with pockets(4-5 mm)		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.3	0.5	***0.4***	0.6	0.6	***0.6***
with pockets (6mm or more)		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.2	0.1	***0.2***	0.2	0.2	***0.2***
excluded sextants		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.9	1.0	***1.0***
Not recorded		2.3	2.0	***2.2***	0.0	0.1	***0.1***	0.1	0.1	***0.1***	1.1	0.9	***1.0***

Note: Related Table is 6.07

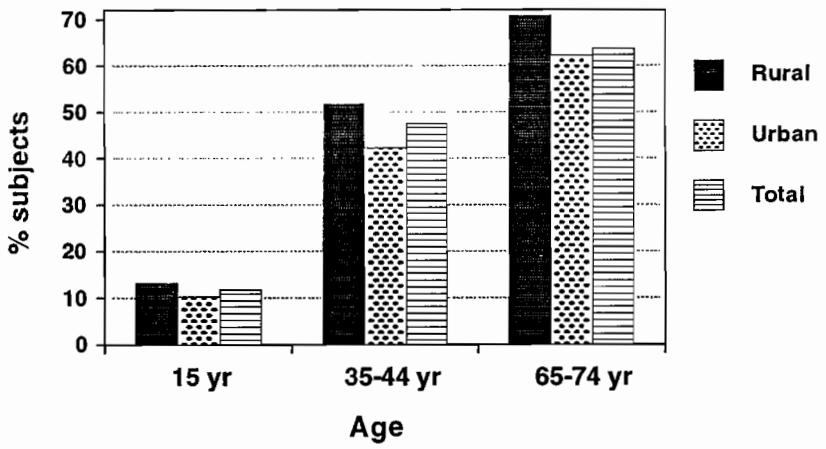
6.3.2 Loss of attachment

Tables 6.09 presents the per cent subjects with loss of epithelial attachment by severity, and Table 6.10 presents the mean number of teeth with loss of attachment by severity.

The destructive and degenerative nature of the periodontal disease was assessed, in addition to the CPI scores, with the measurement of loss of attachment in subjects aged 15, 35-44, and 65-74 years. The CPI Probe was used to measure pocket depth.

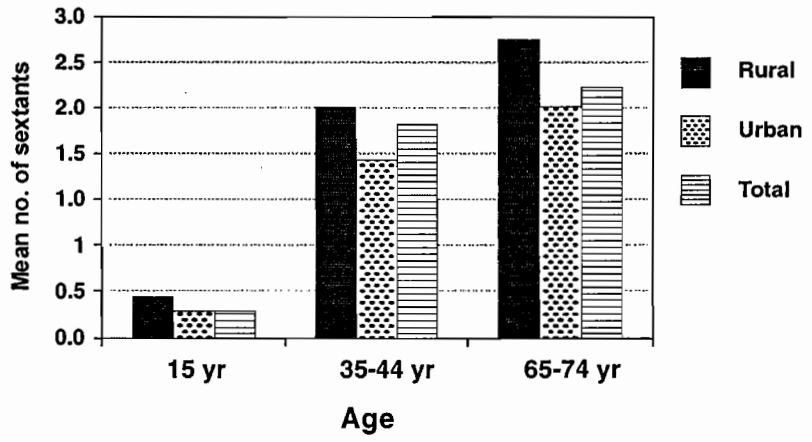
The mouth is divided into sextants for recording and measuring loss of attachment. Overall, the prevalence proportion of subjects with loss of attachment in one or more sextants was quite high in subjects aged 35-44 years (45.1 per cent); it was 63.5 per cent in the 65-74 year age group in the state (Fig. 6.09). It was equally distributed by sex in the 35-44 and 65-74 year age groups. The least severe form of loss of attachment (4-5 mm) was the most prevalent followed by the more severe form of 6-8 mm (Table 6.09).

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



The mean number of sextants with loss of attachment in subjects aged 35-44 years was only 1.7 while it was 2.2 in subjects aged 65-74 years (Table 6.10).

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



The proportion of urban residents with loss of attachment was lower than it was for rural residents (Fig 6.10) but the pattern of distribution of severity of the loss of attachment remained similar in rural and urban areas. There were no major differentials in the distribution pattern by severity between regions. There were no major differentials between male and female subjects.

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

State : Maharashtra

Loss of Attachment (LOA)		15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T
Region 1	n=	127	114	*241*	179	210	*389*	165	135	*300*
With no loss of attachment (0-3 mm)		75.2	72.6	*73.9*	44.6	39.6	*42.1*	42.2	41.0	*41.6*
With loss of attachment		24.8	27.4	*26.1*	55.4	60.4	*57.9*	55.4	58.5	*57.0*
with LOA 4-5 mm		18.7	19.4	*19.1*	45.5	46.3	*45.9*	35.6	37.6	*36.6*
with LOA 6-8 mm		6.1	8.0	*7.1*	9.2	13.6	*11.4*	18.0	17.5	*17.8*
with LOA 9-11 mm		0.0	0.0	*0.0*	0.0	0.6	*0.3*	0.0	0.9	*0.5*
with LOA 12 mm or more		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
Region 2	n=	103	94	*197*	99	105	*204*	98	101	*199*
With no loss of attachment (0-3 mm)		81.9	83.3	*82.6*	37.6	46.7	*42.2*	7.3	9.1	*8.2*
With loss of attachment		18.1	16.7	*17.4*	62.4	52.5	*57.5*	72.4	71.5	*72.0*
with LOA 4-5 mm		17.2	14.3	*15.8*	38.4	35.4	*36.9*	29.3	30.7	*30.0*
with LOA 6-8 mm		0.8	2.4	*1.6*	15.5	11.3	*13.4*	12.7	21.7	*17.2*
with LOA 9-11 mm		0.0	0.0	*0.0*	3.2	0.0	*1.6*	10.4	7.6	*9.0*
with LOA 12 mm or more		0.0	0.0	*0.0*	5.2	2.4	*3.8*	19.2	9.8	*14.5*
Region 3	n=	155	157	*312*	162	153	*315*	147	145	*292*
With no loss of attachment (0-3 mm)		94.5	98.5	*96.5*	53.6	46.0	*49.8*	9.1	8.3	*8.7*
With loss of attachment		5.5	1.5	*3.5*	46.4	52.0	*49.2*	77.0	72.7	*74.9*
with LOA 4-5 mm		4.8	1.5	*3.2*	35.2	32.9	*34.1*	29.9	32.6	*31.3*
with LOA 6-8 mm		0.7	0.0	*0.4*	5.8	14.1	*10.0*	28.8	24.0	*26.4*
with LOA 9-11 mm		0.0	0.0	*0.0*	4.0	3.0	*3.5*	15.3	11.7	*13.5*
with LOA 12 mm or more		0.0	0.0	*0.0*	0.7	1.2	*1.0*	3.1	4.4	*3.8*
Region 4	n=	122	144	*266*	143	162	*305*	117	93	*210*
With no loss of attachment (0-3 mm)		88.8	90.2	*89.5*	49.4	50.8	*50.1*	23.7	20.7	*22.2*
With loss of attachment		11.2	9.8	*10.5*	50.6	49.2	*49.9*	72.0	76.2	*74.1*
with LOA 4-5 mm		10.3	7.6	*9.0*	44.6	38.3	*41.5*	30.4	33.5	*32.0*
with LOA 6-8 mm		0.9	0.7	*0.8*	2.9	8.4	*5.7*	15.8	21.4	*18.6*
with LOA 9-11 mm		0.0	0.0	*0.0*	0.6	0.0	*0.3*	6.4	5.5	*6.0*
with LOA 12 mm or more		0.0	0.0	*0.0*	0.0	0.7	*0.4*	0.0	0.0	*0.0*
Region 5	n=	206	201	*407*	207	200	*407*	200	160	*360*
With no loss of attachment (0-3 mm)		95.8	96.1	*96.0*	69.0	74.2	*71.6*	36.9	37.5	*37.2*
With loss of attachment		4.2	3.9	*4.1*	30.0	25.8	*27.9*	47.6	46.7	*47.2*
with LOA 4-5 mm		3.8	3.4	*3.6*	19.9	17.7	*18.8*	22.1	25.2	*23.7*
with LOA 6-8 mm		0.0	0.5	*0.3*	5.1	4.8	*5.0*	8.7	10.2	*9.5*
with LOA 9-11 mm		0.0	0.0	*0.0*	0.5	0.5	*0.5*	4.8	5.9	*5.4*
with LOA 12 mm or more		0.0	0.0	*0.0*	4.1	2.4	*3.3*	7.7	4.2	*6.0*
State Rural	n=	459	466	*925*	524	560	*1084*	521	432	*953*
With no loss of attachment (0-3 mm)		88.1	89.5	*88.8*	48.9	48.4	*48.7*	22.1	20.7	*21.4*
With loss of attachment		11.9	10.5	*11.2*	50.9	51.0	*51.0*	68.2	70.1	*69.2*
with LOA 4-5 mm		10.2	8.6	*9.4*	39.2	35.0	*37.1*	28.6	32.1	*30.4*
with LOA 6-8 mm		1.5	1.2	*1.4*	7.5	12.2	*9.9*	17.4	20.5	*19.0*
with LOA 9-11 mm		0.0	0.0	*0.0*	1.5	1.0	*1.3*	9.8	8.3	*9.1*
with LOA 12 mm or more		0.0	0.0	*0.0*	1.9	1.8	*1.9*	5.2	5.0	*5.1*
State Urban	n=	254	244	*498*	266	270	*536*	206	202	*408*
With no loss of attachment (0-3 mm)		91.4	94.0	*92.7*	57.0	61.0	*59.0*	21.9	19.0	*20.5*
With loss of attachment		8.6	6.0	*7.3*	42.6	38.7	*40.7*	61.6	60.4	*61.0*
with LOA 4-5 mm		8.6	4.5	*6.6*	31.5	31.2	*31.4*	29.5	30.0	*29.8*
with LOA 6-8 mm		0.0	1.4	*0.7*	5.5	4.7	*5.1*	14.7	17.5	*16.1*
with LOA 9-11 mm		0.0	0.0	*0.0*	2.1	0.0	*1.1*	3.6	4.4	*4.0*
with LOA 12 mm or more		0.0	0.0	*0.0*	1.9	0.3	*1.1*	7.9	2.1	*5.0*
State Total	n=	713	710	*1423*	790	830	*1620*	727	634	*1361*
With no loss of attachment (0-3 mm)		90.2	91.7	*91.0*	54.1	55.1	*54.6*	24.6	23.1	*23.9*
With loss of attachment		9.8	8.3	*9.1*	45.6	44.5	*45.1*	63.5	63.5	*63.5*
with LOA 4-5 mm		8.8	6.6	*7.7*	34.4	31.8	*33.1*	28.2	30.9	*29.6*
with LOA 6-8 mm		0.9	1.3	*1.1*	6.5	9.2	*7.9*	15.3	17.9	*16.6*
with LOA 9-11 mm		0.0	0.0	*0.0*	1.5	0.7	*1.1*	7.4	6.9	*7.2*
with LOA 12 mm or more		0.0	0.0	*0.0*	2.2	1.3	*1.8*	6.1	3.8	*5.0*

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

State : Maharashtra

Loss of Attachment (LOA)		15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T
Region 1	n=	128	116	244	180	212	392	189	148	337
With no loss of attachment (0-3 mm)		4.9	4.8	4.9	3.1	3.1	3.1	2.6	2.7	2.7
With loss of attachment		1.0	1.1	1.1	2.8	2.8	2.8	2.5	2.8	2.7
with loss of attachment 4-5 mm		0.9	0.9	0.9	2.5	2.5	2.5	2.0	2.2	2.1
with loss of attachment 6-8 mm		0.2	0.2	0.2	0.3	0.3	0.3	0.5	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		0.1	0.1	0.1	0.1	0.0	0.1	0.7	0.5	0.6
Excluded		0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
Region 2	n=	104	103	207	102	106	208	107	109	216
With no loss of attachment (0-3 mm)		5.6	5.1	5.4	3.6	4.3	4.0	1.0	1.3	1.2
With loss of attachment		0.4	0.4	0.4	2.1	1.5	1.8	2.5	2.1	2.3
with loss of attachment 4-5 mm		0.3	0.4	0.4	1.7	1.3	1.5	1.4	1.4	1.4
with loss of attachment 6-8 mm		0.0	0.0	0.0	0.3	0.2	0.3	0.4	0.4	0.4
with loss of attachment 9-11 mm		0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2
with loss of attachment 12 mm or more		0.0	0.0	0.0	0.1	0.0	0.1	0.5	0.2	0.4
excluded sextants		0.1	0.5	0.3	0.3	0.2	0.3	0.5	0.5	0.5
Excluded		0.0	0.0	0.0	0.0	0.1	0.1	2.0	2.1	2.1
Region 3	n=	159	159	318	162	154	316	157	157	314
With no loss of attachment (0-3 mm)		5.8	5.9	5.9	4.7	4.5	4.6	1.2	1.1	1.2
With loss of attachment		0.1	0.0	0.1	1.3	1.4	1.4	2.7	2.7	2.7
with loss of attachment 4-5 mm		0.1	0.0	0.1	1.1	1.1	1.1	1.7	1.8	1.8
with loss of attachment 6-8 mm		0.0	0.0	0.0	0.1	0.2	0.2	0.7	0.7	0.7
with loss of attachment 9-11 mm		0.0	0.0	0.0	0.1	0.0	0.1	0.2	0.2	0.2
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		0.2	0.1	0.2	0.0	0.1	0.1	0.4	0.4	0.4
Excluded		0.0	0.0	0.0	0.0	0.1	0.1	1.7	1.7	1.7
Region 4	n=	133	154	287	145	164	309	167	122	289
With no loss of attachment (0-3 mm)		5.4	5.3	5.4	3.9	3.8	3.9	1.4	1.5	1.5
With loss of attachment		0.2	0.3	0.3	2.0	2.1	2.1	2.4	2.7	2.6
with loss of attachment 4-5 mm		0.2	0.2	0.2	1.9	1.8	1.9	1.6	1.6	1.6
with loss of attachment 6-8 mm		0.0	0.0	0.0	0.1	0.3	0.2	0.6	0.9	0.8
with loss of attachment 9-11 mm		0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2
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		0.4	0.4	0.4	0.2	0.2	0.2	2.1	1.7	1.9
Excluded		0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2
Region 5	n=	211	206	417	210	204	414	220	189	409
With no loss of attachment (0-3 mm)		5.8	5.8	5.8	4.7	4.8	4.8	2.7	2.5	2.6
With loss of attachment		0.1	0.1	0.1	1.2	1.0	1.1	1.5	1.5	1.5
with loss of attachment 4-5 mm		0.1	0.1	0.1	0.9	0.8	0.9	0.9	1.1	1.0
with loss of attachment 6-8 mm		0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.3	0.3
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	0.1	0.1	0.1	0.2	0.1	0.2
excluded sextants		0.2	0.1	0.2	0.1	0.2	0.2	0.8	1.1	1.0
Excluded		0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.9	1.0

