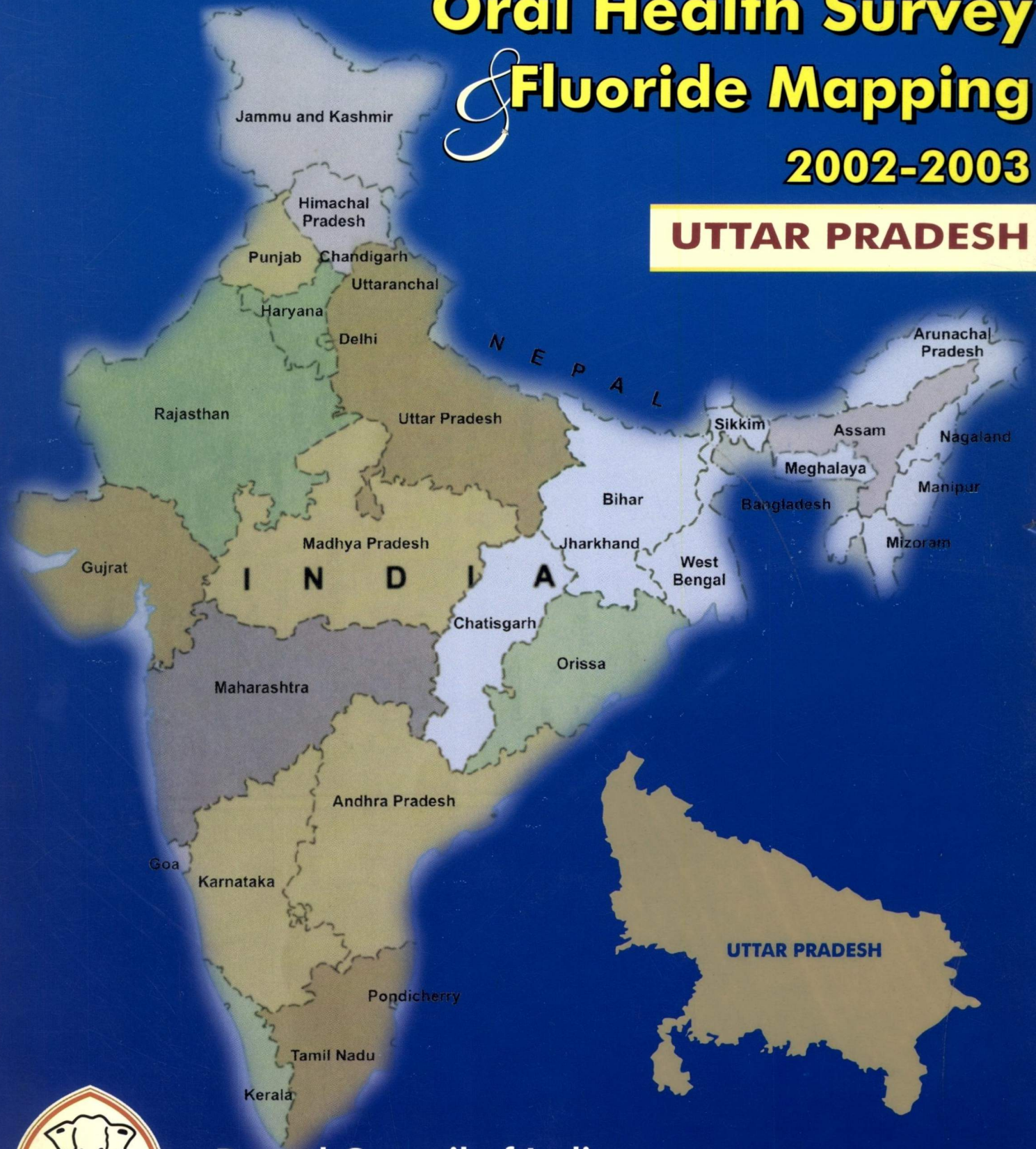
National Oral Health Survey & Fluoride Mapping 2002-2003

UTTAR PRADESH



Dental Council of India
New Delhi
2004

NATIONAL ORAL HEALTH SURVEY & FLUORIDE MAPPING

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UTTAR PRADESH

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DENTAL COUNCIL OF INDIA
NEW DELHI
2004

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Project Supported by :

Colgate - Palmolive Co. U.S.A.
Colgate - Palmolive (India) Ltd.

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ABBREVIATIONS & ACRONYMS

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

FOREWORD

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

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

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

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

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

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

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

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

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

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

Dr R. K. Bali

President, Dental Council of India.

July 2004.

PREFACE

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

July 2004.

ACKNOWLEDGEMENTS

As a Community Dentist and teacher of the subject, I was not aware of any study on the prevalence of oral diseases in India as well as in my own state of Uttar Pradesh. My participation in this innovative task of National Oral Health Survey, has greatly enriched my knowledge & vision.

I gratefully acknowledge the help & assistance provided by the Registrar & Principal, Dental College & Hospital, Muslim Aligarh University, Aligarh. I would wish to record my gratitude, appreciation & thanks to all team members, and organizations who worked selflessly in conducting the survey.

I am indebted to Padmashri Dr. R.K. Bali, Presidental Dental Council of India, for giving me this opportunity to be a part of this mammoth project as a Supervisor for two region viz. North West Plains & South West Plain of the state.

I am most deeply indebted to Dr. V.B. Mathur, Project Officer, for his unstuited faith in my competence, and his expert guidance, encouragement and support which helped me to take up this task and complete it successfully. I also acknowledge my grateful thanks to Dr. P. P. Talwar Consultant Mr. H.B. Chanana for all their help.

I wish to express my profound recognition of the constant help and guidance by the Central Survey Team at Dental Council of India, New Delhi.

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CHAPTER 0
EXECUTIVE SUMMARY

1. GENESIS

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

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

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

2. SCOPE OF THE SURVEY

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

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

4. Dental cleaning practices,

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

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

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

3. DESIGN OF THE SURVEY

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

3.1 Sample size

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

3.2 Sample selection

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

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

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

4. STUDY TOOLS

In order to encompass all the objectives of the study, two types of questionnaires/schedules were used in the survey. One was the WHO schedule on Oral Health Assessment and the second was an individual questionnaire (specially developed by the Dental Council of India) for collecting information on etiologic factors related to oral health awareness, knowledge and practices of individuals on factors affecting oral health, and their treatment-seeking behaviour **Annexures-7**

5. DATA COLLECTION

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

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

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

6. CALIBRATION AND TRAINING WORKSHOPS

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

7. AREA COVERAGE IN SURVEY

The National Oral Health Survey, was designed to cover all six agro-climatic regions into which the state has been divided. But due to certain administrative problems only two out of six agro-climatic regions could be covered in the state.

8. FINDINGS (ORAL HEALTH KNOWLEDGE AND PRACTICES)

8.1 Characteristics of households surveyed

(i) 57 percent of respondents reported living in pucca houses in the state.

(ii) About three-fourth of the respondents reported monthly expenditure of Rs. 2500 & below in the state. This happened because of large percent (93 percent) in the rural area had this much monthly expenditure.

(iii) 78 percent of respondents were Hindus.

(iv) 23 percent of the household belonged to Schedule Castes & other backward class.

(v) 76 percent of households, 98 percent in rural & 25 percent in urban reported getting drinking water from tube wells & hand pumps in the state.

(vi) Wheat was reported staple food of almost all.

(vii) Almost all reported vegetarian.

8.2 Profile of surveyed population

(i) The percent of illiterate particularly females, increased with the increase in the age of respondents while percent having education up to middle and high decrease with the increase in the age of respondents.

(ii) About 20% of respondents aged 15 & 35-44 year olds and 10% aged 65-74 year old, reported reading newspaper daily in the state.

(iii) About 16% aged 15 & 35-44 year olds & only 6% aged 65-74 year olds, had habit of listening to radio daily.

(iv) 46-48% aged 15 & 35-44 year olds and 20% aged 65-74 year olds reported watching TV daily. These were more males & more in urban areas. There were more viewing TV in North-West region than in South West region.

(v) About 35%, 26% & only 5% aged 15, 35-44 & 65-74 year olds respectively, had watched cinema once in 3 months. They were more males & more living in urban areas.

8.3 Abnormal habits across age group

Except the habits of "grinding/ gritting teeth" & "breathing from mouth" the prevealence of each of other abnormal habits, was very low in each age group of respondents in the state.

The prevalence of each of abnormal habit was comparatively more in North-West Plains than in South West Plains.

8.4 Sweet/sugar-taking habits across age group

About 80%, irrespective of age differentials, across both sexes & places of residence reported taken sugar at least once in last one day. About 45-50%, irrespective of age differentials, across both sexes & places of residence, had taken sugar two & more time in last one day.

8.5 Oral hygiene practices across age group

(i) 53 to 69% of respondents belonging to ages/age groups 5, 12, 15 & 35-44 years, across both sexes & more in urban and 24% aged (65-74) years, across both sexes & more in urban, reported the use of tooth brush to clean teeth.

As regard to frequency of cleaning teeth, about 90% in each age group, across both sexes & more in rural, had cleaned teeth once a day.

(ii) More than 75% in each age group, across both sexes & more in rural, had changed tooth brushes once after six months of use.

(iii) 62-65% in each age group, across both sexes & more in urban reported the use of tooth paste and 90% of these across both sexes & places of residence reported using non-fluoridated tooth paste.

(iv) 73 to 75% respondents belonging to ages 12, 15, 35-44 & 65-74 & 50% aged 5 year olds, across both sexes & more in urban, reported rinsing month always after every meal.

8.6 Dental problems and treatment practices across age group

(i) 60-68% of respondents aged 35-44 & 65-74 years & about 13% or less from younger ages, across both sexes & places of residence, reported suffered from oral health problems in last one year.

As regard to nature of problem they suffered, about 75% in each age/age group suffered from dental decay and about 10% & less belonging to ages 15 & below & about 65% from older ages, had problems of gum diseases in last on year.