Loss of Attachment (LOA)		15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T
State Rural	**n=**	**468**	**482**	***950***	**530**	**567**	***1097***	**573**	**474**	***1047***
With no loss of attachment (0-3 mm)		5.6	5.5	***5.6***	4.0	3.9	***4.0***	1.7	1.8	***1.8***
With loss of attachment		0.3	0.3	***0.3***	1.9	1.9	***1.9***	2.5	2.6	***2.6***
with loss of attachment 4-5 mm		0.3	0.2	***0.3***	1.7	1.6	***1.7***	1.6	1.6	***1.6***
with loss of attachment 6-8 mm		0.0	0.0	***0.0***	0.2	0.3	***0.3***	0.6	0.7	***0.7***
with loss of attachment 9-11 mm		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.2	0.2	***0.2***
with loss of attachment 12 mm or more		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.1	0.1	***0.1***
excluded sextants		0.1	0.2	***0.2***	0.1	0.1	***0.1***	0.9	0.7	***0.8***
Excluded		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.9	0.9	***0.9***
State Urban	**n=**	**267**	**256**	***523***	**269**	**273**	***542***	**267**	**251**	***518***
With no loss of attachment (0-3 mm)		5.4	5.4	***5.4***	4.4	4.6	***4.5***	1.5	1.4	***1.5***
With loss of attachment		0.2	0.2	***0.2***	1.4	1.2	***1.3***	1.8	1.9	***1.9***
with loss of attachment 4-5 mm		0.2	0.2	***0.2***	1.2	1.1	***1.2***	1.3	1.4	***1.4***
with loss of attachment 6-8 mm		0.0	0.0	***0.0***	0.1	0.1	***0.1***	0.4	0.4	***0.4***
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***	0.2	0.0	***0.1***
excluded sextants		0.4	0.4	***0.4***	0.2	0.1	***0.2***	1.6	1.3	***1.5***
Excluded		0.0	0.0	***0.0***	0.0	0.1	***0.1***	1.1	1.4	***1.3***
State Total	**n=**	**735**	**738**	***1473***	**799**	**840**	***1639***	**840**	**725**	***1565***
With no loss of attachment (0-3 mm)		5.6	5.5	***5.6***	4.2	4.2	***4.2***	1.8	1.8	***1.8***
With loss of attachment		0.2	0.2	***0.2***	1.7	1.6	***1.7***	2.2	2.2	***2.2***
with loss of attachment 4-5 mm		0.2	0.2	***0.2***	1.5	1.4	***1.5***	1.4	1.5	***1.5***
with loss of attachment 6-8 mm		0.0	0.0	***0.0***	0.2	0.2	***0.2***	0.5	0.5	***0.5***
with loss of attachment 9-11 mm		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.1	0.2	***0.2***
with loss of attachment 12 mm or more		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.1	0.1	***0.1***
excluded sextants		0.2	0.3	***0.3***	0.1	0.1	***0.1***	1.0	0.9	***1.0***
Excluded		0.0	0.0	***0.0***	0.0	0.0	***0.0***	1.0	1.0	***1.0***

Note: Related table is 6.09.

6.4 MALOCCLUSION STATUS

Table 6.11 presents the malocclusion status of subjects measured by DAI scores. The Dental Aesthetic Index (DAI), recommended by WHO, was used to analyse the severity of malocclusion in the surveyed population.

In calculating percentage of subjects with malocclusion, only those with a DAI score of 26 or higher were included.

No significant malocclusion was reported in subjects aged 5 years, where only primary teeth are present.

The prevalence of definite or severe form of malocclusion in the state was more in the older age groups (Fig 6.11). It was 27.4 per cent among 12-year-olds, 25.4 per cent among 15-year-olds, but was higher in the 35-44 year age group at about 31.2 per cent. The order of prevalence of malocclusion, by severity, in all age groups was 'definite' followed by 'severe' and 'very severe' forms.

There were no marked male and female differentials and the distribution was similar in rural and urban areas, although rural residents appeared to have marginally more malocclusion than their urban counterparts. There was no significant variation between the regions.

Fig. 6.11. Percent subjects with malocclusion in Maharashtra.

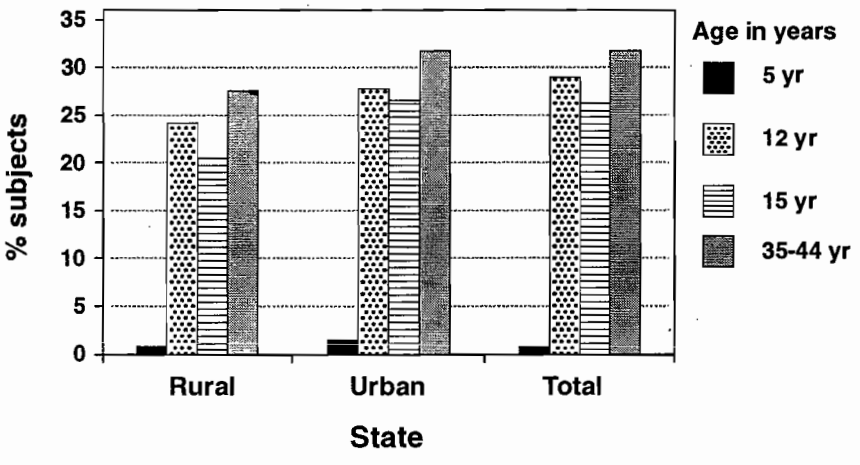


Table 6.11. Percent subjects with malocclusion by age, sex and geographical area.

State : Maharashtra

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=	**169**	**156**	***325***	178	170	***348***	128	116	***244***	180	212	***392***
None or minor malocclusion (<25)		100.0	99.3	***99.7***	83.1	88.5	***85.8***	90.6	87.8	***89.2***	83.4	83.2	***83.3***
Malocclusion present		0.0	0.7	***0.4***	16.9	11.5	***14.2***	9.4	12.2	***10.8***	16.6	16.8	***16.7***
Definite malocclusion (26 -30)		0.0	0.0	***0.0***	13.2	7.7	***10.5***	5.5	7.8	***6.7***	13.0	12.1	***12.6***
Severe malocclusion (31 - 15)		0.0	0.4	***0.2***	1.7	3.5	***2.6***	3.5	3.4	***3.5***	1.3	3.1	***2.2***
V Severe malocclusion (36 or more)		0.0	0.4	***0.2***	2.0	0.3	***1.2***	0.5	1.1	***0.8***	2.3	1.7	***2.0***
Region 2	n=	**103**	**107**	***210***	**101**	**109**	***210***	**104**	**103**	***207***	**102**	**106**	***208***
None or minor malocclusion (<25)		98.9	100	***99.5***	67.1	68	***67.7***	73.9	71.1	***72.5***	65.7	68.8	***67.3***
Malocclusion present		1.1	0.0	***0.5***	32.9	31.7	***32.3***	26.1	28.9	***27.5***	34.3	31.2	***32.8***
Definite (26 -30)		0.0	0.0	***0.0***	19.5	21.1	***20.3***	13.6	17.6	***15.6***	16.9	17.1	***17.0***
Severe (31 - 15)		0.0	0.0	***0.0***	10.6	8.8	***9.7***	6.1	6.9	***6.5***	10.1	7.3	***8.7***
V Severe (36 or more)		1.1	0.0	***0.6***	2.8	1.8	***2.3***	6.4	4.4	***5.4***	7.3	6.8	***7.1***
Region 3	n=	**159**	**158**	***317***	**157**	**159**	***316***	**159**	**159**	***318***	**162**	**154**	***316***
None or minor malocclusion (<25)		98.8	98.3	***98.6***	84.0	84.3	***84.2***	86.8	86.0	***86.4***	82.2	74.6	***78.4***
Malocclusion present		1.2	1.7	***1.5***	16.0	15.7	***15.9***	13.2	14.0	***13.6***	17.8	25.4	***21.6***
Definite (26 -30)		0.0	0.0	***0.0***	9.0	8.9	***9.0***	8.5	10.9	***9.7***	8.6	11.8	***10.2***
Severe (31 - 15)		0.5	0.0	***0.3***	4.3	3.3	***3.8***	2.6	2.3	***2.5***	5.6	4.9	***5.3***
V Severe (36 or more)		0.7	1.7	***1.2***	2.7	3.5	***3.1***	2.1	0.7	***1.4***	3.7	8.7	***6.2***
Region 4	n=	**164**	**123**	***287***	**157**	**141**	***298***	**133**	**154**	***287***	**145**	**164**	***309***
None or minor malocclusion (<25)		100	99	***99.6***	88.6	85	***86.9***	87	93	***90.1***	78	79	***78.9***
Malocclusion present		0.0	0.9	***0.5***	11.4	14.8	***13.1***	13.3	6.6	***10.0***	21.6	20.6	***21.1***
Definite (26 -30)		0.0	0.0	***0.0***	4.0	9.4	***6.7***	7.7	3.8	***5.8***	11	5.1	***8.2***
Severe (31 - 15)		0.0	0.0	***0.0***	5.9	3.9	***4.9***	3.1	2.1	***2.6***	4.4	7.1	***5.8***
V Severe (36 or more)		0.0	0.9	***0.5***	1.4	1.5	***1.5***	2.5	0.7	***1.6***	5.9	8.5	***7.2***
Region 5	n=	**208**	**202**	***410***	**215**	**201**	***416***	**211**	**206**	***417***	**210**	**204**	***414***
None or minor malocclusion (<25)		100	100	***100.0***	47	60	***53.3***	56	53	***54.3***	50	53	***51.8***
Malocclusion present		0.0	0.0	***0.0***	53.0	40.4	***46.7***	44.5	47.0	***45.8***	49.9	46.6	***48.3***
Definite (26 -30)		0.0	0.0	***0.0***	17.6	13	***15.5***	13	15	***14.0***	14	10	***12.3***
Severe (31 - 15)		0.0	0.0	***0.0***	16.0	14.2	***15.1***	15.8	13.8	***14.8***	15	14	***14.3***
V Severe (36 or more)		0.0	0.0	***0.0***	19.3	12.7	***16.0***	15.5	18.5	***17.0***	21	23	***21.7***
State Rural	n=	**542**	**504**	***1046***	**532**	**523**	***1055***	**468**	**482**	***950***	**530**	**567**	***1097***
None or minor malocclusion (<25)		99.8	99	***99.6***	75.9	79	***77.2***	79	81	***80.3***	73	74	***73.4***
Malocclusion present		0.2	0.6	***0.4***	24.1	21.5	***22.8***	20.6	18.9	***19.8***	27.1	26.2	***26.7***
Definite (26 -30)		0.0	0.0	***0.0***	11.5	12	***11.5***	10	9.6	***9.8***	11	8.7	***10.1***
Severe (31 - 15)		0.0	0.0	***0.0***	7.1	6.6	***6.9***	4.8	4.9	***4.9***	7.1	8.3	***7.7***
V Severe (36 or more)		0.2	0.6	***0.4***	5.4	3.3	***4.4***	5.8	4.4	***5.1***	8.6	9.2	***8.9***
State Urban	n=	**261**	**242**	***503***	**276**	**257**	***533***	**267**	**256**	***523***	**269**	**273**	***542***
None or minor malocclusion (<25)		99.1	99	***99.2***	73.2	74	***73.4***	75	75	***75.0***	69	69	***68.8***
Malocclusion present		0.9	0.8	***0.9***	26.8	26.4	***26.6***	25.4	24.6	***25.0***	30.9	31.5	***31.2***
Definite (26 -30)		0.0	0.0	***0.0***	10.8	14	***12.3***	10	12	***10.9***	15	14	***14.2***
Severe (31 - 15)		0.3	0.1	***0.2***	10.1	6.9	***8.5***	9.2	6.7	***8.0***	8.4	5.7	***7.1***
V Severe (36 or more)		0.6	0.7	***0.7***	5.8	5.7	***5.8***	6.1	6.2	***6.2***	7.9	12	***10.1***
State Total	n=	**803**	**746**	***1549***	**808**	**780**	***1588***	**735**	**738**	***1473***	**799**	**840**	***1639***
None or minor malocclusion (<25)		99.6	100	***99.6***	70.8	74	***72.6***	74	76	***74.7***	68	69	***68.8***
Malocclusion present		0.4	0.5	***0.5***	29.2	25.6	***27.4***	26.2	24.5	***25.4***	31.8	30.6	***31.2***
Definite (26 -30)		0.0	0.0	***0.0***	12.3	12	***12.4***	11	11	***10.8***	13	11	***11.8***
Severe (31 - 15)		0.1	0.0	***0.1***	9.4	7.7	***8.6***	0.0	6.7	***3.4***	8.6	8.3	***8.5***
V Severe (36 or more)		0.3	0.5	***0.4***	7.6	5.5	***6.6***	7.5	6.9	***7.2***	10	12	***11.0***

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

6.5 ORAL CANCER AND ORAL MUCOSAL CONDITIONS

Tables 6.12 presents the number of subjects with oral mucosal lesions, including oral cancer and precancerous lesions. Precancerous lesions include leukoplakia and probably lichen planus (Mehta & Hammer, 1993). Table 6.13 presents the distribution of lesions by location in the mouth of subjects.

Oral mucosal conditions were not widely prevalent in the state (Fig 6.12). In subjects aged 5 years, only 6 respondents had oral mucosal lesions. These were equally distributed in the form of ulcerations and abscess.

In subjects aged 12 years, only 4 males subjects, mostly from urban areas, had lesions. These were equally distributed in the form of ulcerations and abscess.

Only 12 subjects, more from urban areas, aged 15 years, had lesions. Two-thirds of these cases were ulcerations.

In subjects in the 35-44 year age group, 39 subjects had oral mucosal lesions, distributed in order of prevalence as ulcerations, leukoplakia and abscesses. In subjects aged 65-74 years, 31 subjects had oral mucosal lesions, which included leukoplakia and ulcerations in order of prevalence.

Oral cancer was detected in 1 male subject from an urban area in the 35-44 year age group on the lips. Leukoplakia was detected in 13 subjects in the 35-44 age group and 20 subjects in the 65-74 age group (Tables 6.12 and 6.13). It was located mostly on the buccal mucosa, and equally distributed in rural and urban areas.

A broad analysis of the lesions by location in the oral mucosa (Table 6.13) showed that ulceration was distributed mostly on the buccal mucosa.