(ii) 58% from younger ages & about 42% from older ages did not consult any body.

(iii) Nealry 70% of respondents irrespective of age differentials had knowledge dental care facility in the area.

(iv) More in urban & less in rural, reported less than an hour to reach the dental care facility places.

8.7 Awareness of dental health problems across age group

(i) 60% of respondents aged 15 years & about 80% from age groups 35-44 & 65-74 years & only 9% from 12 years old, more in rural, reported aware of oral health problems such as dental decay and gum disease.

(ii) 40 to 70% (minimum 40% & maximum 70%) of respondents, were aware of causative factors and a large percent from each age group reported factors such as not brushing regularly, eating of sweets & not rinsing always.

(iii) About 40%, more in rural, from each age group of respondents, were aware of preventive measures. Most of these reported preventive measures such as regular cleaning of teeth & avoid of sweets etc.

8.8 Tobacco Smoking and Chewing Habits across Age Group

About one third of respondents in each age group more males & more in rural had habit of smoking.

The respondent more of them females & rural, were smoking Bidis & Hookah. While more males in urban reported smoking cigarettes. About 90%, across both sexes, were smoking less than ten times in a day.

More females reported chewing tobacco and pan masala with tobacco & carrying on this practice for the last ten years & chewing tobacco and pan masala with tobacco ten times in a day.

Nearly 15% in each age group, more males & more in rural were consuming alcohol & most of them were consuming occasionally.

9. FINDINGS (ORAL HEALTH ASSESSMENT)

9.1 Dental caries

- Overall, the number of teeth present in the mouth of individuals surveyed decreased as age advanced. About 21% subjects in the age group of 65-74 years were edentulous or without natural teeth. The number of edentulous subjects in rural area (91) was more than double the number in urban area (40). The number was higher for females than males.
- The prevalence of caries experience was high in the state in all age groups and in both primary teeth and permanent teeth. About 42.3 percent children aged 5 years had experienced caries in the primary teeth with a mean number of teeth affected in the population being 1.4 (mean dmft value). Of those affected, the dmft value of 1-3 was most prevalent (29.4%) followed by dmft value 4-5 (7.2%). The decayed teeth (dt) component contributed almost completely to the mean dmft value of 1.4, the balance 0.1 being contributed by missing teeth. The prevalence was higher in rural areas (44.6%) compared with urban areas (35.8%). The pattern of distribution of caries and mean dmft values were similar in both rural and urban areas. There were no marked differentials between regions and between male and female subjects.
- The caries experience in permanent teeth increased as age advanced. The percent subjects with caries experience at 12 years was 51.1; at 15 years it was 73.4; at 35-44 years it was 94.3; and at 65-74 years it reached a peak of 97.2. The DMFT value of 1-3 teeth was most prevalent in all age groups except in the 35-44 years, where the DMFT value of 4-7 and 4-8 was most prevalent, in children and adults, respectively.
- The decayed teeth (DT) component accounted for almost the whole of DMFT in 12 and 15 year old subjects. In 35-44 year old subjects, the missing teeth component was higher than the decayed teeth component. In the 65-74 year old subjects, the missing teeth component was much higher (16.1) compared with the decayed teeth (1.5) component. In the highest age group of 65-74 years, the mean number of teeth missing due to reasons other than caries was markedly higher than the mean number of teeth missing due to caries.
- There were no clearly marked rural and urban, or regional or gender based differentials in the state in the pattern of distribution of caries.

- The high levels of mean number of teeth decayed and missing, together with negligible numbers of filled teeth indicate that either there was little priority for treatment of decayed teeth or it is 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 live.
- The Root Caries does not appear in children and young adults. Therefore the data on root caries is presented only for the two age groups of 35-44 and 65-74 years.
- The percentage of subjects with root caries was approximately 15.5% and 15.1% respectively in the age groups 35-44 and 65-74 years. The mean number of teeth with root caries in both age groups was about 0.5 tooth, indicating that less than one tooth had root caries in the mouth of subjects examined. Root caries was more prevalent in rural rather than urban residents and more male subjects than female subjects had root caries. There were no subjects in the state with root fillings.

9.2 Treatment need

- The percent subjects requiring treatment was consistently high in all age groups in the state and ranged from 42.7% subjects needing treatment in the 5 year age group to 94.5% subjects in the 65-74 year age group. The predominant treatment need was for one or more surface fillings, followed by veneers and crowns and then by extractions.
- There were no marked differentials between male and female subjects requiring treatment or between rural and urban subjects. The pattern of need was similar in between regions.
- The mean number of teeth requiring treatment increased as age advanced. Only 1.3 teeth needed treatment in 5 year old subjects which increased to 1.6 and 2.2 teeth respectively in 12 and 15 year old subjects. There was a marked increase in the number of teeth requiring treatment in 35-44 years (6.4) while the number of teeth requiring treatment approached 16 (half the teeth present in a normal adult mouth) in subjects aged 65-74 years. The type of treatment varied with age but mainly involved fillings, crowns and veneers, extractions and pulp care.
- The pattern of treatment need was similar in male and female subjects and in rural and urban areas. There were no marked regional variations.

9.3 Periodontal status

- The periodontal status was assessed using the Community Periodontal Index (CPI) with its three indicators of gingival bleeding, calculus and periodontal pockets. In addition, the loss of epithelial attachment was also measured to provide an indication of the status of periodontal health.
- Periodontal disease prevalence in the 5 year age group, indicated by bleeding and calculus, was 15.7 percent. The periodontal disease was consistently high across age groups in the state. Bleeding with calculus was most prevalent in subjects aged 12, 15 and 35-44 years followed by these conditions with shallow pockets (4-5 mm).

- Overall, the rural subjects had higher prevalence of periodontal disease compared with the urban area. This may be because of improved oral hygiene practices prevailing in urban areas and because of the influence of socialization and schooling. There were no marked male and female differentials and differentials between the regions.

- The dentition is divided into six sextants, three upper and three lower, for assessment of the periodontal status. The mean number of sextants with periodontal disease, i.e., sextants with bleeding, calculus and/or pockets was highest in 35-44 year old subjects (4.8) followed by the 15 year old subjects (3.5). The mean number of teeth with bleeding and calculus was generally higher than with pockets and bleeding.

- Invariably, across age groups, bleeding emerged as the most prevalent condition to be followed by calculus. The prevalence of shallow and deep pockets was relatively low.

- The pattern was similar for rural and urban areas and between regions. There were no marked male and female differentials.

  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 15, 35-44 and 65-74 year age groups only. The CPI Probe was used to measure pocket depth.

- Overall, the prevalence proportion of subjects with loss of attachment in one or more sextants was lowest in the 15 yr age group (2%) and highest in the 65-74 yr age group (63.4%) in the state. It was almost equally distributed by sex in the age groups of 35-44 yr and 65-74 yr. The least severe form of loss of attachment (4-5 mm) was the most prevalent in subjects aged 35-44 years while loss of attachment of 6-8 mm was more prevalent in the age group of 65-74 years.

- The proportion of residents with loss of attachment was higher in rural residents than urban residents 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.

- The mean number of sextants with loss of attachment was 1.0 and 1.4 respectively in subjects aged 35-44 years and 65-74 years. Again, the pattern was similar in between rural and urban areas, male and female subjects and between regions.

9.4 Malocclusion

- The Dental Aesthetic Index (DAI), recommended by the WHO, was used to analyze the severity of malocclusion in the surveyed population. In calculating percent subjects with malocclusion, only those subjects with a DAI score of 26 or higher were included.

- No significant malocclusion was reported in the age group of 5 yrs where only primary teeth are present.

- The majority of the subjects examined had low prevalence of definite or severe form of malocclusion. The prevalence of definite malocclusion, as indicated by the DA Index, was about 11% in 12 yrs old subjects and about 13.5% in 15 yrs old subjects. This was followed by a significant but lower prevalence of severe malocclusion in 12 and 15 year old subjects. The prevalence of very severe malocclusion was lower in both age groups. However, very severe malocclusion was prevalent in the 35-44 year old subjects (24.4%).

- Malocclusion appeared more prevalent in rural than in urban areas although the differences were small. There were no marked differentials between sexes. There was no significant variation between the regions.

9.5 Oral cancer and other oral mucosal conditions

- The prevalence of oral mucosal lesions was quite low in the state. In subjects aged 5 yr, only 0.4%, all males and all from urban area, had oral mucosal lesions. These were equally distributed in the form of ulcerations and candidiasis.

- Oral cancer was detected in one (0.1%) female subject, aged 65-74 yr, from the urban area. The lesion was located on the vermillion border in the mouth. Leukoplakia is the most common precancerous lesion while lichen planus is categorized as a probable precancerous lesion (Mehta & Hammer, 1993). Leukoplakia was detected in 3 males (0.7%) in the age group of 35-44 yr and 2 females (0.5%) in the age group of 65-74 yr (Tables 6.11 & 6.12). It was located on the sulci and buccal mucosa, and equally distributed in rural and urban area.

- A broad analysis of the lesions by location in the oral mucosa showed that Ulceration was distributed on the buccal mucosa, vermillion border and tongue; and abscesses occurred on alveolar border/ gingiva.

9.6 Fluorosis

- Fluorosis did not appear to be a problem in the state. Fluorosis was not observed in the 5 year old subjects in the state. Only 0.3% subjects aged 12 years, 0.5% subjects aged 15 years and 0.2% subjects aged 65-74 years had questionable or mild fluorosis. The fluorosis was higher in subjects aged 35-44 years (1.1%), of which 0.3% subjects had moderate fluorosis. Very mild or mild fluorosis occurred in 0.5% subjects in this age group.

- The prevalence of fluorosis was almost evenly distributed between male and female subjects and between rural and urban residents. However, fluorosis was observed only in one of the two regions (Region 1) surveyed.

9.7 Other lesions

9.7.1 Extra oral lesions

- There was an even but very low prevalence of extra oral lesions in the state across age groups surveyed. The prevalence was 0.3% each in 5, 12 and 35-44 year old subjects and it was 0.5% in 15 and 65-74 year old subjects. These were all either ulceration, sores, erosions or fissures or abnormalities of upper and lower lips.

- There were no major differentials between sexes, urban and rural areas or between regions.

9.7.2 T M joint symptoms and signs

- Overall, TM Joint symptoms and signs did not appear to be a major public health problem in the state as the prevalence and distribution was extremely low and rare. Symptoms were not reported in 5 year old subjects but increased in prevalence as advanced from 12 years to 65-74 years. The range was between 0.2% in 12 year olds to 6.0% in 65-74 year olds. Signs were present in all age groups and ranged from 0.2% in 5 and 12 years olds to 6.5% in 65-74 year olds. Clicking, tenderness and reduced jaw mobility were prevalent across age groups more or less in that order.
- No major differentials were reported between sexes, rural and urban areas, or regions surveyed.

9.7.3 Enamel defects (opacities, hypoplasia)

- Structural enamel defects in teeth were recorded in terms of opacities and hypoplasias, types of opacities and combinations of both. The lower age group of 5 yr was excluded from examination.
- Overall, there was a relatively high prevalence of enamel defects in the state ranging from about 27.7% in 65-74 year old subjects to a maximum of 46.4% in the 15 year old subjects. In all age groups, the most prevalent type of enamel defect was demarcated opacity, followed by diffuse opacity and combination of opacity and hypoplasias. Enamel hypoplasias were relatively less prevalent with a range of 3.9% of subjects being affected in 65-74 years to 7.8% in 35-44 year age group.
- Although enamel defects were prevalent in the state, the mean number of teeth with enamel defects was low across age groups, and ranged from 0.6 tooth in 65-74 year old subjects to 1.6 tooth in the 15 year olds.
- There were no major male and female, rural and urban or regional differentials in the type and pattern of distribution of enamel defects.

9.8 Prosthetic status and need

- The prosthetic status was recorded for subjects 15 yrs 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 the lower arch (mandibular teeth).
- 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.
- In 65-74 year old subjects, prostheses were present in 4.8% and 1% subjects in the upper and lower dental arches respectively. The corresponding percentages for 35-44 year old subjects were 1% each in upper and lower dental arches. The most prevalent prostheses in 65-74 year old subjects was full denture, followed by partial denture. In 35-44 year old subjects, partial dentures were more prevalent than full dentures.

- There were no major differentials between male and females, and between rural and urban areas.
- The overall percent of subjects in 65-74 years who were wearing full mouth removable dentures was 3.9%. more females than males were wearing full mouth removable dentures. The urban residents had a significantly higher percentage of subjects wearing full mouth dentures (11.7%) compared to their rural counterparts (2.2%). There were no subjects in Region 2 with full dentures.
- It appeared that the need for prostheses was high in the state for both upper and lower dental arches, with a slightly higher need for prostheses in the lower jaw. Almost 28% subjects needed full mouth removable dentures in the state. This was followed by the need for the combination of one and/or multi-unit prostheses for both upper and lower dental arches.
- The need for full mouth removable dentures appeared even in between rural and urban areas and between regions. There were no marked male and female differentials.

9.9 Community need for immediate care and referrals

- Overall, life threatening conditions were not prevalent in the state and appeared only in 0.5%, 0.6% and 0.6% of subjects aged 5 years, 35-44 years and 65-74 years respectively. The condition 'pain or infection' was reported in 0.7% (12 year old subjects) to a maximum of 2% (65-74 year old subjects). Other conditions (unspecified) were reported in 0.2 to 0.5 percent subjects in various age groups. Referrals were made for almost all of the conditions recorded.

Summary of findings of important oral health conditions and practices by age in Uttar Pradesh.

	Findings	Age in years				
		5	12	15	35-44	65-74
1.	**Oral disease conditions**					
1.1	Dental Caries					
	% Prevalence	42.3	51.1	73.4	94.3	97.2
	Mean DMFT	1.4	1.3	2.2	6.6	17.6
	SiC Index	3.7	3.3	4.7	11.7	29.9
1.2	Periodontal disease					
	Bleeding, calculus or pockets					
	% Prevalence	15.7	76.6	84.7	93.3	79.9
	Mean no of Sextants affected	0.0	2.9	3.5	4.8	3.2
1.3	Loss of attachment					
	% Prevalence	NA	NA	2.0	44.1	63.4
	Mean no of Sextants affected	NA	NA	0.0	1.0	1.4
1.4	Malocclusion (%)	0.6	15.8	21.2	46.1	NA
1.5	Dental Fluorosis (%)	15.6	29.5	39.4	52.0	48.6
1.6	Oral mucosal conditions (Nos.)	1	5	11	29	37
1.7	Oral Cancer (Nos.)	0	0	1	1	2
1.8	Edentulousness (%)	NA	NA	0.0	1.0	27.9
2	**Oral Health Practices**					
2.1	Sugar Intake in last 24 hours					
	Once	19.1	28.7	31.5	29.6	32.4
	Two & more times	58.0	48.2	50.0	52.3	41.3
2.2	Clean teeth with					
	Tooth Brush	58.9	67.7	69.8	57.9	23.7
	Fingers	37.3	28.0	25.9	28.3	30.3
2.3	Rinsing mouth					
	Always	51.4	73.4	74.3	76.9	78.8
	Sometimes	38.5	25.3	25.1	22.6	20.3
2.4	Tobacco smoking	NA	NA	NA	38.1	36.2
2.5	Frequency of tobacco smoking					
	Less than 10 times	NA	NA	NA	91.4	78.9
	10 or more times	NA	NA	NA	8.6	21.1

CHAPTER I
INTRODUCTION

1.1 BACKGROUND OF THE STATE

Uttar Pradesh (UP) acquired status of a state, within Indian Union, with Lucknow as its capital on January 26, 1950, when India became Republic. It is located in the North central part of the country bordering Nepal. Its borders touch the states of Uttranchal (earlier a part of the state), Haryana, Rajasthan, Madhya Pradesh, Jharkhand and Bihar. Its Hill region had separate characteristics, profile and aspirations; therefore, a new state of Uttranchal has been carved out of it in November 2000 to ensure full development of its hill region. After separation of Uttranchal, the state could be divided into four regions—Western, Eastern, Central and Bundelkhand. Every region has its distinct social, economic and cultural characteristics apart from different dialects of Hindi.

1.1.2 Population and demographic profile

Uttar Pradesh had population of 166.05 million in 2001 census even after about 8.5 million people have been enumerated in newly found state of Uttranchal. It is still the most populous state of the country with about 16 percent of the country's population. The percent decadal growth rate is 25.8 percent in 1991-2001, higher than 21.3 percent for the country. The average annual exponential growth rate has remained the same in the last two decades – 1981-91 (2.28 percent) and 1991-2001 (2.30 percent) which is much higher than the country as a whole (1.93 percent). Its population density is 689 persons per Sq. Km., almost double that of India (324).

UP has been undergoing a slow process of urbanization. The percent of total population living in urban areas increased from 14 percent in 1971 to 20 percent in 1991 (undivided UP). This is lower than 26 percent for the country.

The level of Infant mortality rate (infant deaths per 1000 live births) in UP (Sample Registration System) is 83, much higher than India's 68 in the year 2000. The sex ratio (females per 1000 males) in 2001 was 898 compared to 933 for India, which itself is very low. Such low sex ratio in UP is a reflection of status of women in the state. Like any other state with high fertility and high mortality, very large percent of its population is dependent, below age 15 years (about 40 percent in 1991) and 60 + years (about 7.0 percent).

The level of birth rate in the state is quite high – 32.8 births per 1000 population in 2000 compared to only 25.8 in the country. Similarly, the level of death rate is 10.3 compared to 8.5 for the country. With large difference in the levels of birth rate in the state and relatively small difference in the death rate, the natural rate of population growth in the state is very high compared to India. The process of decline in birth and death rates in the state has been quite slow – birth rate declined from 44.9 in 1971 to 32.8 in 2000 and death rate from 20.1 to 10.3.

The Couple protection rate (defined as the percentage of eligible couples effectively protected against pregnancy by various methods of contraception) in UP increased steadily – from 6 percent in 1971 to 36 percent in 1991 and 39 percent in 1998. It is six percentage points lower than than India where it was 45 in 1998.

1.1.3 Composition of population

The percent Hindu population in the state is about 82, almost the same as in the country (1991; undivided UP). But Muslim percent is almost 1.5 times that of the country – it is about 17.3 percent in UP compared to 12 percent in India. Other religious groups forma a small percentage. The percent Scheduled caste population in the state is 21 mand Scheduled Tribe only 0.2 percent. While the former population group is higher than in the country, the latter is much lower. The average household size in UP is 6.2; this is much higher (about half a member) than 5.6 in India.

1.1.4 Socio-economic characteristics

Uttar Pradesh is one of the most educationally backward states in India. The literacy rate among population aged 7 years and above in 2001 is 57.4 percent, compared to 65.4 percent in India. It was 70.2 and 43.0 for males and females compared to 75.9 and 54.2 percent respectively for India.

UP is predominantly an agricultural state with 80 percent of the population living in rural areas. The importance of various economic sectors in the economy has changed only slightly over time. The contribution of agricultural sector to the state domestic's product declined from 50 percent in 1980-81 to 42 percent in 1996-97. During the same period, the share of manufacturing sector increased from 10 percent to 15 percent and the contribution of other sectors slightly, from 40 to 42 percent. At the time of 1991 census, the agricultural sector provided livelihood for 72 percent of the labour force. The major agricultural crops include wheat, rice, sugarcane, bajra and potatoes. The state ranks third in India in terms of the per capita production of food grains and rate of growth of the production of food grains.