Fig 6.12. Number of subjects with oral mucosal conditions in Maharashtra

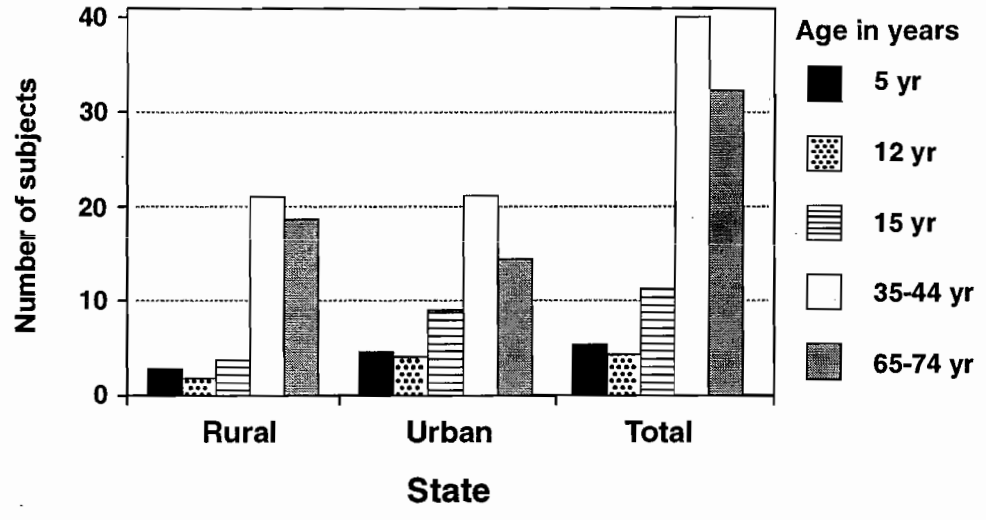


Table 6.12 Numbers of subjects with oral mucosal lesions and type of lesions by age, sex and geographical area.

State : Maharashtra

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=	168	155	*323*	177	168	*345*	128	115	*243*	179	211	*390*	186	148	*334*
Oral mucosal lesions present		2	3	*3*	2	3	*3*	9	5	*7*	10	12	*11*	7	10	*9*
Oral Cancer		0	0	*0*	0	0	*0*	0	0	*0*	1	0	*1*	0	0	*0*
Leukoplakia		0	0	*0*	0	0	*0*	0	0	*0*	4	2	*3*	3	7	*5*
Lichen planus		0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	1	0	*1*
Ulceration		1	1	*1*	1	2	*2*	7	4	*6*	3	4	*4*	2	3	*3*
ANUG		0	0	*0*	0	0	*0*	0	0	*0*	2	1	*2*	0	0	*0*
Candidiasis		0	0	*0*	0	0	*0*	0	0	*0*	1	0	*1*	1	0	*1*
Abscess		1	2	*2*	1	1	*1*	2	0	*1*	0	5	*3*	0	1	*1*
Any other condition		0	0	*0*	0	0	*0*	0	1	*1*	0	0	*0*	0	0	*0*
Region 2	n=	100	105	*103*	101	108	*105*	102	97	*100*	101	104	*103*	104	106	*105*
Oral mucosal lesions present		1	0	*1*	0	0	*0*	0	0	*0*	4	1	*3*	0	2	*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*	1	0	*1*	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*	0	0	*0*	0	0	*0*	0	0	*0*
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	1	*1*
Abscess		1	0	*1*	0	0	*0*	0	0	*0*	0	1	*1*	0	0	*0*
Any other condition		0	0	*0*	0	0	*0*	0	0	*0*	3	0	*2*	0	1	*1*
Region 3	n=	159	157	*158*	156	159	*158*	157	159	*158*	162	154	*158*	157	156	*157*
Oral mucosal lesions present		0	1	*1*	0	0	*0*	0	0	*0*	0	1	*1*	1	0	*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*	0	0	*0*	0	0	*0*	1	0	*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	1	*1*	0	0	*0*	0	0	*0*	0	1	*1*	1	0	*1*
Region 4	n=	161	120	*141*	155	141	*148*	133	153	*143*	144	164	*154*	166	122	*144*
Oral mucosal lesions present		0	1	*1*	0	0	*0*	4	1	*3*	12	7	*10*	5	2	*4*
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*	4	1	*3*	1	0	*1*
Lichen planus		0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	0	1	*1*
Ulceration		0	1	*1*	0	0	*0*	3	1	*2*	4	4	*4*	1	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	2	*1*	4	0	*2*
Any other condition		0	0	*0*	0	0	*0*	1	0	*1*	4	1	*3*	0	0	*0*
Region 5	n=	205	202	*204*	215	201	*208*	210	204	*207*	209	203	*206*	217	186	*202*
Oral mucosal lesions present		4	0	*2*	2	0	*1*	1	3	*2*	16	15	*16*	18	17	*18*
Oral Cancer		0	0	*0*	0	0	*0*	0	0	*0*	0	1	*1*	0	1	*1*
Leukoplakia		1	0	*1*	0	0	*0*	0	0	*0*	7	6	*7*	15	14	*15*
Lichen planus		0	0	*0*	0	0	*0*	0	0	*0*	1	1	*1*	0	0	*0*
Ulceration		2	0	*1*	1	0	*1*	0	3	*2*	12	8	*10*	9	9	*9*
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*	2	0	*1*	0	0	*0*
Abscess		1	0	*1*	1	0	*1*	1	0	*1*	0	1	*1*	0	0	*0*
Any other condition		1	0	*1*	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*

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
State Rural	n=	533	501	*517*	530	520	*525*	465	474	*470*	528	564	*546*	565	470	*518*
Oral mucosal lesions present		4	1	*3*	2	0	*1*	7	1	*4*	21	18	*20*	17	15	*16*
Oral Cancer		0	0	*0*	0	0	*0*	0	0	*0*	0	1	*1*	0	1	*1*
Leukoplakia		1	0	*1*	0	0	*0*	0	0	*0*	9	6	*8*	11	9	*10*
Lichen planus		0	0	*0*	0	0	*0*	0	0	*0*	1	1	*1*	0	1	*1*
Ulceration		2	0	*1*	1	0	*1*	4	1	*3*	7	6	*7*	5	5	*5*
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*	1	0	*1*	0	1	*1*
Abscess		1	0	*1*	1	0	*1*	2	0	*1*	0	3	*2*	4	1	*3*
Any other condition		1	1	*1*	0	0	*0*	1	0	*1*	5	2	*4*	1	1	*1*
State Urban	n=	260	238	*249*	274	257	*266*	265	254	*260*	267	272	*270*	265	248	*257*
Oral mucosal lesions present		3	4	*4*	2	3	*3*	7	8	*8*	21	18	*20*	14	16	*15*
Oral Cancer		0	0	*0*	0	0	*0*	0	0	*0*	1	0	*1*	0	0	*0*
Leukoplakia		0	0	*0*	0	0	*0*	0	0	*0*	7	3	*5*	8	12	*10*
Lichen planus		0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	1	0	*1*
Ulceration		1	2	*2*	1	2	*2*	6	7	*7*	12	10	*11*	8	8	*8*
ANUG		0	0	*0*	0	0	*0*	0	0	*0*	2	1	*2*	0	0	*0*
Candidiasis		0	0	*0*	0	0	*0*	0	0	*0*	2	0	*1*	1	0	*1*
Abscess		2	2	*2*	1	1	*1*	1	0	*1*	0	6	*3*	0	0	*0*
Any other condition		0	0	*0*	0	0	*0*	0	1	*1*	2	0	*1*	0	0	*0*
State Total	n=	793	739	*766*	804	777	*791*	730	728	*729*	795	836	*816*	830	718	*774*
Oral mucosal lesions present		7	5	*6*	4	3	*4*	14	9	*12*	42	36	*39*	31	31	*31*
Oral Cancer		0	0	*0*	0	0	*0*	0	0	*0*	1	1	*1*	0	1	*1*
Leukoplakia		1	0	*1*	0	0	*0*	0	0	*0*	16	9	*13*	19	21	*20*
Lichen planus		0	0	*0*	0	0	*0*	0	0	*0*	1	1	*1*	1	1	*1*
Ulceration		3	2	*3*	2	2	*2*	10	8	*9*	19	16	*18*	13	13	*13*
ANUG		0	0	*0*	0	0	*0*	0	0	*0*	2	1	*2*	0	0	*0*
Candidiasis		0	0	*0*	0	0	*0*	0	0	*0*	3	0	*2*	1	1	*1*
Abscess		3	2	*3*	2	1	*2*	3	0	*2*	0	9	*5*	4	1	*3*
Any other condition		1	1	*1*	0	0	*0*	1	1	*1*	7	2	*5*	1	1	*1*

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

State : Maharashtra

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	1	0	0	0	1	0	0	0	0	0	0	0	0	0	**2**	**0**
Commissures	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	**1**	**0**
Lips	0	0	5	1	0	0	5	1	0	0	0	0	0	0	1	1	**11**	**3**
Sulci	0	0	0	2	0	0	1	3	0	0	0	0	0	0	1	0	**2**	**5**
Buccal mucosa	0	1	22	17	1	3	17	14	0	0	0	0	4	1	6	4	**50**	**40**
Floor of mouth	0	0	1	1	1	0	0	1	0	0	0	0	0	0	1	0	**3**	**2**
Tongue	0	0	0	1	0	0	1	1	0	0	0	1	0	1	0	0	**1**	**4**
Hard/Soft palate	0	0	0	0	0	0	0	1	0	0	0	0	3	0	2	1	**5**	**2**
Alv ridges/ Gingiva	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	0	**2**	**2**
Rural Total	**0**	**1**	**29**	**22**	**2**	**3**	**26**	**21**	**0**	**0**	**0**	**1**	**8**	**4**	**12**	**6**	**77**	**58**
State Urban																		
Vermilion Border	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	**2**	**1**
Commissures	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
Lips	1	0	1	2	0	0	2	1	0	0	0	0	0	0	0	0	**4**	**3**
Sulci	0	0	1	0	0	0	2	2	0	0	0	0	0	0	0	0	**3**	**2**
Buccal mucosa	0	0	16	18	1	0	28	29	0	0	0	0	0	0	1	0	**46**	**47**
Floor of mouth	0	0	0	0	0	0	1	2	0	0	0	0	0	1	0	0	**1**	**3**
Tongue	0	0	3	4	0	0	0	4	0	0	0	0	0	0	0	0	**3**	**8**
Hard/Soft palate	0	0	0	0	0	0	0	1	2	3	0	0	0	2	1	1	**3**	**7**
Alv ridges/ Gingiva	0	0	0	0	0	0	0	1	2	0	1	0	4	6	0	0	**7**	**7**
Urban Total	**1**	**0**	**21**	**25**	**1**	**0**	**35**	**40**	**4**	**3**	**1**	**0**	**4**	**9**	**2**	**1**	**69**	**78**
State Total																		
Vermilion Border	0	0	1	1	0	0	3	0	0	0	0	0	0	0	0	0	**4**	**1**
Commissures	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	**1**	**0**
Lips	1	0	6	3	0	0	7	2	0	0	0	0	0	0	1	1	**15**	**6**
Sulci	0	0	1	2	0	0	3	5	0	0	0	0	0	0	1	0	**5**	**7**
Buccal mucosa	0	1	38	35	2	3	45	43	0	0	0	0	4	1	7	4	**96**	**87**
Floor of mouth	0	0	1	1	1	0	1	3	0	0	0	0	0	1	1	0	**4**	**5**
Tongue	0	0	3	5	0	0	1	5	0	0	0	1	0	1	0	0	**4**	**12**
Hard/Soft palate	0	0	0	0	0	0	0	2	2	3	0	0	3	2	3	2	**8**	**9**
Alv ridges/ Gingiva	0	0	0	0	0	0	0	1	2	0	1	0	5	8	1	0	**9**	**9**
State Total	**1**	**1**	**50**	**47**	**3**	**3**	**61**	**61**	**4**	**3**	**1**	**1**	**12**	**13**	**14**	**7**	**146**	**136**

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

State : Maharashtra

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=	168	152	320	175	168	343	125	115	240	176	203	379	161	135	296
With Fluorosis		2.4	3.4	2.9	2.7	5.7	4.2	4.1	1.7	2.9	2.3	4.1	3.2	1.4	0.9	1.2
Questionable		2.1	2.7	2.4	2.4	5.0	3.7	3.6	1.7	2.7	2.0	3.5	2.8	1.4	0.0	0.7
V Mild & Mild		0.3	0.8	0.6	0.3	0.4	0.4	0.5	0.0	0.3	0.3	0.6	0.5	0.0	0.0	0.0
Moderate		0.0	0.0	0.0	0.0	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.5
Severe		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=	100	107	207	100	108	208	103	99	202	102	105	207	91	93	184
With Fluorosis		0.8	0.8	0.8	0.0	2.3	1.2	3.6	2.8	3.2	0.8	3.2	2.0	2.2	0.0	1.1
Questionable		0.0	0.0	0.0	0.0	2.3	1.2	2.8	2.8	2.8	0.8	3.2	2.0	0.9	0.0	0.5
V Mild & Mild		0.8	0.8	0.8	0.0	0.0	0.0	0.8	0.0	0.4	0.0	0.0	0.0	1.3	0.0	0.7
Moderate		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
Severe		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 3	n=	158	157	315	156	159	315	157	159	316	161	153	314	141	133	274
With Fluorosis		0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.4	1.9	0.7	1.3	0.0	0.0	0.0
Questionable		0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.4	0.7	0.0	0.4	0.0	0.0	0.0
V Mild & Mild		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.7	1.0	0.0	0.0	0.0
Moderate		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
Severe		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 4	n=	110	101	211	154	139	293	133	153	286	143	162	305	118	95	213
With Fluorosis		2.7	3.2	3.0	5.0	7.8	6.4	5.0	7.1	6.1	0.8	1.3	1.1	0.0	1.1	0.6
Questionable		0.0	1.1	0.6	0.0	0.0	0.0	0.8	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
V Mild & Mild		2.7	1.1	1.9	1.4	4.7	3.1	1.7	5.7	3.7	0.8	0.7	0.8	0.0	1.1	0.6
Moderate		0.0	1.1	0.6	2.9	1.6	2.3	2.5	1.4	2.0	0.0	0.0	0.0	0.0	0.0	0.0
Severe		0.0	0.0	0.0	0.7	1.6	1.2	0.0	0.0	0.0	0.0	0.7	0.4	0.0	0.0	0.0
Region 5	n=	188	186	374	212	199	411	207	204	411	207	200	407	188	162	350
With Fluorosis		1.0	0.6	0.8	2.2	2.0	2.1	1.8	3.8	2.8	0.5	1.9	1.2	0.0	1.9	1.0
Questionable		1.0	0.6	0.8	1.8	1.5	1.7	0.9	2.4	1.7	0.5	1.9	1.2	0.0	1.3	0.7
V Mild & Mild		0.0	0.0	0.0	0.4	0.5	0.5	0.5	0.9	0.7	0.0	0.0	0.0	0.0	0.6	0.3
Moderate		0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
Severe		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 Rural	n=	495	479	974	525	519	1044	463	475	938	524	555	1079	498	422	920
With Fluorosis		1.4	1.7	1.6	3.3	5.2	4.3	4.0	5.1	4.6	1.5	2.7	2.1	0.4	0.9	0.7
Questionable		0.4	0.6	0.5	0.7	1.5	1.1	1.5	1.0	1.3	0.9	1.8	1.4	0.4	0.2	0.3
V Mild & Mild		1.0	0.7	0.9	0.8	2.3	1.6	1.2	3.2	2.2	0.6	0.6	0.6	0.0	0.6	0.3
Moderate		0.0	0.4	0.2	1.4	0.7	1.1	1.3	0.9	1.1	0.0	0.0	0.0	0.0	0.1	0.1
Severe		0.0	0.0	0.0	0.4	0.7	0.6	0.0	0.0	0.0	0.0	0.3	0.2	0.0	0.0	0.0
State Urban	n=	229	224	453	272	254	526	262	255	517	265	268	533	201	196	397
With Fluorosis		1.2	1.0	1.1	0.4	0.8	0.6	1.2	1.3	1.3	0.4	0.2	0.3	0.9	0.5	0.7
Questionable		0.5	0.7	0.6	0.3	0.6	0.5	1.1	1.3	1.2	0.0	0.2	0.1	0.0	0.5	0.3
V Mild & Mild		0.7	0.2	0.5	0.1	0.1	0.1	0.1	0.0	0.1	0.4	0.0	0.2	0.9	0.0	0.5
Moderate		0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Severe		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=	724	703	1427	797	773	1570	725	730	1455	789	823	1612	699	618	1317
With Fluorosis		1.2	1.3	1.3	2.4	3.5	3.0	2.8	3.8	3.3	1.0	1.9	1.5	0.5	1.0	0.8
Questionable		0.4	0.7	0.6	0.7	1.2	1.0	1.3	1.2	1.3	0.6	1.2	0.9	0.3	0.4	0.4
V Mild & Mild		0.7	0.4	0.6	0.6	1.5	1.1	0.7	2.0	1.4	0.4	0.4	0.4	0.2	0.5	0.4
Moderate		0.0	0.2	0.1	0.9	0.5	0.7	0.8	0.6	0.7	0.0	0.0	0.0	0.0	0.1	0.1
Severe		0.0	0.0	0.0	0.2	0.4	0.3	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0

6.6. DENTAL FLUOROSIS STATUS

Table 6.14 presents the per cent subjects with dental fluorosis by level of severity

There was fluorosis in 1.3 per cent subjects aged 5 years-old in the state.

The prevalence of fluorosis was very low and did not appear to be a major public health problem in the state. The 'mild' and 'very mild' forms appeared in 12-year-old subjects (3 per cent) in the state. The 'severe' form was seen among 0.3 per cent subjects in the 12 year age group in the rural area.

E. Vidarbha and C. Plateau reported more cases of dental flourosis.

6.7 OTHER LESIONS

6.7.1 Extra oral lesions

Table 6.15 presents the per cent subjects with extra oral lesions by type of lesions.

Less than 1 per cent extra oral lesions were detected in the 5 and 15 age groups among both male and female subjects.

In the 12-year age group, only 1.2 per cent subjects had extra oral lesions, equally distributed among males and females. The prevalence among subjects aged 35-44 years was 1.3 per cent in the state. Only 0.7 per cent subjects in the 65-44 age group, mostly females and in urban areas, had extra oral lesions. These lesions were all ulceration, sores, erosions or fissures located in the head, neck or limbs region.

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

State : Maharashtra

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=	168	154	322	177	169	346	128	115	243	179	210	389	188	147	335
With extra oral lesions		0.0	0.0	0.0	0.0	0.7	0.4	1.5	1.1	1.3	3.3	5.1	4.2	0.0	0.8	0.4
Ulceration,sores,erosions,fissures		0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.6	0.8	3.3	4.5	3.9	0.0	0.4	0.2
head, neck, limbs		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
nose, cheeks, chin		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.2	0.0	0.0	0.0
commissures		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.3	0.0	0.3	0.2	0.0	0.4	0.2
vermilion border		0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.5	2.9	4.2	3.6	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	0.7	0.4	0.5	0.6	0.6	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	0.3	0.2	0.0	0.0	0.0
Region 2	n=	103	107	210	101	108	209	103	99	202	101	106	207	105	107	212
With extra oral lesions		0.8	0.0	0.4	0.0	0.8	0.4	0.8	0.0	0.4	0.0	0.8	0.4	0.0	0.0	0.0
Ulceration,sores,erosions,fissures		0.8	0.0	0.4	0.0	0.8	0.4	0.8	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
head, neck, limbs		0.8	0.0	0.4	0.0	0.8	0.4	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	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	0.8	0.0	0.4	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	0.8	0.4	0.0	0.0	0.0
Region 3	n=	157	156	313	156	159	315	157	159	316	156	153	309	153	154	307
With extra oral lesions		2.9	4.4	3.7	2.9	5.0	4.0	4.3	2.2	3.3	4.4	3.0	3.7	2.2	4.2	3.2
Ulceration,sores,erosions,fissures		2.9	3.7	3.3	2.9	3.5	3.2	4.3	2.2	3.3	4.4	2.2	3.3	2.2	4.2	3.2
head, neck, limbs		2.9	2.2	2.6	2.9	2.8	2.9	4.3	2.2	3.3	4.4	2.2	3.3	2.2	2.2	2.2
nose, cheeks, chin		0.0	0.0	0.0	0.0	0.7	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.6
commissures		0.0	1.5	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.4
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	0.7	0.4	0.0	1.4	0.7	0.0	0.0	0.0	0.0	0.7	0.4	0.0	0.0	0.0
Region 4	n=	163	122	285	155	141	296	133	153	286	143	164	307	165	122	287
With extra oral lesions		0.0	0.0	0.0	1.4	0.0	0.7	0.0	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Ulceration,sores,erosions,fissures		0.0	0.0	0.0	0.7	0.0	0.4	0.0	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0
head, neck, limbs		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0
nose, cheeks, chin		0.0	0.0	0.0	0.7	0.0	0.4	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	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	0.7	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Region 5	n=	205	202	407	215	201	416	210	205	415	209	203	412	220	189	409
With extra oral lesions		0.6	0.0	0.3	0.4	0.5	0.5	0.0	0.0	0.0	1.0	0.5	0.8	0.0	0.5	0.3
Ulceration,sores,erosions,fissures		0.0	0.0	0.0	0.4	0.5	0.5	0.0	0.0	0.0	0.5	0.0	0.3	0.0	0.0	0.0
head, neck, limbs		0.0	0.0	0.0	0.4	0.0	0.2	0.0	0.0	0.0	0.5	0.0	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	0.0	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	0.5	0.3	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	0.5	0.3
Enlarged lymph nodes(head & neck)		0.6	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.5	0.6	0.0	0.0	0.0

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
State Rural	n=	537	503	*1040*	530	521	*1051*	466	476	*942*	523	565	*1088*	566	471	*1037*
With extra oral lesions		1.0	1.4	***1.2***	1.7	1.9	***1.8***	1.7	0.7	***1.2***	1.6	1.4	***1.5***	0.6	1.3	***1.0***
Ulceration,sores,erosions,fissures		1.0	1.1	***1.1***	1.3	1.4	***1.4***	1.7	0.7	***1.2***	1.6	0.8	***1.2***	0.6	1.2	***0.9***
head, neck, limbs		1.0	0.7	***0.9***	1.0	1.1	***1.1***	1.4	0.7	***1.1***	1.5	0.6	***1.1***	0.6	0.7	***0.7***
nose, cheeks, chin		0.0	0.0	***0.0***	0.4	0.2	***0.3***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.2	***0.1***
commissures		0.0	0.5	***0.3***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.2	***0.1***
vermilion border		0.0	0.0	***0.0***	0.0	0.1	***0.1***	0.2	0.0	***0.1***	0.2	0.3	***0.3***	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***	0.4	0.0	***0.2***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.1	***0.1***
Enlarged lymph nodes(head & neck)		0.0	0.2	***0.1***	0.0	0.4	***0.2***	0.0	0.0	***0.0***	0.0	0.5	***0.3***	0.0	0.0	***0.0***
State Urban	n=	259	238	*497*	274	257	*531*	265	255	*520*	265	271	*536*	265	248	*513*
With extra oral lesions		0.3	0.0	***0.2***	0.0	0.2	***0.1***	0.3	0.8	***0.6***	0.9	1.2	***1.1***	0.0	0.5	***0.3***
Ulceration,sores,erosions,fissures		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.2	0.7	***0.5***	0.6	1.0	***0.8***	0.0	0.4	***0.2***
head, neck, limbs		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.6	***0.3***	0.0	0.0	***0.0***	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***	0.1	0.0	***0.1***	0.0	0.3	***0.2***
commissures		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.1	***0.1***	0.0	0.1	***0.1***	0.0	0.1	***0.1***
vermilion border		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.2	0.0	***0.1***	0.5	0.9	***0.7***	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	0.2	***0.1***	0.1	0.1	***0.1***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
Enlarged lymph nodes(head & neck)		0.3	0.0	***0.2***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.3	0.1	***0.2***	0.0	0.0	***0.0***
State Total	n=	796	741	*1537*	804	778	*1582*	731	731	*1462*	788	836	*1624*	831	719	*1550*
With extra oral lesions		0.8	0.9	***0.9***	1.1	1.2	***1.2***	1.0	0.6	***0.8***	1.4	1.1	***1.3***	0.4	1.0	***0.7***
Ulceration,sores,erosions,fissures		0.6	0.7	***0.7***	0.9	0.9	***0.9***	1.0	0.6	***0.8***	1.2	0.7	***1.0***	0.4	0.8	***0.6***
head, neck, limbs		0.6	0.4	***0.5***	0.7	0.6	***0.7***	0.9	0.5	***0.7***	1.0	0.4	***0.7***	0.4	0.4	***0.4***
nose, cheeks, chin		0.0	0.0	***0.0***	0.2	0.1	***0.2***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.2	***0.1***
commissures		0.0	0.3	***0.2***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.2	***0.1***
vermilion border		0.0	0.0	***0.0***	0.0	0.1	***0.1***	0.1	0.0	***0.1***	0.2	0.3	***0.3***	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***	0.2	0.0	***0.1***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.2	***0.1***
Enlarged lymph nodes(head & neck)		0.2	0.1	***0.2***	0.0	0.3	***0.2***	0.0	0.0	***0.0***	0.2	0.4	***0.3***	0.0	0.0	***0.0***

6.7.2 T M joint symptoms and signs

Table 6.16 presents the percentage of subjects with temporomandibular joint (TM joint) symptoms and signs.

None of the male and female subjects, aged 5 and 15 years, had any T M Joint symptoms or signs. It is possible that these were not recorded by the examiners. Symptoms were seen in only 0.3 per cent subjects among 12-year-olds. No clicking or other signs were recorded.

In the 35-44 age group, only 0.9 per cent mostly female subjects, distributed in rural and urban areas, had TM Joint symptoms. Clicking was present in 3.2 per cent of the subjects examined. Tenderness was recorded in 0.9 per cent subjects.

In the 65-74 age group, symptoms were reported in 1.5 per cent males and 2.5 per cent female subjects. These subjects were distributed in both rural and urban areas, though more females reported the symptoms. Signs were present in both male and female subjects in the state. The main sign recorded was clicking in both male and female subjects, almost equally distributed by place of residence. There were no marked differentials between regions.

Table 6.16. Percent subjects with symptoms and signs in the tempromandibular joints by age. sex and geographical area

State : Maharashtra

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=	168	155	323	177	169	346	128	115	243	179	210	389	188	148	336
Symptoms present		0.0	0.0	0.0	0.0	0.3	0.2	0.0	0.0	0.0	3.3	0.6	2.0	2.2	4.1	3.2
Signs present		0.0	0.4	0.2	0.0	0.3	0.2	1.0	0.0	0.5	3.3	1.7	2.5	2.5	4.9	3.7
Clicking		0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.5	3.3	1.4	2.4	2.5	4.1	3.3
Tenderness		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.6	0.0	1.6	0.8
Reduced jaw mobility		0.0	0.4	0.2	0.0	0.3	0.2	0.0	0.0	0.0	0.0	0.3	0.2	0.0	0.0	0.0
Region 2	n=	103	107	210	101	108	209	103	99	202	101	106	207	104	108	212
Symptoms present		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.4	0.0	0.8	0.4
Signs present		0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.4	0.0	0.8	0.4	23.4	16.6	20.0
Clicking		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.4	22.6	15.0	18.8
Tenderness		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
Reduced jaw mobility		0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.4	0.0	0.0	0.0	0.8	1.6	1.2
Region 3	n=	159	157	316	156	159	315	157	159	316	162	154	316	157	156	313
Symptoms present		0.0	0.0	0.0	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.7	0.4	0.0	0.7	0.4
Signs present		0.0	0.0	0.0	0.5	0.7	0.6	0.0	0.0	0.0	1.4	7.1	4.3	11.6	11.1	11.4
Clicking		0.0	0.0	0.0	0.5	0.0	0.3	0.0	0.0	0.0	1.4	6.4	3.9	9.5	10.6	10.1
Tenderness		0.0	0.0	0.0	0.0	0.7	0.4	0.0	0.0	0.0	0.0	1.5	0.8	2.1	1.2	1.7
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
Region 4	n=	162	122	284	155	141	296	133	153	286	144	164	308	165	122	287
Symptoms present		0.0	0.0	0.0	0.7	0.0	0.4	0.6	0.0	0.3	1.6	3.0	2.3	1.8	4.0	2.9
Signs present		0.0	0.0	0.0	0.7	0.8	0.8	0.6	1.4	1.0	4.0	8.6	6.3	5.1	8.3	6.7
Clicking		0.0	0.0	0.0	0.7	0.8	0.8	0.6	1.4	1.0	4.0	7.9	6.0	4.5	8.3	6.4
Tenderness		0.0	0.0	0.0	0.0	0.8	0.4	0.0	0.0	0.0	1.3	3.3	2.3	2.7	3.4	3.1
Reduced jaw mobility		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Region 5	n=	205	202	407	215	201	416	210	205	415	209	203	412	220	188	408
Symptoms present		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	3.2	3.0
Signs present		0.0	0.5	0.3	0.0	0.5	0.3	0.9	0.5	0.7	1.6	2.8	2.2	11.1	17.7	14.4
Clicking		0.0	0.0	0.0	0.0	0.5	0.3	0.9	0.0	0.5	1.6	2.3	2.0	10.5	16.1	13.3
Tenderness		0.0	0.5	0.3	0.0	0.0	0.0	0.0	0.5	0.3	0.0	0.0	0.0	1.3	3.8	2.6
Reduced jaw mobility		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.3	1.0	3.1	2.1
State Rural	n=	538	503	1041	530	521	1051	466	476	942	527	565	1092	568	472	1040
Symptoms present		0.0	0.0	0.0	0.6	0.2	0.4	0.0	0.0	0.0	0.9	1.4	1.2	1.5	2.5	2.0
Signs present		0.0	0.1	0.1	0.4	0.7	0.6	0.6	0.9	0.8	1.9	6.1	4.0	9.7	13.2	11.5
Clicking		0.0	0.0	0.0	0.4	0.5	0.5	0.4	0.7	0.6	1.9	5.5	3.7	9.0	12.4	10.7
Tenderness		0.0	0.1	0.1	0.0	0.6	0.3	0.0	0.1	0.1	0.4	2.1	1.3	1.9	2.1	2.0
Reduced jaw mobility		0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.1	0.0	0.1	0.1	0.3	1.2	0.8
State Urban	n=	259	240	499	274	257	531	265	255	520	268	272	540	266	250	516
Symptoms present		0.0	0.0	0.0	0.0	0.1	0.1	0.5	0.0	0.3	0.6	1.3	1.0	1.0	2.5	1.8
Signs present		0.0	0.1	0.1	0.3	0.1	0.2	0.5	0.0	0.3	2.8	2.8	2.8	12.4	10.4	11.4
Clicking		0.0	0.0	0.0	0.3	0.0	0.2	0.5	0.0	0.3	2.8	2.7	2.8	11.2	9.5	10.4
Tenderness		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.2	0.4	0.9	2.2	1.6
Reduced jaw mobility		0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.3	0.4	0.4
State Total	n=	797	743	1540	804	778	1582	731	731	1462	795	837	1632	834	722	1556
Symptoms present		0.0	0.0	0.0	0.3	0.2	0.3	0.1	0.0	0.1	0.7	1.1	0.9	1.5	2.5	2.0
Signs present		0.0	0.2	0.1	0.3	0.5	0.4	0.6	0.6	0.6	2.0	4.8	3.4	10.5	12.6	11.6
Clicking		0.0	0.0	0.0	0.3	0.4	0.4	0.5	0.4	0.5	2.0	4.3	3.2	9.8	11.8	10.8
Tenderness		0.0	0.1	0.1	0.0	0.4	0.2	0.0	0.1	0.1	0.3	1.4	0.9	1.5	2.4	2.0
Reduced jaw mobility		0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.1	0.4	1.2	0.8