Industry in UP is not well developed. The state has a few industries, manufacturing cement, fertilizer, aluminum and automobiles. The average per capita net domestic product of the state increased from Rs. 1278 in 1980-81 to Rs. 1763 in 1996-97 at constant 1980-81 prices or Rs. 6733/- at current prices. As per the estimates given by the Planning Commission for 1993-94, 42 percent of the rural population and 35 percent of the urban population were below poverty line.

1.2 NEED FOR ORAL HEALTH SURVEY

1.2.1 Oral health problems

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

It is reported that almost 85 percent of children and 95-100 percent adult population suffer from periodontal disease at a point in time. About 35 percent of children suffer from misaligned teeth and jaws affecting their proper functioning. These children lose their school time, and suffer from pain of dental origin. This not only affects their routine life activities but also causes a good deal of discomfort to their parents in several ways. These dental problems are initially painless but become chronic and self-destructive later, thus leading to gradual tooth loss. The dental caries has a crippling effect on the functional components of oral cavity that leads to malnutrition because

of incapacity to chew any coarse food available to them. Unfortunately, this is still not considered a public health problem and thus no action is taken to correct it. In other words, there is need to make people aware of preventive and curative aspects of oral health so that quality of life of people could be improved.

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

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

1.2.2 Lack of data for policies and manpower development

No authentic, reliable or consolidated data on the magnitude of oral health problems, behavioural practices of people for preventive and curative care, dental manpower, infrastructure and on the appropriateness and efficiency of the existing oral health care services including educational and awareness-raising activities are available in the country. However, a wide spectrum of oral health services exists in many urban/rural areas in India. These services range from rudimentary & sporadic in rural areas to sophisticated and state-of-the-art in urban areas. It is unfortunate that there has neither been any systematic assessment of the need and form of educational activities and curative services, nor of the impact of the existing services on the oral health of the people. The vacuum of an effective monitoring and evaluation system is being felt; the dental professionals are very keen to fill this gap between the emerging needs and the existing services. A strong need exists to understand the oral health care practices and treatment-seeking behaviours of people and to assess the existing oral health care services. An appropriate and relevant oral health policy for the country should address the local problems in the broad context of the overall World Health Organization's (WHO) primary health care approach framework. Ultimately, data needs to be generated to help address and improve the overall oral health of the people in the country.

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

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

1.3 INITIATIVE OF THE DENTAL COUNCIL OF INDIA

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

1.4 NATIONAL ORAL HEALTH SURVEY

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

1.4.1 Support of Government of India

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

1.4.2 Support from Colgate India/ International

The President of the Dental Council of India, Dr R K Bali, approached the Colgate India/ International for funding this Survey and after a series of meetings in Delhi, Mumbai and the USA,

the management of the Company, recognizing the need for such a survey, agreed to grant a major financial assistance for this national survey.

1.4.3 Support of individuals and dental colleges in India

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

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

1.5 SCOPE OF THE SURVEY

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

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

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

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

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

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

1.6 OBJECTIVES

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

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

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

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

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

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

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

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

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

1.7 CHAPTERIZATION PLAN

The report is comprised of the following main chapters:

0 Executive Summary

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

CHAPTER II

METHODOLOGY AND DATA COLLECTION

2.1 BASIC CONSIDERATIONS IN DESIGNING THE SURVEY

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

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

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

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

2.2 SAMPLE DESIGN

2.2.1 Sample size

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

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

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

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

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

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

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

2.2.2 Selection of sample

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

2.2.2.1 Rural sample

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

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

2.2.2.2 Urban sample

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

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

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

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

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

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

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

Code	Region	Districts	Sampled District	*Coverage as per design No. of Households*			*Actual Coverage No. of Households*		
				Rural	Urban	Total	Rural	Urban	Total
1	Northern Region	i) Bahraich							
		ii) Basti							
		iii) Deoria							
		iv) Gonda	Gonda	210	105	315	NOT COVERED		
		viii) Balrampur							
		ix) Shrawasti							
		x) Siddhath Nagar							
		xi) Maharj Ganj							
2	Eastern Region	i) Azamgarh							
		ii) Ballia	Ballia	210	105	315	NOT COVERED		
		iv) Gazipur							
		v) Jaunpur							
		vi) Varanasi							
		vii) Ambedkar Nagar							
		viii) Sant Ravi Dass							
		ix) Bhadohi							
		x) Chanduli							
		xi) Man							
		xii) Mirzapur							
		xiii) Sonbhadra							
3	Central Plains	i) Allahabad							
		ii) Fatehpur							
		iii) Unnao							
		iv) Rae Bareilly							
		v) Lucknow							
		vi) Hardoi							
		vii) Sitapur	Sitapur	210	105	315	NOT COVERED		
		viii) Kheri							
		ix) Pillibhit							
		x) Pratapgardh							
		xi) Sultanpur							
		xii) Bara Banki							
		xiii) Kanshambi							

Code	Region	Districts	Sampled District	Coverage as per design No. of Households			Actual Coverage No. of Households		
				Rural	Urban	Total	Rural	Urban	Total
4	North Western Plains	i) Bareily							
		ii) Bijnor							
		iii) Bulandshahr							
		iv) Ghaziabad	Ghaziabad	210	105	315	210	105	315
		v) Meerut							
		vi) Moradabad							
		vii) Rampur							
		viii) Saharanpur							
		ix) Sahajanpur							
		x) Muzaffarpur							
		xi) Jyotiba Phulenagar							
		xii) Baghpat							
		xiii) Gautambudh Nagar							
5	South Western Plains	i) Badaun	Aligarh	210	105	315	210	105	315
		ii) Agra							
		iii) Ferozabad							
		iv) Aligarh							
		v) Mathura							
		vi) Manipuri							
		vii) Etah							
		viii) Etawah							
		ix) Kanpur (Dehat)							
		x) Kanpur Nagar							
		xi) Farrukhabad							
		xii) Hathras							
		xiii) Auraiya							
		xiv) Kannanj							
6	Bundelkhand	i) Jalaun							
		ii) Jhansi							
		iii) Hamirpur							
		iv) Banda	Banda	210	105	315	NOT COVERED		
		v) Lalitpur							
		vi) Mahoba							
		vii) Chintzakot							
Total	**6**	**71**	**6**	**1260**	**630**	**1890**	**420**	**210**	**630**

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

2.3 STUDY TOOLS

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

2.3.1 Oral health assessment form

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

2.3.2 Questionnaire on oral health knowledge and practices

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

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

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

2.4 DATA COLLECTION

Since the individuals of different ages and sex were to be examined/ interviewed (for oral health problems), it was necessary that dentists should be involved in the data collection teams. Therefore, it was decided that dental colleges, particularly Departments of Community Dentistry of the dental colleges should be involved in the data collection work. It was also hoped that their involvement will help reduce cost of the survey as not only their manpower but also their infrastructure and equipments could be deployed in the survey work. This was based on the assumption that they were willing to cooperate with the task of national survey, the Dental Council of India had taken up, as well as their own professional interest in this long over-due activity for the dental profession. Keeping this in mind, the technical group formed for this survey identified dental colleges and individuals with such an interest in each state whose involvement could be helpful in quality data collection work. The President, Dental Council of India, wrote to these identified individuals and dental colleges to seek their interest in this national effort. The response was very positive and almost all the invitees were very enthusiastic about their involvement. A list of the participating dental colleges is annexed **(Annexure-4).**

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

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

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

After working out logistics of the fieldwork, it was necessary to identify a team involved in the survey in each state. Three types of persons were needed from each state, a Coordinator, a Supervisor and dentists to form field teams. The former was to coordinate all survey activities at state level and was to liaise with the Central Survey Unit. The latter was to supervise and guide the fieldwork activities of the state field teams (each consisting of two dentists and one with social

science background), working under the overall direction of the state Coordinator. The Coordinators were all very senior, experienced persons with research bent of mind – the principals, deans or professors of the departments of Community Dentistry of the dental colleges. (**Annexure -5**). The Technical Committee of the survey identified them. These Coordinators were asked to identify senior dental surgeons from the dental colleges as their field team supervisors in the ratio of one supervisor for four teams.

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

2.5 CALIBRATION AND TRAINING

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

2.6 CLINICAL ASSESSMENT AND CONSIDERATIONS

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

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

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

1. Mouth Mirrors, Tweezers, Curved double ended probes and WHO CPI ball ended probes.
2. Supplies of cotton rolls, masks and gloves, cold sterilizing solution, alcohol or spirit, instrument trays and chittle forceps. The cold sterilizing solution was used in field conditions for the instruments although the sets of instruments were previously boiled for 20-30 minutes.
3. Lightweight folding chair for clinical dental examination of subjects.
4. Torches and batteries.

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

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

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

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

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

1. Summary of Findings
2. Dental Caries Status and Treatment Need
3. Periodontal Disease Status
4. Malocclusion Status
5. Oral Cancers and other Oral Mucosal Lesions
6. Status of Dental Fluorosis
7. Other conditions:

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

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

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

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

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

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

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

2.7 FLUORIDE ESTIMATION IN DRINKING WATER SAMPLES

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

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

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

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

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

The following modules were used to assemble the fluoride analyser:

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

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

2.8 FIELD WORK EXPERIENCES

National Oral Health Survey was designed to cover six districts in Uttar Pradesh state. But due to certain indecision & confusion at the State Coordinator level there could be covered two regions i.e. North West Plains & South West Plains by the Supervisor designated under the Survey for these two regions.

The Supervisor designate, who is working as lecturer in Dental College & Hospital, Aligarh Muslim University, Aligarh requested the registrar, & the Principal, Dental College & Hospital, Aligarh Muslim University, Aligarh for providing Dental Surgeons/ Interns/ Hygienist to conduct survey in the two regions viz. North West Plains & South West Plains of the state. The request was readily accepted and orders were issued & a few Dental Surgeons, and Interns & Hygienist to were asked to assist her in this national task. There was than organized their calibration/training at the University. **Annexure - 6**

After imparting training to the team's members they were taken to sampled villages/CEBs for conducting interview & clinical examinations of subjects. After completing work in Aligarh District, the team members moved to the second region South West Plain to cover Ghaziabad District. Inspite of certain transport & residentional problem in Ghaziabad the work was completed.