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

State : Maharashtra

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=	177	169	346	127	115	242	179	210	389	164	137	301
With enamel defects		5.1	6.7	5.9	6.0	5.6	5.8	1.6	3.7	2.7	0.7	2.2	1.5
demarcated opacity		4.1	6.3	5.2	5.0	3.4	4.2	1.6	3.1	2.4	0.7	2.2	1.5
diffuse opacity		1.0	0.3	0.7	1.0	2.3	1.7	0.0	1.1	0.6	0.0	0.0	0.0
hypoplasia		0.3	0.0	0.2	0.5	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
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
combinations of opacities and hypoplasia		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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=	100	108	208	103	99	202	102	106	208	94	93	187
With enamel defects		2.0	2.3	2.2	6.7	4.5	5.6	1.6	0.8	1.2	1.2	0.9	1.1
demarcated opacity		1.2	0.8	1.0	1.1	1.2	1.2	0.0	0.0	0.0	0.0	0.0	0.0
diffuse opacity		2.0	1.5	1.8	3.6	3.3	3.5	1.6	0.8	1.2	0.0	0.9	0.5
hypoplasia		0.0	0.0	0.0	1.1	0.0	0.6	0.0	0.0	0.0	1.2	0.0	0.6
other defects		0.0	0.0	0.0	0.8	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
combinations of opacities and hypoplasia		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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=	156	159	315	157	159	316	162	154	316	141	131	272
With enamel defects		2.7	3.5	3.1	2.9	0.7	1.8	1.9	0.7	1.3	0.0	0.9	0.5
demarcated opacity		2.2	1.9	2.1	1.4	0.7	1.1	1.4	0.0	0.7	0.0	0.0	0.0
diffuse opacity		0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.7	1.0	0.0	0.9	0.5
hypoplasia		0.5	0.9	0.7	1.4	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0
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
combinations of opacities and hypoplasia		0.0	1.2	0.6	1.4	0.0	0.7	0.0	0.0	0.0	0.0	0.9	0.5
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 4	n=	151	138	289	133	153	286	144	163	307	117	97	214
With enamel defects		6.4	13.2	9.8	6.7	7.1	6.9	0.8	2.3	1.6	1.8	2.2	2.0
demarcated opacity		2.0	7.7	4.9	3.4	4.3	3.9	0.0	1.0	0.5	0.0	0.0	0.0
diffuse opacity		1.5	1.6	1.6	0.8	0.7	0.8	0.8	0.0	0.4	1.8	1.1	1.5
hypoplasia		1.5	2.4	2.0	0.8	2.1	1.5	0.0	0.7	0.4	0.0	0.0	0.0
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
combinations of opacities and hypoplasia		1.5	1.6	1.6	1.7	0.7	1.2	0.0	0.7	0.4	0.0	0.0	0.0
all three conditions		0.0	0.8	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.6
Region 5	n=	213	199	412	208	204	412	207	201	408	191	159	350
With enamel defects		5.8	5.9	5.9	4.3	7.4	5.9	4.9	2.9	3.9	3.0	4.9	4.0
demarcated opacity		2.2	3.1	2.7	2.9	4.5	3.7	4.0	1.5	2.8	2.5	1.8	2.2
diffuse opacity		2.7	0.9	1.8	0.9	2.0	1.5	0.0	1.4	0.7	0.5	1.9	1.2
hypoplasia		0.9	1.4	1.2	0.0	0.9	0.5	0.5	0.0	0.3	0.0	0.6	0.3
other defects		0.0	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.3
combinations of opacities and hypoplasia		0.0	0.5	0.3	0.5	0.0	0.3	0.5	0.0	0.3	0.5	0.6	0.6
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

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
State Rural	n=	525	518	*1043*	465	475	*940*	527	563	*1090*	505	420	*925*
With enamel defects		5.9	8.9	***7.4***	6.3	6.6	***6.5***	2.4	2.1	***2.3***	1.6	2.7	***2.2***
demarcated opacity		2.5	4.9	***3.7***	2.8	3.3	***3.1***	1.3	0.6	***1.0***	0.7	0.6	***0.7***
diffuse opacity		1.7	1.4	***1.6***	1.4	1.9	***1.7***	1.0	0.9	***1.0***	0.9	1.3	***1.1***
hypoplasia		1.0	1.5	***1.3***	0.9	1.4	***1.2***	0.1	0.3	***0.2***	0.0	0.2	***0.1***
other defects		0.0	0.1	***0.1***	0.2	0.0	***0.1***	0.0	0.0	***0.0***	0.0	0.2	***0.1***
combinations of opacities and hypoplasia		0.7	1.1	***0.9***	1.4	0.4	***0.9***	0.1	0.3	***0.2***	0.1	0.4	***0.3***
all three conditions		0.0	0.4	***0.2***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.5	***0.3***
State Urban	n=	272	255	*527*	263	255	*518*	267	271	*538*	202	197	*399*
With enamel defects		1.9	3.0	***2.5***	3.4	2.5	***3.0***	1.4	1.7	***1.6***	1.1	0.9	***1.0***
demarcated opacity		1.4	2.3	***1.9***	1.9	2.1	***2.0***	1.1	1.7	***1.4***	0.2	0.4	***0.3***
diffuse opacity		0.9	0.1	***0.5***	0.9	0.4	***0.7***	0.3	0.0	***0.2***	0.0	0.5	***0.3***
hypoplasia		0.4	0.6	***0.5***	0.8	0.0	***0.4***	0.0	0.0	***0.0***	0.8	0.0	***0.4***
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***
combinations of opacities and hypoplasia		0.0	0.3	***0.2***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
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=	797	773	*1570*	728	730	*1458*	794	834	*1628*	707	617	*1324*
With enamel defects		4.8	6.7	***5.8***	5.2	5.5	***5.4***	2.4	2.1	***2.3***	1.7	2.5	***2.1***
demarcated opacity		2.2	3.9	***3.1***	2.6	3.2	***2.9***	1.7	1.0	***1.4***	0.8	0.7	***0.8***
diffuse opacity		1.6	0.9	***1.3***	1.1	1.4	***1.3***	0.6	0.7	***0.7***	0.6	1.2	***0.9***
hypoplasia		0.8	1.2	***1.0***	0.8	0.9	***0.9***	0.1	0.2	***0.2***	0.2	0.2	***0.2***
other defects		0.0	0.1	***0.1***	0.1	0.0	***0.1***	0.0	0.0	***0.0***	0.0	0.2	***0.1***
combinations of opacities and hypoplasia		0.4	0.8	***0.6***	0.9	0.2	***0.6***	0.1	0.2	***0.2***	0.2	0.4	***0.3***
all three conditions		0.0	0.2	***0.1***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.3	***0.2***

6.7.3 Enamel defects (opacities, hypoplasia)

Table 6.17 presents the per cent subjects with enamel defects, by type of defect, and Table 6.18 presents 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 hypoplasias, types of opacities and combinations of both. The 5-year age group was excluded from examination.

Overall, there was a very low prevalence though there was an almost even distribution of enamel defects by age groups and sex in Maharashtra. The defects appeared to decrease with age and were more in rural areas. The proportion of subjects with enamel defects ranged from 2.3 per cent in the 35-44 year age group to a maximum of about 5.8 per cent subjects (both male and female) in the 12-year age group. Enamel defects were recorded among 2.1 per cent subjects in the 65-74 age group.

The most commonly occurring enamel defects, in order of their prevalence across age groups, were demarcated opacity and diffuse opacity. No combinations of opacities and hypoplasias were recorded.

There were no major rural and urban differentials in the pattern of distribution of enamel defects by type.

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

State : Maharashtra

Enamel opacities/Hypoplasia		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=	169	156	*325*	178	170	*348*	128	116	*244*	180	212	*392*	189	148	*337*
Mean no. of teeth with enamel defects		0.1	0.1	*0.1*	0.1	0.2	*0.2*	0.2	0.1	*0.2*	0.0	0.1	*0.1*	0.0	0.0	*0.0*
demarcated opacity		0.1	0.1	*0.1*	0.1	0.2	*0.2*	0.2	0.1	*0.2*	0.0	0.1	*0.1*	0.0	0.0	*0.0*
diffuse opacity		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*
hypoplasia		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*
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*	0.0	0.0	*0.0*
combinations of opacities and hypoplasia		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*
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*	0.0	0.0	*0.0*
Region 2	n=	103	107	*210*	101	109	*210*	104	103	*207*	102	106	*208*	107	109	*216*
Mean no. of teeth with enamel defects		0.1	0.0	*0.1*	0.1	0.1	*0.1*	0.3	0.2	*0.3*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
demarcated opacity		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*
diffuse opacity		0.0	0.0	*0.0*	0.1	0.1	*0.1*	0.2	0.2	*0.2*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
hypoplasia		0.1	0.0	*0.1*	0.0	0.0	*0.0*	0.1	0.0	*0.1*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
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*	0.0	0.0	*0.0*
combinations of opacities and hypoplasia		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*
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*	0.0	0.0	*0.0*
Region 3	n=	159	158	*317*	157	159	*316*	159	159	*318*	162	154	*316*	157	157	*314*
Mean no. of teeth with enamel defects		0.0	0.0	*0.0*	0.1	0.2	*0.2*	0.2	0.1	*0.2*	0.0	0.0	*0.0*	0.0	0.1	*0.1*
demarcated opacity		0.0	0.0	*0.0*	0.1	0.1	*0.1*	0.1	0.1	*0.1*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
diffuse opacity		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*
hypoplasia		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*
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*	0.0	0.0	*0.0*
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*	0.0	0.0	*0.0*
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*	0.0	0.0	*0.0*
Region 4	n=	164	123	*287*	157	141	*298*	133	154	*287*	145	164	*309*	167	122	*289*
Mean no. of teeth with enamel defects		0.1	0.0	*0.1*	0.4	0.8	*0.6*	0.4	0.5	*0.5*	0.0	0.1	*0.1*	0.0	0.0	*0.0*
demarcated opacity		0.0	0.0	*0.0*	0.1	0.4	*0.3*	0.1	0.3	*0.2*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
diffuse opacity		0.0	0.0	*0.0*	0.0	0.1	*0.1*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
hypoplasia		0.1	0.0	*0.1*	0.1	0.2	*0.2*	0.1	0.2	*0.2*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
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*	0.0	0.0	*0.0*
combinations of opacities and hypoplasia		0.0	0.0	*0.0*	0.1	0.1	*0.1*	0.2	0.1	*0.2*	0.0	0.1	*0.1*	0.0	0.0	*0.0*
all three conditions		0.0	0.0	*0.0*	0.0	0.1	*0.1*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
Region 5	n=	208	202	*410*	215	201	*416*	211	206	*417*	210	204	*414*	220	189	*409*
Mean no. of teeth with enamel defects		0.0	0.0	*0.0*	0.3	0.2	*0.3*	0.1	0.2	*0.2*	0.1	0.1	*0.1*	0.1	0.2	*0.2*
demarcated opacity		0.0	0.0	*0.0*	0.1	0.1	*0.1*	0.1	0.1	*0.1*	0.1	0.0	*0.1*	0.1	0.1	*0.1*
diffuse opacity		0.0	0.0	*0.0*	0.1	0.0	*0.1*	0.1	0.1	*0.1*	0.0	0.1	*0.1*	0.0	0.1	*0.1*
hypoplasia		0.0	0.0	*0.0*	0.1	0.0	*0.1*	0.0	0.1	*0.1*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
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*	0.0	0.0	*0.0*
combinations of opacities and hypoplasia		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*
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*	0.0	0.0	*0.0*

Enamel opacities/Hypoplasia		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
State Rural	n=	542	504	*1046*	532	523	*1055*	468	482	*950*	530	567	*1097*	573	474	*1047*
Mean no. of teeth with enamel defects		0.1	0.0	***0.1***	0.3	0.5	***0.4***	0.3	0.4	***0.4***	0.1	0.1	***0.1***	0.0	0.1	***0.1***
demarcated opacity		0.0	0.0	***0.0***	0.1	0.2	***0.2***	0.1	0.2	***0.2***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
diffuse opacity		0.0	0.0	***0.0***	0.1	0.1	***0.1***	0.1	0.1	***0.1***	0.0	0.0	***0.0***	0.0	0.1	***0.1***
hypoplasia		0.0	0.0	***0.0***	0.1	0.1	***0.1***	0.1	0.1	***0.1***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
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***	0.0	0.0	***0.0***
combinations of opacities and hypoplasia		0.0	0.0	***0.0***	0.1	0.1	***0.1***	0.1	0.0	***0.1***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
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***	0.0	0.0	***0.0***
State Urban	n=	261	242	*503*	276	257	*533*	267	256	*523*	269	273	*542*	267	251	*518*
Mean no. of teeth with enamel defects		0.1	0.0	***0.1***	0.1	0.1	***0.1***	0.1	0.0	***0.1***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
demarcated opacity		0.0	0.0	***0.0***	0.0	0.1	***0.1***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
diffuse opacity		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***
hypoplasia		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***
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***	0.0	0.0	***0.0***
combinations of opacities and hypoplasia		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***
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***	0.0	0.0	***0.0***
State Total	n=	803	746	*1549*	808	780	*1588*	735	738	*1473*	799	840	*1639*	840	725	*1565*
Mean no. of teeth with enamel defects		0.1	0.0	***0.1***	0.2	0.3	***0.3***	0.2	0.3	***0.3***	0.1	0.1	***0.1***	0.0	0.1	***0.1***
demarcated opacity		0.0	0.0	***0.0***	0.1	0.2	***0.2***	0.1	0.1	***0.1***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
diffuse opacity		0.0	0.0	***0.0***	0.1	0.0	***0.1***	0.1	0.0	***0.1***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
hypoplasia		0.0	0.0	***0.0***	0.1	0.1	***0.1***	0.1	0.1	***0.1***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
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***	0.0	0.0	***0.0***
combinations of opacities and hypoplasia		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***
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***	0.0	0.0	***0.0***

6.7.4 Prosthetic status (upper & lower)

The prosthetic status was recorded for subjects aged 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 dentures. The data was recorded separately for upper arch (maxillary teeth) and lower arch (mandibular teeth).

Tables 6.19 and 6.20 present the percentage of subjects with prosthetic status of upper and lower dental arches by type of prostheses, respectively. Table 6.21 presents the percentage of subjects wearing full mouth removable dentures.

A negligible number of subjects in the 15-year age group were wearing a prosthesis in the upper or lower arches. The overall proportion of subjects wearing one or the other type of prostheses in the upper and lower arches was low in the state, but the percentage of subjects wearing prostheses increased as age advanced, from 35-44 to 65-74 years (Tables 6.19 and 6.20).

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

State : Maharashtra

Prosthetic Status (Upper)		15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T
Region 1	n=	128	116	*244*	180	212	*392*	189	148	*337*
With Prostheses present		0.5	0.0	*0.3*	4.9	10.1	*7.5*	39.6	33.8	*36.7*
Bridge or more than one bridge		0.0	0.0	*0.0*	0.3	0.6	*0.5*	0.0	1.6	*0.8*
Partial denture		0.5	0.0	*0.3*	4.5	9.5	*7.0*	31.9	26.5	*29.2*
Both Bridge and partial denture		0.0	0.0	*0.0*	0.0	0.0	*0.0*	1.2	0.8	*1.0*
Full removal Denture		0.0	0.0	*0.0*	0.0	0.0	*0.0*	6.5	4.9	*5.7*
Region 2	n=	104	103	*207*	102	106	*208*	107	109	*216*
With Prostheses present		0.0	0.0	*0.0*	2.3	1.9	*2.1*	5.1	5.3	*5.2*
Bridge or more than one bridge		0.0	0.0	*0.0*	2.3	1.1	*1.7*	0.0	0.0	*0.0*
Partial denture		0.0	0.0	*0.0*	0.0	0.8	*0.4*	0.0	0.0	*0.0*
Both Bridge and partial denture		0.0	0.0	*0.0*	0.0	0.0	*0.0*	1.1	0.0	*0.6*
Full removal Denture		0.0	0.0	*0.0*	0.0	0.0	*0.0*	4.0	5.3	*4.7*
Region 3	n=	159	159	*318*	162	154	*316*	157	157	*314*
With Prostheses present		0.0	0.0	*0.0*	2.1	0.5	*1.3*	2.4	1.4	*1.9*
Bridge or more than one bridge		0.0	0.0	*0.0*	0.7	0.0	*0.4*	0.0	0.0	*0.0*
Partial denture		0.0	0.0	*0.0*	1.4	0.5	*1.0*	0.5	0.5	*0.5*
Both Bridge and partial denture		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
Full removal Denture		0.0	0.0	*0.0*	0.0	0.0	*0.0*	1.9	0.9	*1.4*
Region 4	n=	133	154	*287*	145	164	*309*	167	122	*289*
With Prostheses present		0.0	0.5	*0.3*	1.9	2.5	*2.2*	9.1	8.9	*9.0*
Bridge or more than one bridge		0.0	0.0	*0.0*	0.8	0.0	*0.4*	0.5	0.9	*0.7*
Partial denture		0.0	0.5	*0.3*	1.1	2.5	*1.8*	3.3	6.5	*4.9*
Both Bridge and partial denture		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
Full removal Denture		0.0	0.0	*0.0*	0.0	0.0	*0.0*	5.3	1.6	*3.5*
Region 5	n=	211	206	*417*	210	204	*414*	220	189	*409*
With Prostheses present		0.0	0.0	*0.0*	2.4	2.5	*2.5*	3.7	4.7	*4.2*
Bridge or more than one bridge		0.0	0.0	*0.0*	1.8	1.5	*1.7*	1.0	1.5	*1.3*
Partial denture		0.0	0.0	*0.0*	0.6	0.6	*0.6*	0.4	0.0	*0.2*
Both Bridge and partial denture		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.5	*0.3*
Full removal Denture		0.0	0.0	*0.0*	0.0	0.5	*0.3*	2.3	2.7	*2.5*
State Rural	n=	468	482	*950*	530	567	*1097*	573	474	*1047*
With Prostheses present		0.0	0.0	*0.0*	1.8	2.5	*2.2*	7.9	6.5	*7.2*
Bridge or more than one bridge		0.0	0.0	*0.0*	1.1	0.3	*0.7*	0.1	1.0	*0.6*
Partial denture		0.0	0.0	*0.0*	0.7	2.0	*1.4*	5.3	4.2	*4.8*
Both Bridge and partial denture		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.1	0.1	*0.1*
Full removal Denture		0.0	0.0	*0.0*	0.0	0.1	*0.1*	2.4	1.1	*1.8*
State Urban	n=	267	256	*523*	269	273	*542*	267	251	*518*
With Prostheses present		0.1	0.6	*0.4*	3.5	3.5	*3.5*	11.2	10.2	*10.7*
Bridge or more than one bridge		0.0	0.0	*0.0*	1.4	1.0	*1.2*	0.9	0.0	*0.5*
Partial denture		0.1	0.6	*0.4*	2.1	2.5	*2.3*	2.1	4.1	*3.1*
Both Bridge and partial denture		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.8	0.2	*0.5*
Full removal Denture		0.0	0.0	*0.0*	0.0	0.0	*0.0*	7.4	5.9	*6.7*
State Total	n=	735	738	*1473*	799	840	*1639*	840	725	*1565*
With Prostheses present		0.0	0.1	*0.1*	2.4	2.7	*2.6*	8.3	7.3	*7.8*
Bridge or more than one bridge		0.0	0.0	*0.0*	1.3	0.7	*1.0*	0.4	0.8	*0.6*
Partial denture		0.0	0.1	*0.1*	1.0	1.9	*1.5*	4.0	3.5	*3.8*
Both Bridge and partial denture		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.3	0.2	*0.3*
Full removal Denture		0.0	0.0	*0.0*	0.0	0.1	*0.1*	3.6	2.8	*3.2*

Note: For information on current status and need for full mouth removable dentures, please refer to Tables 6.24 and 6.25 respectively. present, please refer to

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

State : Maharashtra

Prosthetic Status (Lower)		15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T
Region 1	n=	128	116	*244*	180	212	*392*	189	148	*337*
Prostheses present		0.0	0.6	*0.3*	8.4	9.0	*8.7*	38.3	31.8	*35.1*
Bridge or more than one bridge		0.0	0.0	*0.0*	0.6	0.0	*0.3*	1.5	0.0	*0.8*
Partial denture		0.0	0.6	*0.3*	7.1	9.0	*8.1*	28.5	25.7	*27.1*
Both Bridge and partial denture		0.0	0.0	*0.0*	0.0	0.0	*0.0*	1.2	0.8	*1.0*
Full removal Denture		0.0	0.0	*0.0*	0.7	0.0	*0.4*	7.1	5.3	*6.2*
Region 2	n=	104	103	*207*	102	106	*208*	107	109	*216*
Prostheses present		0.0	1.1	*0.6*	0.0	1.9	*1.0*	6.2	6.4	*6.3*
Bridge or more than one bridge		0.0	1.1	*0.6*	0.0	1.9	*1.0*	1.1	1.1	*1.1*
Partial denture		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
Both Bridge and partial denture		0.0	0.0	*0.0*	0.0	0.0	*0.0*	1.1	0.0	*0.6*
Full removal Denture		0.0	0.0	*0.0*	0.0	0.0	*0.0*	4.0	5.3	*4.7*
Region 3		159	159	*318*	162	154	*316*	157	157	*314*
Prostheses present		0.0	1.2	*0.6*	0.7	0.0	*0.4*	2.4	1.9	*2.2*
Bridge or more than one bridge		0.0	1.2	*0.6*	0.0	0.0	*0.0*	0.0	0.5	*0.3*
Partial denture		0.0	0.0	*0.0*	0.7	0.0	*0.4*	0.5	0.5	*0.5*
Both Bridge and partial denture		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
Full removal Denture		0.0	0.0	*0.0*	0.0	0.0	*0.0*	1.9	0.9	*1.4*
Region 4	n=	133	154	*287*	145	164	*309*	167	122	*289*
Prostheses present		0.0	0.0	*0.0*	1.3	1.6	*1.5*	8.9	8.3	*8.6*
Bridge or more than one bridge		0.0	0.0	*0.0*	0.8	0.0	*0.4*	1.1	0.9	*1.0*
Partial denture		0.0	0.0	*0.0*	0.6	1.6	*1.1*	3.1	5.8	*4.5*
Both Bridge and partial denture		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
Full removal Denture		0.0	0.0	*0.0*	0.0	0.0	*0.0*	4.6	1.6	*3.1*
Region 5	n=	211	206	*417*	210	204	*414*	220	189	*409*
Prostheses present		0.0	0.0	*0.0*	0.9	2.0	*1.5*	4.2	4.7	*4.5*
Bridge or more than one bridge		0.0	0.0	*0.0*	0.9	1.0	*1.0*	0.9	0.5	*0.7*
Partial denture		0.0	0.0	*0.0*	0.0	0.5	*0.3*	1.4	0.5	*1.0*
Both Bridge and partial denture		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.5	*0.3*
Full removal Denture		0.0	0.0	*0.0*	0.0	0.5	*0.3*	1.9	3.2	*2.6*
State Rural		468	482	*950*	530	567	*1097*	573	474	*1047*
Prostheses present		0.0	0.2	*0.1*	1.6	1.8	*1.7*	7.5	6.2	*6.9*
Bridge or more than one bridge		0.0	0.2	*0.1*	0.6	0.3	*0.5*	0.7	0.5	*0.6*
Partial denture		0.0	0.0	*0.0*	0.9	1.3	*1.1*	4.7	4.2	*4.5*
Both Bridge and partial denture		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.1	0.1	*0.1*
Full removal Denture		0.0	0.0	*0.0*	0.1	0.1	*0.1*	2.0	1.3	*1.7*
State Urban	n=	267	256	*523*	269	273	*542*	267	251	*518*
Prostheses present		0.0	1.1	*0.6*	1.5	3.2	*2.4*	12.3	10.7	*11.5*
Bridge or more than one bridge		0.0	1.0	*0.5*	0.2	1.0	*0.6*	1.3	1.0	*1.2*
Partial denture		0.0	0.1	*0.1*	1.3	2.2	*1.8*	2.6	3.5	*3.1*
Both Bridge and partial denture		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.8	0.2	*0.5*
Full removal Denture		0.0	0.0	*0.0*	0.0	0.0	*0.0*	7.6	6.0	*6.8*
State Total	n=	735	738	*1473*	799	840	*1639*	840	725	*1565*
Prostheses present		0.0	0.4	*0.2*	1.4	2.1	*1.8*	8.4	7.3	*7.9*
Bridge or more than one bridge		0.0	0.4	*0.2*	0.5	0.6	*0.6*	0.9	0.7	*0.8*
Partial denture		0.0	0.0	*0.0*	0.8	1.4	*1.1*	3.9	3.5	*3.7*
Both Bridge and partial denture		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.3	0.2	*0.3*
Full removal Denture		0.0	0.0	*0.0*	0.1	0.1	*0.1*	3.3	3.0	*3.2*

Note: For information on current status and need for full mouth removable dentures, please refer to Tables 6.24 and 6.25 respectively. present, please refer to

Table 6.21. Percent subjects needing full mouth removable denture by age, sex, and geographical area.

State : Maharashtra

Prosthetic Need (Full mouth removable dentures)		15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T
Region 1										
	n=	125	112	*237*	175	211	*386*	186	145	*331*
% subjects needing full mouth removable dentures		0.0	0.0	*0.0*	1.0	0.6	*0.8*	18.5	14.5	*16.5*
Region 2										
	n=	104	98	*202*	102	106	*208*	104	109	*213*
% subjects needing full mouth removable dentures		0.0	0.0	*0.0*	0.0	0.0	*0.0*	32.3	34.3	*33.3*
Region 3										
	n=	155	159	*314*	161	154	*315*	157	155	*312*
% subjects needing full mouth removable dentures		0.0	0.0	*0.0*	0.0	0.0	*0.0*	16.4	20.3	*18.4*
Region 4										
	n=	132	150	*282*	143	163	*306*	162	120	*282*
% subjects needing full mouth removable dentures		0.0	0.0	*0.0*	0.0	0.0	*0.0*	32.0	26.6	*29.3*
Region 5										
	n=	209	205	*414*	209	201	*410*	216	185	*401*
% subjects needing full mouth removable dentures		0.0	0.0	*0.0*	0.0	0.6	*0.3*	33.7	39.9	*36.8*
State Rural										
	n=	462	475	*937*	523	563	*1086*	562	468	*1030*
% subjects needing full mouth removable dentures		0.0	0.0	*0.0*	0.0	0.0	*0.0*	25.2	25.9	*25.6*
State Urban										
	n=	263	249	*512*	267	272	*539*	263	246	*509*
% subjects needing full mouth removable dentures		0.0	0.0	*0.0*	0.3	0.5	*0.4*	34.4	33.7	*34.1*
State Total										
	n=	725	724	*1449*	790	835	*1625*	825	714	*1539*
% subjects needing full mouth removable dentures		0.0	0.0	*0.0*	0.1	0.2	*0.2*	28.1	29.9	*29.0*

The percentage of subjects aged 35-44 years wearing prostheses (upper and/or lower arch) was about 2.2 per cent while it was about 7.8 per cent in subjects aged 65-74 years.