2.9 SCRUTINY OF DATA

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

The Central Survey Unit at DCI was particularly careful in scrutiny of the forms from each state. First two batches of forms of each survey team from each state were thoroughly scrutinized to determine gaps in the form of blanks, wrong recording and inconsistencies. The Coordinators were immediately contacted by telephone to point out the data problems. The same concerns were reinforced by sending a Fax. After such reporting, the next batch received was also scrutinized carefully to ensure that deficiencies pointed out earlier have been taken care of in the next batch of forms filled. After initial total scrutiny, the data were scrutinized on a sample basis to ensure that there was no slackness in efforts later – the fatigue factor should not reduce quality of data.

2.10 DATA ANALYSIS

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

were valid for the level to which they relate. These blank tables were given to the agency (TNS MODE) to fill in the data in different cells. In order to ensure that the values given in each cell of the table were right, the software package developed by TNS MODE was tested in a limited number of schedules by manually checking the results.

2.11 REPORT WRITING

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

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

CHAPTER III

BACKGROUND CHARACTERISTICS OF SURVEYED POPULATION

The survey could be conducted in two out of six regions in Uttar Pradesh. These two regions were South-West and North-West plains. Thus analysis presented here is based on the data from these two regions only.

3.1 CHARACTERISTICS OF HOUSEHOLDS

(i) Type of households

The characteristics of the houseolds are presented in Table – 3.1. It shows that 57 percent of the respondents in the state live in pacca houses, followed by 35 percent who live in semi pacca houses. Only 8 percent reported living in kucha houses and large percent of those living in kutcha houses, were in the rural areas of South-West plains of the state. There were no large differences in type of houses between the North–West plains and South-West plains regions of the state.

(ii) Monthly expenditure

About three fourths of the respondents (72.0percent) in the state reported monthly expenditure of less than Rs 2500/-. This happened because of large percent (93 percent) of respondents being in the rural areas, had this much monthly expenditure. These were more from North-West plains than from the South-West plains. In regard to urban areas of the state, there were about 75 percent of the respondents who reported spending more than Rs 2500/- per month [69 percent reported expenditure of Rs. 2501 – 5000 and about 6 percent of them had monthly expenditure of 5501-1000+]. These were mostly in South-West plains of the state.

(iii) Religion

About 78 percent of the respondents were Hindus, followed by Muslims 21 percent in the state. Only 1 percent was Christians.

There were comparatively more Hindus in the rural & more Muslims in the urban areas of the state. The percent of Hindus & Muslims in North-west plains as well as in South-West plains were similar to that in the state.

(iv) Caste

23 percent of households in the state belonged to Schedule Caste (SC), Schedule Tribes (ST) and other backward class (OBC). While 20 percent among these belonged to backward classes (OBC). The percent of such households was much more in rural than in the urban areas. The percent of households belonging to SC, ST & OBC in the two regions N.W. Plains & S.W. Plains were different – more in South-west plains than in North-west.

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

STATE : Uttar Pradesh

	Household Charactersties		REGIONS			STATE	
			1	2	R	U	T
1	**Type of household**	n=	**490**	**275**	**500**	**265**	**765**
	Kuccha		5.9	13.6	12.1	0.3	8.5
	Semi Pucca		35.9	32.7	48.1	5.5	35.0
	Pucca		58.2	53.7	39.7	94.1	56.5
2	**Monthly expenditure (in Rs.)**						
	<= 2500		78.0	58.5	92.8	25.1	72.0
	2,501 - 5,500		20.5	35.5	5.8	68.7	25.2
	5,501 - 10,000		0.0	5.7	0.0	5.9	1.8
	10,000 +		1.5	0.3	1.4	0.3	1.1
3	**Religon**						
	Hindus		80.5	69.9	78.9	73.1	77.2
	Muslims		17.4	29.7	19.5	25.6	21.3
	Sikhs		1.3	0.4	1.4	0.0	1.0
	Christians		0.0	0.0	0.0	0.0	0.0
4	**Caste**						
	Scheduled Caste		1.2	5.6	2.7	2.5	2.7
	Scheduled Tribe		0.4	0.0	0.4	0.0	0.3
	Other Backward Classes		20.1	19.9	24.6	9.7	20.0
	Others		78.3	74.5	72.2	87.7	77.0
5	**Sources of drinking water**						
	Pipe/tap		20.0	34.5	2.2	74.6	24.5
	Tubewell/handpump		80.0	65.5	97.8	25.4	75.5
	Others		0.0	0.0	0.0	0.0	0.0
6	**Staple food**						
	Wheat		98.3	100.0	99.0	100.0	99.3
	Rice		1.1	0.0	1.0	0.0	0.7
7	**Nature of food**						
	Vegetarian		88.3	75.4	86.8	78.5	84.2
	Non-vegetarian		11.7	24.6	13.2	21.5	15.8

(v) Sources of drinking water

76 percent of the households in the state, reported using tube well/hand pumps as source of drinking water; the percent was more (98 percent) in the rural than in the urban areas (25 percent). Almost three-fourths of the households in urban area & only 2 percent in rural areas of the state had Piped/ Tap water for drinking.

There were more users of Piped/Tap water in South-West plains than in N.W. plains. As regard the use of Tube Well/Hand Pump water for drinking in the two regions, there were more in N.W. plains than in S.W. plains of the state.

(vi) Staple food

Almost all respondents in the state, as well as in the rural & urban areas and in the two regions answered wheat as their staple food. More than two thirds of the respondents in the state as well as in rural & urban areas and two regions viz. North West Plains & South West Plains reported vegetarian.

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

AGE: 12 yrs **STATE : Uttar Pradesh**

	Educational level & Media Exposure		MALE					FEMALE					STATE
			REGIONS		STATE			REGIONS		STATE			TOTAL
			1	2	R	U	T	1	2	R	U	T	
1	**Educational level**	n=	205	110	211	104	315	204	111	214	101	315	630
	Illiterate		2.0	6.8	5.1	0.0	3.4	7.6	14.5	13.8	0.0	9.4	6.4
	Upto middle		98.0	91.5	94.9	98.2	96.0	91.4	85.5	85.3	100.0	89.9	93.0
	High school & above		0.0	1.7	0.0	1.8	0.6	1.0	0.0	1.0	0.0	0.7	0.7
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												

CHARACTERISTICS OF SURVEYED HOUSEHOLD (SUMMING UP)

(i) 57 percent of respondents reported living in pucca houses in the state.

(ii) About three-fourth of the respondents reported monthly expenditure of Rs 2500 & below in the state. This happened because of large percent (93 percent) of them in the rural area, had this much monthly expenditure.

(iii) 78 percent of respondents were Hindus.

(iv) 23 percent of the household belonged to Schedule Castes & other Backward class

(v) 76 percent of households, 98 percent in rural & 25 percent in urban reported getting drinking water from tube wells & hand pumps in the state.

(vi) Wheat was reported staple food of almost all.

(vii) Almost all reported vegetarian.

3.2 PROFILE OF POPULATION

3.2.2 12 year olds

3.2.2.1 Educational levels

About 7 percent of respondents in this age group was illiterate. The rest had their education up to middle level in the state. All the illiterates were from the rural areas of the state. As expected, there were more female illiterates than males.

Further in regard to literacy situation in the two regions of the state, there were more illiterate in South-West plains than in the North-West plains. There was more illiterate among females than males in both the regions. **Table 3.2.2.**

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

AGE: 15 yrs **STATE : Uttar Pradesh**

	Educational level & Media Exposure		MALE					FEMALE					STATE TOTAL
			REGIONS		STATE			REGIONS		STATE			
			1	2	R	U	T	1	2	R	U	T	
1	**Educational level**	n=	**205**	**112**	212	105	**317**	**205**	**109**	211	**103**	**314**	**631**
	Illiterate		1.0	8.5	4.5	0.9	3.3	8.0	20.5	16.7	0.9	11.6	**7.5**
	Upto middle		57.8	56.2	68.2	31.5	56.2	56.1	36.6	57.6	31.6	49.2	**52.7**
	High school & above		41.2	35.3	27.2	67.6	40.5	35.8	42.8	25.7	67.5	39.3	**39.9**
2	**Newspaper reading habits**												
	Daily		20.8	23.4	8.5	52.9	23.1	18.8	16.2	5.3	48.6	19.3	**21.2**
	Sometimes		35.6	27.7	34.3	29.7	32.8	24.0	24.5	21.5	30.2	24.4	**28.6**
	Not at all		43.6	48.9	57.2	17.4	44.1	57.2	59.3	73.2	21.2	56.3	**50.2**
3	**Radio listening habits**												
	Daily		17.6	18.1	12.3	30.8	18.3	14.4	13.3	7.6	29.8	14.8	**16.6**
	Sometimes		49.0	43.7	46.5	48.9	47.3	38.7	39.5	38.1	41.0	39.0	**43.2**
	Not at all		33.4	38.2	41.2	20.4	34.4	46.8	47.2	54.4	29.2	46.2	**40.3**
4	**TV watching habits**												
	Daily		53.9	40.6	34.8	84.7	51.2	47.0	41.5	30.5	80.7	46.8	**49.0**
	Sometimes		37.6	42.1	49.4	14.3	37.9	30.6	32.1	37.6	15.3	30.3	**34.1**
	Not at all		8.5	17.3	15.7	1.0	10.9	22.4	26.4	32.0	4.0	22.9	**16.9**
5	**Cinema watching habits**												
	Once in 3 months		42.0	48.3	31.6	73.4	45.3	25.6	27.7	12.4	59.8	27.8	**36.6**
	Less often		39.0	28.2	41.2	22.0	34.9	36.1	23.1	34.5	25.6	31.6	**33.3**
	Not at all		19.0	23.5	27.2	4.7	19.8	38.2	49.2	53.1	14.6	40.6	**30.2**

3.2.3 15 year olds

3.2.3.1 Education level

About 8 percent of respondents in this age group was illiterate and another 54 percent & 38 percent had education up to Middle and High school & above respectively, in the state. As expected, there was more illiterates in rural than in the urban areas of the state. There was more illiterate females than males and that mostly living in the rural areas of the state.