The full denture in either arch was the most prevalent prostheses amongst the 65-74 age group followed by a much lower prevalence of partial dentures. In the 35-44 age group, the most prevalent prostheses were partial dentures.

More male subjects were generally wearing prostheses. The prevalence pattern of subjects wearing prostheses in the upper arch and their pattern of distribution by type of prostheses was more in urban subjects and markedly more in E. Vidarbha.

Full mouth removable dentures (upper and lower arches) were being worn mostly by subjects aged 65-74 years, (3.2 per cent), distributed more in urban areas, in the state (Table 6.21).

6.7.5 Prosthetic need (upper & lower)

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

Tables 6.22 and 6.23 present the percentage of subjects with prosthetic need of upper and lower dental arches, respectively, by type of prostheses. Table 6.24 presents the percentage of subjects needing full mouth removable dentures.

The need for prostheses was only 20.5 per cent (upper arch) and 22.2 per cent (lower arch) in the 35-44 age group but it increased rapidly to about 70.6 (upper arch) and 70.1 per cent (lower arch) in the 65-74 group (Tables 6.22 and 6.23).

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

State : Maharashtra

Prosthetic Need (Upper)		15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T
Region 1	n=	128	116	244	180	212	392	189	148	337
With Prosthetic need		2.5	1.7	2.1	9.4	12.9	11.2	60.3	49.7	55.0
Need for one unit prosthesis		2.5	1.7	2.1	4.9	6.2	5.6	2.5	1.6	2.1
Need for multi unit prosthesis		0.0	0.0	0.0	3.6	5.6	4.6	34.1	31.4	32.8
Need for combination of one and/or MUP		0.0	0.0	0.0	0.0	0.6	0.3	3.4	1.6	2.5
Need for full prosthesis		0.0	0.0	0.0	1.0	0.6	0.8	20.4	15.0	17.7
Region 2	n=	104	103	207	102	106	208	107	109	216
With Prosthetic need		1.1	0.0	0.6	19.2	20.0	19.6	64.3	78.2	71.3
Need for one unit prosthesis		1.1	0.0	0.6	6.1	6.8	6.5	5.3	7.4	6.4
Need for multi unit prosthesis		0.0	0.0	0.0	10.1	11.4	10.8	15.8	26.3	21.1
Need for combination of one and/or MUP		0.0	0.0	0.0	3.1	1.9	2.5	7.0	7.9	7.5
Need for full prosthesis		0.0	0.0	0.0	0.0	0.0	0.0	36.2	36.6	36.4
Region 3	n=	159	159	318	162	154	316	157	157	314
With Prosthetic need		0.7	1.2	1.0	13.0	18.8	15.9	65.9	66.5	66.2
Need for one unit prosthesis		0.0	1.2	0.6	7.0	7.8	7.4	4.3	13.9	9.1
Need for multi unit prosthesis		0.7	0.0	0.4	6.0	10.5	8.3	39.8	27.7	33.8
Need for combination of one and/or MUP		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.4
Need for full prosthesis		0.0	0.0	0.0	0.0	0.5	0.3	21.8	24.1	23.0
Region 4	n=	133	154	287	145	164	309	167	122	289
With Prosthetic need		2.5	0.7	1.6	19.7	29.7	24.7	71.3	67.9	69.6
Need for one unit prosthesis		1.7	0.7	1.2	9.9	14.4	12.2	6.9	9.2	8.1
Need for multi unit prosthesis		0.8	0.0	0.4	8.2	14.7	11.5	26.0	28.8	27.4
Need for combination of one and/or MUP		0.0	0.0	0.0	1.5	0.7	1.1	6.2	2.9	4.6
Need for full prosthesis		0.0	0.0	0.0	0.0	0.0	0.0	32.3	27.1	29.7
Region 5	n=	211	206	417	210	204	414	220	189	409
With Prosthetic need		1.8	0.9	1.4	23.4	21.5	22.5	77.8	78.3	78.1
Need for one unit prosthesis		1.3	0.9	1.1	11.9	5.3	8.6	4.9	2.5	3.7
Need for multi unit prosthesis		0.0	0.0	0.0	10.5	14.1	12.3	32.9	29.0	31.0
Need for combination of one and/or MUP		0.4	0.0	0.2	0.6	1.6	1.1	6.1	5.7	5.9
Need for full prosthesis		0.0	0.0	0.0	0.5	0.6	0.6	33.9	41.1	37.5
State Rural	n=	468	482	950	530	567	1097	573	474	1047
With Prosthetic need		2.1	0.9	1.5	18.0	22.9	20.5	69.7	66.0	67.9
Need for one unit prosthesis		1.3	0.9	1.1	9.8	9.9	9.9	5.8	8.9	7.4
Need for multi unit prosthesis		0.6	0.0	0.3	7.1	12.3	9.7	31.7	26.6	29.2
Need for combination of one and/or MUP		0.1	0.0	0.1	1.0	0.7	0.9	5.0	2.6	3.8
Need for full prosthesis		0.0	0.0	0.0	0.1	0.0	0.1	27.2	27.9	27.6
State Urban	n=	267	256	523	269	273	542	267	251	518
With Prosthetic need		0.9	0.4	0.7	17.9	22.1	20.0	68.4	78.9	73.7
Need for one unit prosthesis		0.9	0.4	0.7	5.8	7.7	6.8	4.2	5.9	5.1
Need for multi unit prosthesis		0.0	0.0	0.0	10.2	12.2	11.2	22.5	31.6	27.1
Need for combination of one and/or MUP		0.0	0.0	0.0	1.6	1.3	1.5	4.7	6.5	5.6
Need for full prosthesis		0.0	0.0	0.0	0.3	0.8	0.6	37.0	34.9	36.0
State Total	n=	735	738	1473	799	840	1639	840	725	1565
With Prosthetic need		1.7	0.8	1.3	18.5	22.4	20.5	70.1	71.1	70.6
Need for one unit prosthesis		1.2	0.8	1.0	8.8	8.7	8.8	5.1	7.2	6.2
Need for multi unit prosthesis		0.4	0.0	0.2	8.4	12.3	10.4	29.8	28.3	29.1
Need for combination of one and/or MUP		0.1	0.0	0.1	1.1	1.0	1.1	5.1	4.2	4.7
Need for full prosthesis		0.0	0.0	0.0	0.2	0.3	0.3	30.0	31.4	30.7

Note : For information on current status and need for full mouth removable dentures, please refer to Tables 6.24 and 6.25 respectively.

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

State : Maharashtra

Prosthetic Need (Lower)		15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T
Region 1	n=	128	116	*244*	180	212	*392*	189	148	*337*
With Prosthetic need		1.0	3.3	*2.2*	13.3	11.5	*12.4*	56.9	47.7	*52.3*
Need for one unit prosthesis		1.0	3.3	*2.2*	7.5	5.3	*6.4*	3.7	2.0	*2.9*
Need for multi unit prosthesis		0.0	0.0	*0.0*	4.9	5.6	*5.3*	33.1	28.9	*31.0*
Need for combination of one and/or MUP		0.0	0.0	*0.0*	0.0	0.0	*0.0*	1.5	1.6	*1.6*
Need for full prosthesis		0.0	0.0	*0.0*	1.0	0.6	*0.8*	18.5	15.0	*16.8*
Region 2	n=	104	103	*207*	102	106	*208*	107	109	*216*
With Prosthetic need		0.8	3.0	*1.9*	15.9	23.0	*19.5*	67.0	74.3	*70.7*
Need for one unit prosthesis		0.0	3.0	*1.5*	4.2	5.4	*4.8*	7.5	7.5	*7.5*
Need for multi unit prosthesis		0.0	0.0	*0.0*	9.5	15.4	*12.5*	21.1	22.6	*21.9*
Need for combination of one and/or MUP		0.8	0.0	*0.4*	2.3	2.2	*2.3*	5.9	9.8	*7.9*
Need for full prosthesis		0.0	0.0	*0.0*	0.0	0.0	*0.0*	32.5	34.3	*33.4*
Region 3	n=	159	159	*318*	162	154	*316*	157	157	*314*
With Prosthetic need		0.0	0.7	*0.4*	15.8	25.5	*20.7*	60.2	67.5	*63.9*
Need for one unit prosthesis		0.0	0.7	*0.4*	8.4	12.2	*10.3*	8.6	15.8	*12.2*
Need for multi unit prosthesis		0.0	0.0	*0.0*	7.4	13.3	*10.4*	33.8	29.6	*31.7*
Need for combination of one and/or MUP		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.7	*0.4*
Need for full prosthesis		0.0	0.0	*0.0*	0.0	0.0	*0.0*	17.8	21.3	*19.6*
Region 4	n=	133	154	*287*	145	164	*309*	167	122	*289*
With Prosthetic need		4.2	2.6	*3.4*	22.9	33.0	*28.0*	71.0	71.8	*71.4*
Need for one unit prosthesis		2.5	2.6	*2.6*	12.2	14.2	*13.2*	5.7	11.7	*8.7*
Need for multi unit prosthesis		1.7	0.0	*0.9*	8.4	16.8	*12.6*	27.5	32.0	*29.8*
Need for combination of one and/or MUP		0.0	0.0	*0.0*	2.3	2.0	*2.2*	4.9	1.3	*3.1*
Need for full prosthesis		0.0	0.0	*0.0*	0.0	0.0	*0.0*	32.9	26.8	*29.9*
Region 5	n=	211	206	*417*	210	204	*414*	220	189	*409*
With Prosthetic need		2.9	0.9	*1.9*	20.8	23.5	*22.2*	78.0	77.6	*77.8*
Need for one unit prosthesis		2.3	0.9	*1.6*	8.4	5.9	*7.2*	3.5	1.5	*2.5*
Need for multi unit prosthesis		0.5	0.0	*0.3*	10.4	16.4	*13.4*	33.1	28.9	*31.0*
Need for combination of one and/or MUP		0.0	0.0	*0.0*	1.5	0.6	*1.1*	6.0	6.7	*6.4*
Need for full prosthesis		0.0	0.0	*0.0*	0.6	0.6	*0.6*	35.4	40.5	*38.0*
State Rural	n=	468	482	*950*	530	567	*1097*	573	474	*1047*
With Prosthetic need		2.8	1.9	*2.4*	18.9	24.2	*21.6*	67.2	68.1	*67.7*
Need for one unit prosthesis		1.8	1.9	*1.9*	8.9	10.6	*9.8*	5.7	10.6	*8.2*
Need for multi unit prosthesis		0.8	0.0	*0.4*	8.7	12.7	*10.7*	31.5	28.5	*30.0*
Need for combination of one and/or MUP		0.2	0.0	*0.1*	1.4	1.0	*1.2*	3.6	2.8	*3.2*
Need for full prosthesis		0.0	0.0	*0.0*	0.0	0.0	*0.0*	26.4	26.2	*26.3*
State Urban	n=	267	256	*523*	269	273	*542*	267	251	*518*
With Prosthetic need		0.9	2.3	*1.6*	18.6	29.3	*24.0*	70.7	75.4	*73.1*
Need for one unit prosthesis		0.5	2.3	*1.4*	8.4	7.9	*8.2*	6.6	5.5	*6.1*
Need for multi unit prosthesis		0.3	0.0	*0.2*	8.1	19.2	*13.7*	23.8	28.9	*26.4*
Need for combination of one and/or MUP		0.0	0.0	*0.0*	1.6	1.7	*1.7*	5.1	6.6	*5.9*
Need for full prosthesis		0.0	0.0	*0.0*	0.6	0.5	*0.6*	35.3	34.4	*34.9*
State Total	n=	735	738	*1473*	799	840	*1639*	840	725	*1565*
With Prosthetic need		2.2	1.8	*2.0*	19.0	25.3	*22.2*	69.0	71.1	*70.1*
Need for one unit prosthesis		1.5	1.8	*1.7*	8.6	9.2	*8.9*	5.6	7.7	*6.7*
Need for multi unit prosthesis		0.7	0.0	*0.4*	8.6	14.7	*11.7*	29.8	28.6	*29.2*
Need for combination of one and/or MUP		0.1	0.0	*0.1*	1.5	1.2	*1.4*	4.4	4.5	*4.5*
Need for full prosthesis		0.0	0.0	*0.0*	0.2	0.2	*0.2*	29.3	30.3	*29.8*

Note: For information on current status and need for full mouth removable dentures, please refer to Tables 6.24 and 6.25 respectively.

Less than 2 per cent of the subjects in the 15-year-old group required a one-unit prosthesis. In the 35-44 year age group, the most prevalent need was for one or multi-unit prostheses. In the 65-74 age group, the most prevalent need was for multi-unit prostheses followed by the need for full dentures and by the need for one-unit prostheses.

In the 65-74 age group, the needs, in order of prevalence in both upper and lower arches, were for multi-unit prostheses, full prostheses and one-unit prostheses.

The prevalence pattern and distribution of need by type of prostheses was slightly more in urban areas. There were no marked gender related differentials.

The need for full mouth removable dentures was recorded among subjects in the 65-74 age group. About 30 per cent subjects, equally distributed in rural and urban areas, needed such prostheses. Gender related differentials were not marked, although female subjects needed marginally more dentures than their male counterparts (Table 6.24).

Table 6.24. Percent subjects with full mouth removable dentures by age, sex, and geographical area.