As regard to status of education in the two regions, there was more illiterate particularly females in South-West Plains than in the North-West. **Table 3.2.3.**

3.2.3.2 Exposure to media

About 20 percent of respondents in this age group reported reading news papers daily. The percent of these in urban was as high as 51 – more males than females. In contrast, only about 7 percent of rural respondents had the habit of reading news papers daily.

52 percent of respondent in this age group reported not reading newspapers at all in the state. As regard to in rural & urban areas, about 65 percent respondents in the rural areas were not reading news papers at all & these were more females than males. In urban areas, this percentage was only about 19.

As regard to situation in the two regions, there was not much difference in the reading habits.

To assess the exposure to media such as listening to Radio, watching of TV and Cinema, the respondents were asked on frequencies of listening radio, watching TV & Cinema. The analysis of responses in this regard reveal that exposure to radio was limited only to 16 percent in this age group. They reported listening radio daily. There were more daily listeners to radio in urban than in rural areas & more males than females. Its exposure in the two regions too was limited & similar to that in the state

The exposure to TV was relatively high, particularly in urban areas of the state— 46 percent of respondents in this age group reported watching TV daily. More than 80 percent of these were from urban areas of the state. Not much difference was found between males & females. Further, percent of males & females daily TV viewers in the two regions were different – more in North-west plains than in South-west plains.

However, the situation in respect of cinema watchers was not similar to TV viewers. There were about 35 percent of respondents in this age group, reported watching cinema once in 3 months in the state. They were more males than females and more in urban areas than rural.

Not much differences were reported in the habit of cinema watching in the two regions.

3.2.4 35-44 year olds

3.2.4.1 Educational levels

21 percent of population in this age group was illiterate, many times more in the rural areas. Their percent was quite low in urban areas. As expected, percent of female illiterates were twice as large as males in the state as well as in the two regions. **Table 3.2.4.**

3.2.4.2 Exposure to media

As to know the extent of exposure to print media, the respondents were asked how often they had read newspapers. The responses as obtained reveal that only 23 percent in this age group, had read newspaper daily in the state. These were more in urban than in rural areas & more males than females. About 55 percent of the respondents in this age group was not reading newspaper at all & these were more in the rural than in urban areas of the state. Part of this situation might be due to inaccessibility of newspapers.

The situation in this regard in the two regions was similar and was the same as in the state.

Exposure to radio was limited. Only 16 percent in this age group reported listening to radio daily & these were more in urban than in rural areas & more males than females in the state. About 40 percent reported that they were not listening to radio at all—34 percent males and 46 percent females.

Exposure to TV was relatively high particularly in the urban areas. About 48 percent respondent in this age group in the state reported watching TV daily; another 21 percent reported not watching TV at all & percent of these was very low in the urban areas of the state. This makes to conclude that TV is the main source of dissemination of information & entertainment.

About 26 percent of respondents reported watching cinema once in 3 months. These were more in urban than in rural areas of the state. 39 percent of these in this age group, told not watching cinema at all. This might mostly be due to location of cinemas in urban than in rural 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 : Uttar Pradesh**

	Educational level & Media Exposure		MALE					FEMALE					STATE TOTAL
			REGIONS		STATE			REGIONS		STATE			
			1	2	R	U	T	1	2	R	U	T	
1	**Educational level**	n=	205	110	214	101	315	202	111	209	104	313	628
	Illiterate		9.5	19.2	17.0	1.8	12.2	28.1	32.6	41.4	1.8	28.3	20.3
	Upto middle		35.8	28.3	41.6	12.8	32.5	45.8	37.5	47.5	32.9	42.7	37.6
	High school & above		54.7	52.5	41.4	85.4	55.3	26.1	29.9	11.2	65.3	29.0	42.2
2	**Newspaper reading habits**												
	Daily		27.4	22.3	12.2	59.8	27.3	18.7	15.6	4.9	47.9	19.0	23.2
	Sometimes		24.1	21.8	22.7	25.0	23.4	19.7	19.7	16.0	28.3	20.0	21.7
	Not at all		48.4	55.9	65.1	15.2	49.3	61.6	64.7	79.1	23.8	60.9	55.1
3	**Radio listening habits**												
	Daily		23.3	20.6	16.8	36.5	23.0	10.7	10.3	3.8	26.6	11.3	17.2
	Sometimes		44.0	41.5	44.3	40.2	43.0	44.8	41.0	41.5	48.1	43.7	43.4
	Not at all		32.8	37.9	38.9	23.3	34.0	44.5	48.7	54.7	25.3	45.0	39.5
4	**TV watching habits**												
	Daily		51.0	37.7	31.7	84.2	48.3	49.2	38.8	31.4	80.0	47.3	47.8
	Sometimes		32.6	33.1	40.2	13.8	31.9	33.0	25.6	35.8	18.1	30.0	31.0
	Not at all		16.5	29.1	28.1	2.0	19.8	17.8	35.6	32.9	1.9	22.7	21.3
5	**Cinema watching habits**												
	Once in 3 months		35.1	35.1	24.3	62.1	36.3	15.7	18.7	8.2	36.6	17.5	26.9
	Less often		43.0	23.8	39.8	29.3	36.4	28.7	34.0	26.4	39.6	30.7	33.6
	Not at all		21.9	41.1	35.9	8.7	27.3	55.7	47.3	65.4	23.8	51.7	39.5

3.2.5 65-74 year olds

3.2.5.1 Educational levels

Being an older age group, as expected 48 percent males & 68 percent females in this age group were illiterate and these were mostly living in the rural areas. Situation in this regard in the two regions was similar. **Table : 3.2.5**

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 : Uttar Pradesh**

	Educational level & Media Exposure		MALE					FEMALE					STATE TOTAL
			REGIONS		STATE			REGIONS		STATE			
			1	2	R	U	T	1	2	R	U	T	
1	**Educational level**	n=	200	116	213	103	316	210	103	211	102	313	629
	Illiterate		47.2	54.6	61.9	20.0	48.4	69.2	69.3	80.3	42.7	68.1	58.3
	Upto middle		36.3	34.8	32.5	43.7	36.1	29.0	27.1	18.8	51.6	29.4	32.8
	High school & above		16.5	10.7	5.7	36.3	15.5	1.9	3.6	1.0	5.7	2.5	9.0
2	**Newspaper reading habits**												
	Daily		19.1	9.7	4.2	44.7	17.3	2.7	1.8	1.0	6.0	2.6	10.0
	Sometimes		14.4	12.1	10.5	21.1	13.9	7.7	9.9	7.2	11.1	8.5	11.2
	Not at all		66.5	78.2	85.3	34.2	68.8	89.5	88.3	91.8	82.9	88.9	78.9
3	**Radio listening habits**												
	Daily		11.4	3.9	3.4	22.3	9.5	1.9	4.4	1.0	6.6	2.8	6.2
	Sometimes		40.7	29.2	36.5	37.4	36.8	39.8	23.4	36.0	32.1	34.7	35.8
	Not at all		47.9	66.8	60.1	40.2	53.7	58.3	72.1	63.1	61.3	62.5	58.1
4	**TV watching habits**												
	Daily		22.4	13.8	9.5	44.1	20.6	21.4	13.5	12.5	34.7	19.7	20.2
	Sometimes		44.1	32.1	43.1	32.3	39.6	42.0	26.6	41.2	27.9	36.9	38.3
	Not at all		33.5	54.1	47.4	23.6	39.7	36.6	59.9	46.3	37.4	43.4	41.6
5	**Cinema watching habits**												
	Once in 3 months		1.5	10.5	2.3	9.8	4.7	2.3	9.8	1.5	12.0	4.9	4.8
	Less often		23.5	15.9	19.9	23.4	21.0	13.5	14.8	13.4	15.0	13.9	17.5
	Not at all		75.0	73.6	77.8	66.8	74.2	84.1	75.4	85.2	73.0	81.2	77.7

3.2.5.2 Exposure to media

Education level has direct affect on the habit of news paper reading. Since large percent of males as well as females in this age group were illiterate, there were 17 percent males & 3 percent females, mostly living in urban areas reading newspapers daily. About 69 percent of males & 89 percent of females reported not reading newspaper at all. There were more males than females in both the regions reading newspaper daily.

Exposure to radio was also limited. There was only 6 percent of this age group listening to radio daily & these were mostly males & living in urban areas of state. About 58 percent of these in this age group were not listening to radio at all.

Only 20 percent of this age group reported watching TV daily. These were more males & living in the urban areas. About 42 percent of this age group did not watch TV at all. These were more in the rural than in the urban areas. This shows that this important media is still not reaching to a large percent of population, particularly living in rural areas. The viewer ship was higher in North-west region than in south-west region.

Exposure to cinema was very low particularly in the rural areas. There was only 5 percent in this age group, reported watching cinema once in 3 months. Other 78 percent of the respondents did not watch cinema at all. The situation in this regard was similar in the both regions & was same as in the state.

PROFILE OF POPULATION SURVEYED ACROSS AGE GROUPS (SUMMING UP)

(i) The percent of illiterate particularly females, increased with the increase in the age of female respondents while percent having education up to middle and high decreased with the increase in age of respondent.

(ii) About 20% of respondents aged 15 & 35-44 year olds and 10% aged 65-74 year olds, reported reading newspaper daily in the state.

(iii) About 16% aged 15 & 35-44 year olds & only 6% aged 65-74 year olds, had habit of listening to radio daily.

(iv) 46-48% aged 15 & 35-44 year olds and 20% aged 65-74 year olds reported watching TV daily. These were more males & more in urban areas. There was more viewing TV in North-West region than in South West region.