State : Maharashtra

Prosthetic Status (Full mouth removable dentures)		15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T
Region 1										
	n=	125	112	*237*	178	212	*390*	188	145	*333*
% subjects with full mouth removable dentures		0.0	0.0	***0.0***	0.0	0.0	***0.0***	6.5	5.0	***5.8***
Region 2										
	n=	104	99	*203*	102	106	*208*	101	107	*208*
% subjects with full mouth removable dentures		0.0	0.0	***0.0***	0.0	0.0	***0.0***	4.3	5.4	***4.9***
Region 3										
	n=	155	159	*314*	162	154	*316*	156	155	*311*
% subjects with full mouth removable dentures		0.0	0.0	***0.0***	0.0	0.0	***0.0***	1.9	0.9	***1.4***
Region 4										
	n=	133	151	*284*	144	164	*308*	166	122	*288*
% subjects with full mouth removable dentures		0.0	0.0	***0.0***	0.0	0.0	***0.0***	4.7	1.6	***3.2***
Region 5										
	n=	209	205	*414*	210	204	*414*	215	188	*403*
% subjects with full mouth removable dentures		0.0	0.0	***0.0***	0.0	0.5	***0.3***	2.0	2.7	***2.4***
State Rural										
	n=	462	475	*937*	528	567	*1095*	560	471	*1031*
% subjects with full mouth removable dentures		0.0	0.0	***0.0***	0.0	0.1	***0.1***	2.0	1.1	***1.6***
State Urban										
	n=	264	251	*515*	268	273	*541*	266	246	*512*
% subjects with full mouth removable dentures		0.0	0.0	***0.0***	0.0	0.0	***0.0***	7.4	6.0	***6.7***
State Total										
	n=	726	726	*1452*	796	840	*1636*	826	717	*1543*
% subjects with full mouth removable dentures		0.0	0.0	***0.0***	0.0	0.1	***0.1***	3.4	2.8	***3.1***

6.7.6 Community need for immediate care and referrals

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

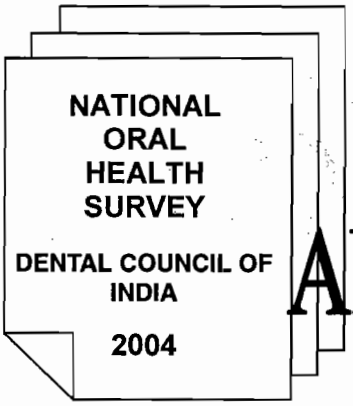
Overall, life threatening and painful or infective conditions were extremely rare in the state. Life threatening conditions were not recorded in the state in the 5-year age group. Pain or infection was recorded in about 1.5 per cent subjects in all age groups. A marginally higher proportion of rural subjects, compared to their urban counterparts were affected.

Referrals were reported by about 2 per cent subjects for all the conditions recorded across the age groups and sexes.

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 : Maharashtra

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=	168	154	*322*	177	167	*344*	127	114	*241*	179	212	*391*	186	145	*331*
Life threatening 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*
Pain or infection		3.1	4.5	*3.8*	0.0	0.7	*0.4*	0.0	1.7	*0.9*	0.6	0.6	*0.6*	0.3	1.7	*1.0*
Other condition		0.7	0.0	*0.4*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.3	0.3	*0.3*	0.3	0.0	*0.2*
Referral		3.8	4.5	*4.2*	0.0	0.4	*0.2*	0.0	1.1	*0.6*	0.6	0.8	*0.7*	0.6	1.7	*1.2*
Region 2	n=	101	106	*207*	100	107	*207*	103	97	*200*	100	105	*205*	104	108	*212*
Life threatening 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*
Pain or infection		1.1	0.0	*0.6*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
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*	0.8	0.0	*0.4*
Referral		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=	157	157	*314*	155	157	*312*	156	158	*314*	161	154	*315*	155	153	*308*
Life threatening 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	0.7	*0.4*
Pain or infection		1.9	0.5	*1.2*	0.0	0.5	*0.3*	0.0	0.5	*0.3*	2.7	0.9	*1.8*	4.7	0.5	*2.6*
Other condition		0.0	0.7	*0.4*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	3.7	*1.9*	5.1	6.4	*5.8*
Referral		1.9	1.2	*1.6*	0.0	0.5	*0.3*	0.0	0.5	*0.3*	2.3	3.9	*3.1*	9.1	7.7	*8.4*
Region 4	n=	158	121	*279*	153	139	*292*	133	149	*282*	142	163	*305*	161	120	*281*
Life threatening condition		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	1.6	0.5	*1.1*	1.4	0.9	*1.2*
Pain or infection		0.7	0.9	*0.8*	2.2	0.8	*1.5*	1.7	3.6	*2.7*	8.5	8.8	*8.7*	10.8	2.8	*6.8*
Other condition		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.8	0.0	*0.4*	1.6	2.7	*2.2*	1.9	2.8	*2.4*
Referral		0.7	0.9	*0.8*	1.4	0.8	*1.1*	1.7	2.9	*2.3*	10.9	7.4	*9.2*	12.6	3.7	*8.2*
Region 5	n=	203	201	*404*	213	199	*412*	207	203	*410*	207	201	*408*	214	185	*399*
Life threatening condition		0.0	0.0	*0.0*	0.4	0.0	*0.2*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.9	0.0	*0.5*
Pain or infection		0.0	0.6	*0.3*	0.4	0.0	*0.2*	0.0	0.0	*0.0*	0.5	0.0	*0.3*	0.0	1.0	*0.5*
Other condition		0.6	0.0	*0.3*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.5	0.0	*0.3*	0.0	0.5	*0.3*
Referral		0.6	0.0	*0.3*	0.4	0.0	*0.2*	0.0	0.0	*0.0*	0.5	0.0	*0.3*	0.4	0.5	*0.5*
State Rural	n=	528	500	*1028*	525	514	*1039*	461	468	*929*	522	563	*1085*	559	466	*1025*
Life threatening condition		0.0	0.0	*0.0*	0.1	0.0	*0.1*	0.0	0.0	*0.0*	0.7	0.0	*0.4*	0.9	0.6	*0.8*
Pain or infection		0.9	0.6	*0.8*	1.2	0.4	*0.8*	0.8	2.0	*1.4*	3.8	4.4	*4.1*	5.5	1.7	*3.6*
Other condition		0.1	0.2	*0.2*	0.0	0.0	*0.0*	0.4	0.0	*0.2*	0.9	2.3	*1.6*	2.3	3.3	*2.8*
Referral		1.0	0.8	*0.9*	0.9	0.4	*0.7*	0.8	1.6	*1.2*	5.0	4.5	*4.8*	7.7	4.1	*5.9*
State Urban	n=	259	239	*498*	273	255	*528*	265	253	*518*	267	272	*539*	261	245	*506*
Life threatening condition		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.5	*0.3*	0.0	0.0	*0.0*
Pain or infection		1.4	1.5	*1.5*	0.0	0.5	*0.3*	0.0	0.4	*0.2*	2.4	0.6	*1.5*	2.6	0.3	*1.5*
Other condition		0.3	0.0	*0.2*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.1	0.1	*0.1*	0.6	0.3	*0.5*
Referral		1.1	1.2	*1.2*	0.0	0.4	*0.2*	0.0	0.3	*0.2*	2.1	0.7	*1.4*	3.3	0.6	*2.0*
State Total	n=	787	739	*1526*	798	769	*1567*	726	721	*1447*	789	835	*1624*	820	711	*1531*
Life threatening condition		0.0	0.0	*0.0*	0.1	0.0	*0.1*	0.0	0.0	*0.0*	0.4	0.1	*0.3*	0.7	0.4	*0.6*
Pain or infection		1.0	0.8	*0.9*	0.8	0.3	*0.6*	0.5	1.3	*0.9*	2.8	2.9	*2.9*	3.9	1.2	*2.6*
Other condition		0.3	0.1	*0.2*	0.0	0.0	*0.0*	0.2	0.0	*0.1*	0.6	1.5	*1.1*	1.6	2.1	*1.9*
Referral		1.0	0.7	*0.9*	0.6	0.3	*0.5*	0.5	1.0	*0.8*	3.5	3.0	*3.3*	5.5	2.7	*4.1*



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New Delhi

OUTGOING MEMBERS

Dr. Mahesh Verma, New Delhi.

Dr. V. Surindera 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

NATIONAL ORAL HEALTH SURVEY & FLUORIDE MAPPING

ANNEXURE - 6

TEAM MEMBERS (MAHARASHTRA)

S. No.	Name	Designation
1.	Dr. Madhuri Shende	Lecturer
2.	Dr. Narhari Talur	Lecturer
3.	Aniket Vakihwala	Intern
4.	Mahesh Sonar	Intern
5.	Sonali Agarwal	Intern
6.	Sheetal Barve	Intern
7.	Dr. Vaishali Bhalerao	Dental Surgeon
8.	Dr. Smita Firodia	Dental Surgeon
9.	Amol Thete	Dental hygenist
10.	Nemichand Jain	Intern
11.	Mrudula Joshi	Intern
12.	Mahesh Gavane	Intern
13.	Dr. Nilesh Joshi	Post graduate Student
14.	Dr. Nehal Deokar	Post graduate Student
15.	Dr. Abhay Kolte	District supervisor
16.	Poonam Rathi	Intern
17.	Shivcharan Giripunje	Intern
18.	Prajwal Choudhary	Intern
19.	Kaustubh Janaikar	Intern
20.	Subodh Sontakke	Intern
21.	Sunita Ojha	Intern
22.	Dr. S.M. Rawalani	District Supervisor
23.	Anjali Shelar	Intern
24.	Dr. Madhuri Chandak	Lecturer
25.	Pooja Chhabra	Intern
26.	Dr. Vishakha Deshpande	Lecturer
27.	Ishan Tiwari	Intern
28.	Dr. Aabid Akbani	Lecturer
29.	Dr. Rahul Bhowate	District Supervisor
30.	Trishna Chabriya	Intern
31.	Satyajit Takade	Intern
32.	Deepali Saraiya	Intern
33.	Tushar Bhagat	Intern
34.	Rachana Deshmukh	Intern

ANNEXURE - 6

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 | | | (13)
R = 1 **U = 2**
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/सामिश्र है? *(Tick One)/* (एक पर चिन्ह लगायें)	**Veg.** / शाकाहारी ..... 1 **Non-Veg.** / सामिश्र 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. अ.	**Socio-demographic cherecteristics of the individual** 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			SKIPPED	SKIPPED				(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			BE	BE				(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			TO	TO				(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			NOT	NOT				(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	 1							(95-99)
		Mouth/ मुँह	 2							
		Can't Say/ कह नहीं सकता ...	 3							
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	 1							(100-104)
		Yes/ हां	 2							
		Can't Say/ कह नहीं सकता ...	 3							
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	 1							(105-109)
		Yes/ हां	 2							
		Can't Say/ कह नहीं सकता ...	 3							
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	 1							(110-114)
		Yes/ हां	 2							
		Can't Say/ कह नहीं सकता ...	 3							
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	 1							(115-119)
		In Sleep/ नींद में	 2							
		In Stress/ दबाव में.....	 3							
		Can't Say/ कह नहीं सकता ...	 4							

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	 1							(120-124)
		2 times/ 2 बार	 2							
		3 times/ 3 बार	 3							
		4 times/ 4 बार	 4							
		5 times/ 5 बार	 5							
		> 5 times/ 6 बार	 6							
		Not taken/ नहीं खाई	 7							

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 दूथ 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 दूथ 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*** दूथ 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 ..... 1 ***Yes*** / हां ..... 2 ***Can't Say/*** ..... 3 कह नहीं सकता		**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*** ..... 1 दंत–क्षय ***Gum disease*** ..... 2 मसूड़ों की बीमारी ***Foul breath*** ..... 3 दुर्गन्धित सांस ***Bleeding gums*** ..... 4 मसूड़ों से खून बहना ***Trauma*** ..... 5 ट्रोमा (चोट) ***Abscess*** ..... 6 एबसेस (फोड़ा) ***Crooked teeth*** ..... 7 टेढ़े–मेढ़े दांत ***Ulcer*** ..... 8 अल्सर ***Others (Specify)*** ..... 9 अन्य (लिखें)								(190-209)
46.	***Who was or were consulted?*** आपने किससे राय ली? ***(Tick as many as reported)*** (जितना बताएं सब लिखें)	***None/*** कोई नहीं ..... 1 ***Friend/Neighbour*** ..... 2 मित्र / पड़ोसी ***Relative/*** रिश्तेदार ..... 3 ***Med. Practitioner*** ..... 4 मेडिकल प्रेक्टिश्नर ***Pharmacist/ Chemist*** ..... 5 फारमासिस्ट / कैमिस्ट ***Untrained Dentist*** ..... 6 अनट्रेण्ड डेन्टिस्ट ***Trained Dentist*** ..... 7 ट्रेण्ड डेन्टिस्ट ***Others (Specify)*** ..... 8 अन्य								(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	1							(230-249)
		Hypertension हाईपरटेन्शन	2							
		Diabetes डाईबिटीज़	3							
		Epilepsy एपिलेप्सी	4							
		Jaundice जोन्डिस	5							
		Asthma अस्थमा	6							
		Others (Specify) अन्य	7							
		Can't Say/ कह नहीं सकता	8							
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	1							(250-269)
		Govt. Hosp./ Dispensary सरकारी हस्पताल / डिस्पेन्सरी	2							
		Private Hospitals निजी हस्पताल	3							
		Private Practitioner प्राइवेट प्रेक्टिशनर	4							
		Don't Know नहीं जानते	5							
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	1							(270-274)
		½ to 1 hour आधा से 1 घण्टा	2							
		> 1 hour 1 घण्टा से अधिक	3							
		Can't Say कह नहीं सकता	4							

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			SKIP TO BE 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*** मिठाई/आइसक्रीम/चाकलेट खाना ..... 1 ***Not brushing regularly*** नियमित रूप से ब्रुश न करना ..... 2 ***Not rinsing*** पानी से मुख साफ न करना ..... 3 ***Consuming Tobacco products/*** तम्बाकू उत्पाद खाना ..... 4 ***Others (Specify)*** अन्य ..... 5 ***Don't Know*** नहीं जानता 6								(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 फलोराइड 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	ASKED TO BE					(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		NOT					(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							(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							(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**						(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							(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							(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							(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**						(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							(395-399)

SKIP TO BE ASKED

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

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)

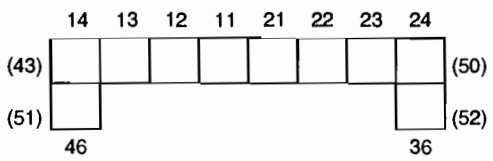
LOCATION

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*

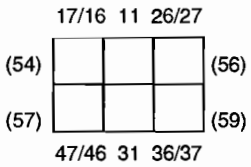
0 = Normal
1 = Questionable
2 = Very mild
3 = Mild
4 = Moderate
5 = Severe
8 = Excluded
9 = Not recorded

(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

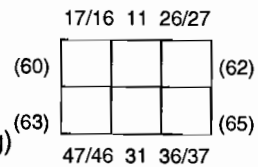
*Not recorded under 15 years of age



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

		55	54	53	52	51	61	62	63	64	65		
		18	17	16	15	14	13	12	11	21	22	23	24	25	26	27	28	
Crown	(66)																	(81)
Root	(82)																	(97)
Treatment	(98)																	(113)

		85	84	83	82	81	71	72	73	74	75		
		48	47	46	45	44	43	42	41	31	32	33	34	35	36	37	38	
Crown	(114)																	(129)
Root	(130)																	(145)
Treatment	(146)																	(161)

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

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

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

PROSTHETIC NEED

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

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

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