(v) About 35%, 26% & only 5% aged 15, 35-44 & 65-74 year olds respectively, had watched cinema once in 3 months. They were more males & more living in urban areas.

CHAPTER IV

MAPPING OF FLUORIDE LEVELS

4.1 INTRODUCTION

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

4.2. COLLECTION OF WATER SAMPLES

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

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

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

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

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

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

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

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

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

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

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

4.3 ANALYSIS OF WATER SAMPLES

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

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

4.4 FINDINGS

The levels of fluoride levels in different regions, rural, urban areas and total Uttar Pradesh are shown in Table 4.1.

Table 4.1 Percent distribution of water samples by levels of fluoride in different regions, rural, urban and total Uttar Pradesh.

Level of fluoride (ppm)	Regions		Total State		
	North West Plains	South West Plains	Rural	Urban	Total
0.0-0.5	0.0	22.8	14.4	4.5	11.2
0.51-1.00	2.3	66.8	29.9	40.8	33.4
1.01-1.50	27.9	5.1	25.2	0.0	16.9
1.51-2.00	32.9	0.3	18.5	14.1	17.1
2.01-4.00	34.5	5.1	10.2	40.6	20.3
4.01-8.00	2.3	0.0	1.8	0.0	1.2
8.01+	0.0	0.0	0.0	0.0	0.0

Note: The state of Uttar Pradesh has been divided into six regions. The data could be collected only for two regions namely (i) North West Plains (ii) South West Plains. Their boundaries and districts within them may be seen in the state map.

Almost 40 percent of the households in UP use water with fluoride levels of 1.5 or more. These percentages are much higher in urban areas. (55 percent) than in rural (30 percent) Region. North West Plains, has high levels of fluoride—almost two-thirds of the households have fluoride levels of 1.5 ppm or more.

Fig. 4.1 Drinking water levels of fluoride in Uttar Pradesh

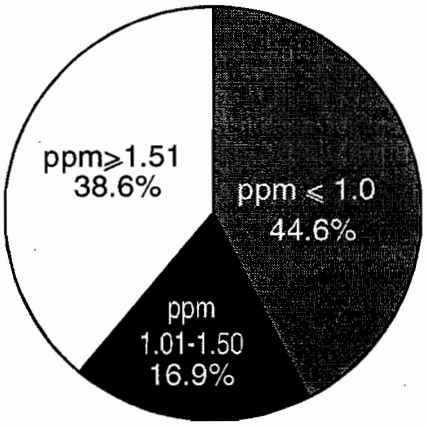


Fig. 4.2 Drinking water levels of Fluoride (ppm) in UTTAR PRADESH, INDIA

BOUNDARIES:

INTERNATIONAL ... _____

STATE ... ... _____

REGION ... ...

HEADQUARTERS:

STATE ... ...☆

DISTRICT ... •

Table 4.1 Percent distribution of water samples by levels of fluoride in different regions, rural, urban and total Uttar Pradesh.

Level of fluoride (ppm)	Regions		Total State		
	North West Plains	South West Plains	Rural	Urban	Total
0.0-0.5	0.0	22.8	14.4	4.5	11.2
0.51-1.00	2.3	66.8	29.9	40.8	33.4
1.01-1.50	27.9	5.1	25.2	0.0	16.9
1.51-2.00	32.9	0.3	18.5	14.1	17.1
2.01-4.00	34.5	5.1	10.2	40.6	20.3
4.01-8.00	2.3	0.0	1.8	0.0	1.2
8.01+	0.0	0.0	0.0	0.0	0.0

Note: The state of Uttar Pradesh has been divided into six regions. The data could be collected only for two regions namely (i) North West Plains (ii) South West Plains. Their boundaries and districts within them may be seen in the state map.

Almost 40 percent of the households in UP use water with fluoride levels of 1.5 or more. These percentages are much higher in urban areas. (55 percent) than in rural (30 percent) Region. North West Plains, has high levels of fluoride—almost two-thirds of the households have fluoride levels of 1.5 ppm or more.

Fig. 4.1 Drinking water levels of fluoride in Uttar Pradesh

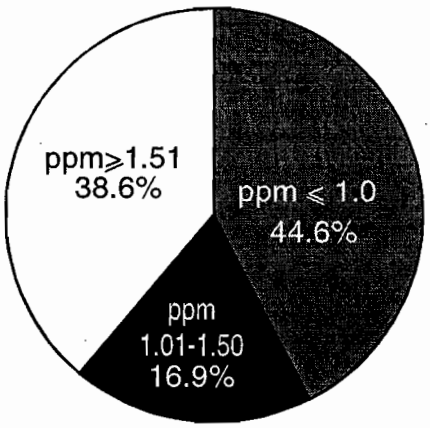
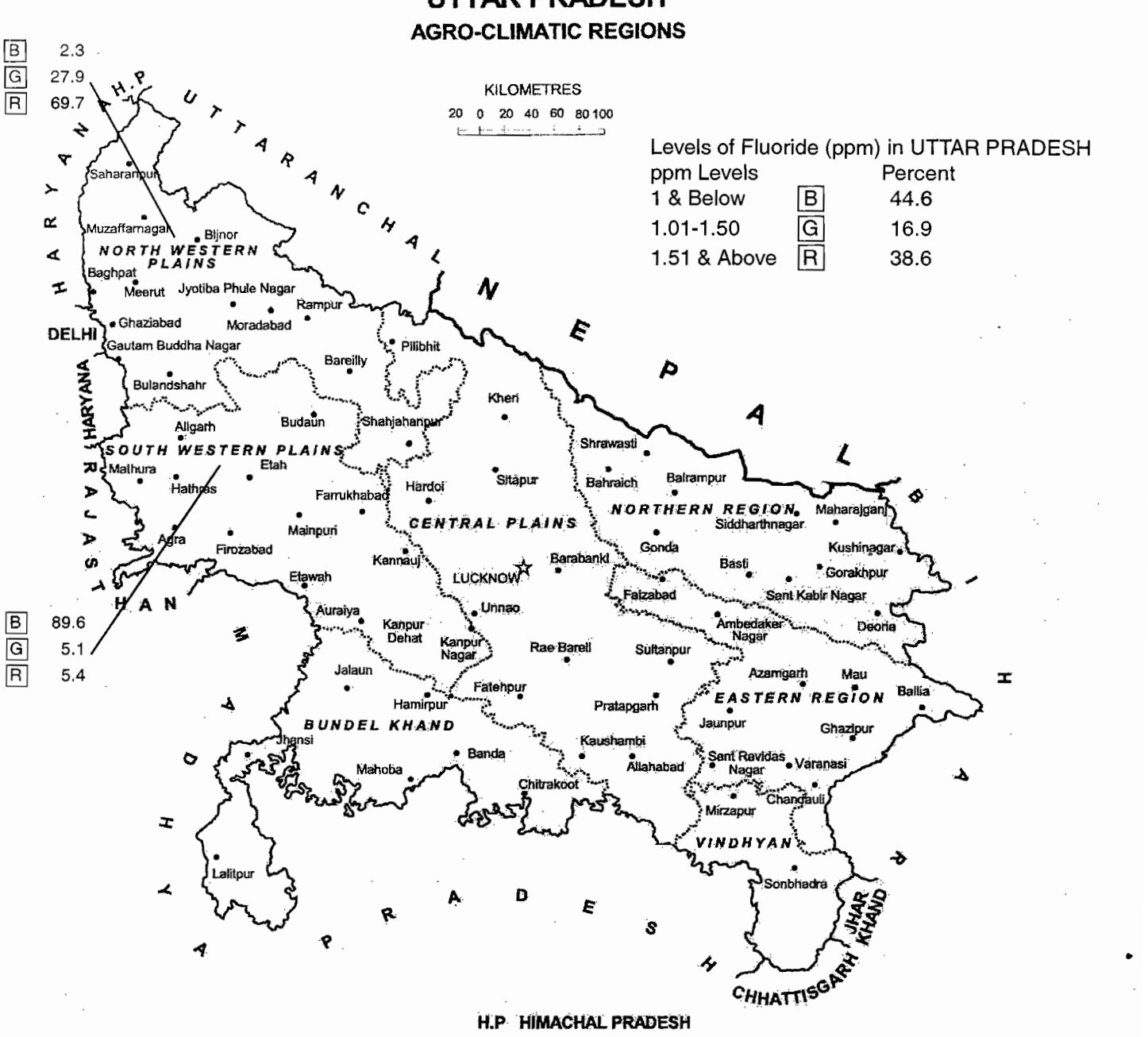


Fig. 4.2 Drinking water levels of Fluoride (ppm) in UTTAR PRADESH, INDIA



CHAPTER V

ORAL HEALTH KNOWLEDGE AND PRACTICE

A series of questions were asked on food habits and other habits/practices from respondents of different ages/age groups, both sex and in rural and urban areas of state & regions. Responses to each of these questions are discussed in this chapter. These responses may bring out practices with risk to oral health and may suggest of educational activities needed to improve oral health practices and thus improve oral health of the population.

5.1 ABNORMAL ORAL HEALTH HABITS

Five questions on abnormal habits such as "breathing from mouth", "habit of sucking or biting fingers or thumb", "thrusting tongue on teeth" "biting nails, lips or object like pencil", and "habit of grinding/gritting teeth", were asked from each respondent (in case of 5 years old respondents, these were asked from his/her care taker). The responses as obtained from 5, 12, 15, 35-44 & 65-75 years old respondents by their sex and place of residence are presented in Table 5.1 and are discussed below:

5.1.1 5 year olds

Except for the habit of "grinding/gritting teeth", the prevalence of other practices in this age group were very low—almost negligible. About 40 percent of respondents of this age group, irrespective of their sex or places of residence reported to have the habit of "grinding/gritting teeth" in the state. The prevalence was much higher in North-west plains than in South-West plains.

5.1.2 12 year olds

Except for habits of "breathing from mouth" & "grinding/gritting teeth", the prevalence of other practices in this age were very low.

About 9 percent of respondents of this age group, had the habit of "breathing from mouth". It was much higher in urban areas –almost twice in the rural areas.

Surprisingly, the problem of "breathing from mouth" was more reported in North-West Plains.

As regard "grinding/gritting teeth", about 14 percent of the respondents of this age across both sexes & more in rural had this habit.

The habit of "grinding/gritting of teeth" was significantly high in North-West Plains than in South-West Plains.

5.1.3 15 year olds

Except for habits of "breathing from mouth" and "grinding/gritting teeth" the prevalence of other abnormal habits in this age group were negligible in the state. Nearly 11 percent of respondents of this age group reported "breathing from mouth". This was prevalent more in females than in males and more in the urban than in rural areas of the state. While about 5 percent across both sexes & places of residence, had the habit of "grinding/gritting teeth" in the state.

Comparatively more had each of abnormal habit in North West Plains than in South West Plains.

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

AGE: 5 yrs — STATE : Uttar Pradesh

	Habits affecting Oral Health		MALE					FEMALE					STATE TOTAL
			REGIONS		STATE			REGIONS		STATE			
			1	2	R	U	T	1	2	R	U	T	
		n=	212	115	221	106	327	197	106	203	100	303	630
1	Breathing from mouth		1.4	0.0	0.9	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.5
2	Sucking or biting fingers/thumb		0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	1.1	0.4	0.2
3	Thrusting tongue on teeth		0.5	0.0	0.5	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.2
4	Biting nails/lips/objects like pencil		0.5	0.0	0.5	0.0	0.3	0.5	0.0	0.5	0.0	0.3	0.3
5	Grinding / gritting teeth		48.4	25.0	42.3	37.5	40.8	44.5	30.8	41.0	38.1	40.0	40.4

AGE: 12 yrs — STATE : Uttar Pradesh

	Habits affecting Oral Health		MALE					FEMALE					STATE TOTAL
			REGIONS		STATE			REGIONS		STATE			
			1	2	R	U	T	1	2	R	U	T	
		n=	205	110	211	104	315	204	111	214	101	315	630
1	Breathing from mouth		13.8	0.0	7.3	14.5	9.6	13.4	0.0	7.2	13.9	9.3	9.5
2	Sucking or biting fingers/thumb		4.0	0.0	3.4	1.0	2.6	4.4	1.9	4.2	2.1	3.6	3.1
3	Thrusting tongue on teeth		3.0	0.0	2.9	0.0	2.0	4.0	1.0	4.3	0.0	2.9	2.5
4	Biting nails/lips/objects like pencil		2.5	2.9	3.8	0.0	2.5	3.0	3.9	4.6	0.0	3.2	2.9
5	Grinding / gritting teeth		13.8	13.1	16.1	7.7	13.3	15.2	11.5	16.3	8.4	13.8	13.6

AGE: 15 yrs — STATE : Uttar Pradesh

	Habits affecting Oral Health		MALE					FEMALE					STATE TOTAL
			REGIONS		STATE			REGIONS		STATE			
			1	2	R	U	T	1	2	R	U	T	
		n=	205	112	212	105	317	205	109	211	103	314	631
1	Breathing from mouth		14.3	0.0	8.2	13.4	9.9	16.3	0.0	9.7	14.6	11.3	10.6
2	Sucking or biting fingers/thumb		1.5	1.0	1.4	1.0	1.3	2.0	1.0	1.9	1.0	1.6	1.5
3	Thrusting tongue on teeth		1.0	1.9	1.9	0.0	1.2	2.0	2.0	2.8	0.0	1.9	1.6
4	Biting nails/lips/objects like pencil		2.0	2.9	3.3	0.0	2.2	1.9	3.0	2.3	2.1	2.2	2.2
5	Grinding / gritting teeth		4.9	6.4	5.6	4.8	5.3	5.4	3.5	4.3	5.8	4.8	5.1

AGE: 35-44 yrs — STATE : Uttar Pradesh

	Habits affecting Oral Health		MALE					FEMALE					STATE TOTAL
			REGIONS		STATE			REGIONS		STATE			
			1	2	R	U	T	1	2	R	U	T	
		n=	205	110	214	101	315	202	111	209	104	313	628
1	Breathing from mouth		15.8	0.0	9.1	15.0	10.9	16.6	0.0	10.3	13.5	11.3	11.1
2	Sucking or biting fingers/thumb		2.5	0.0	2.4	0.0	1.6	2.0	0.8	2.0	0.9	1.6	1.6
3	Thrusting tongue on teeth		1.0	0.0	1.0	0.0	0.7	0.5	0.0	0.5	0.0	0.3	0.5
4	Biting nails/lips/objects like pencil		2.0	2.0	2.8	0.0	1.9	1.0	1.0	1.4	0.0	1.0	1.5
5	Grinding / gritting teeth		1.0	3.6	1.8	1.8	1.8	2.6	2.9	3.8	0.0	2.6	2.2

AGE: 65-74 yrs — STATE : Uttar Pradesh

	Habits affecting Oral Health		MALE					FEMALE					STATE TOTAL
			REGIONS		STATE			REGIONS		STATE			
			1	2	R	U	T	1	2	R	U	T	
		n=	200	116	213	103	316	210	103	211	102	313	629
1	Breathing from mouth		16.6	0.0	9.1	15.8	11.3	14.6	0.0	9.7	11.6	10.3	10.8
2	Sucking or biting fingers/thumb		0.0	0.9	0.4	0.0	0.3	1.0	0.0	1.0	0.0	0.7	0.5
3	Thrusting tongue on teeth		0.5	0.9	0.9	0.0	0.6	0.5	0.0	0.5	0.0	0.3	0.5
4	Biting nails/lips/objects like pencil		0.5	0.0	0.5	0.0	0.3	0.5	0.0	0.5	0.0	0.3	0.3
5	Grinding / gritting teeth		1.5	0.0	1.4	0.0	1.0	1.5	2.8	1.9	1.8	1.9	1.5

5.1.4 35-44 year olds

Except for habit of "breathing from mouth", the prevalence of other abnormal habits in this age group were negligible. Eleven percent of respondents in this age group had habit of "breathing from mouth". This was prevalent more in females than in males & more in urban areas than in rural areas.

Comparatively more had each of abnormal habit in North West Plains than in South West Plains.

5.1.5 65-74 year olds

Except for habit of "breathing from mouth" the prevalence of each of other abnormal habits in this age group was negligible. About 11 percent of respondents, across both sexes & more in urban reported the habit of "breathing from mouth".

There was comparatively more in North West Plains than in South West Plains had each of abnormal habit.

ABNORMAL HABITS ACROSS AGE GROUP (SUMMING UP)

Except the habits of "grinding/gritting teeth" & "breathing from mouth" the prevalence of each of other abnormal habits, was very low in each age group of respondents in the state.

The prevalence of each of abnormal habit was comparatively more in North-West Plains than in South West Plains.

5.2 EATING HABITS

Since sweets-taking habits affect oral health, the respondents belonging to ages/age group 5, 12, 15, 35-44 & 64-75 year olds were asked on their pattern of sugar intake in last one day. The responses obtained from each age group of respondents, are presented in Tables 5.2 and **Fig. 5.1** and are discussed here.

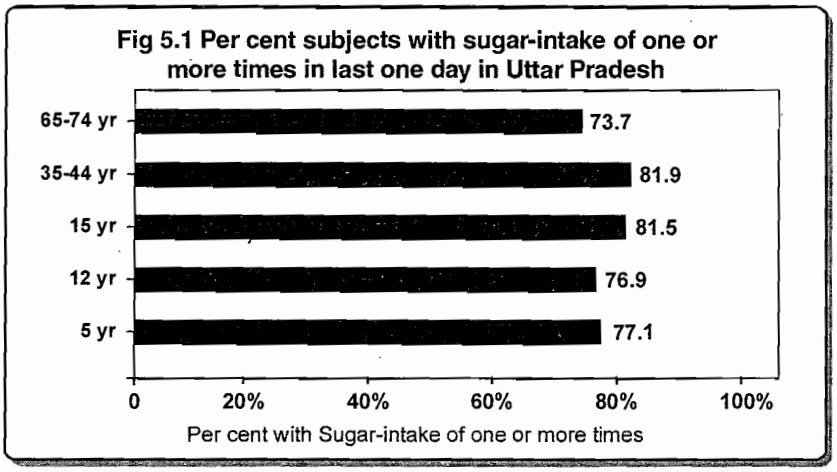


Table : 5.2 Percent respondents by pattern of sugar in take, age, sex & geographical area.

AGE: 5 yrs **STATE : Uttar Pradesh**

	Pattern of sugar intake in last one day		MALE					FEMALE					STATE TOTAL
			REGIONS		STATE			REGIONS		STATE			
			1	2	R	U	T	1	2	R	U	T	
		n=	212	115	221	106	327	197	106	203	100	303	630
1	Not taken		20.6	35.4	26.1	23.3	25.2	17.7	28.1	23.6	14.9	20.7	**23.0**
2	Taken one time		15.5	18.2	15.3	18.9	16.5	18.1	28.4	19.5	26.0	21.6	**19.1**
3	Taken two times		51.7	26.5	45.1	40.1	43.5	44.9	23.1	38.7	36.5	37.9	**40.7**
4	Taken 2+ times		12.2	19.9	13.4	17.7	14.8	19.3	20.3	18.3	22.7	19.7	**17.3**

AGE: 12 yrs **STATE : Uttar Pradesh**

	Pattern of sugar intake in last one day		MALE					FEMALE					STATE TOTAL
			REGIONS		STATE			REGIONS		STATE			
			1	2	R	U	T	1	2	R	U	T	
		n=	205	110	211	104	315	204	111	214	101	315	630
1	Not taken		20.4	29.9	26.0	17.2	23.1	19.0	32.2	25.1	18.5	23.0	**23.1**
2	Taken one time		28.4	25.7	22.8	38.7	28.0	27.9	32.7	29.3	29.7	29.4	**28.7**
3	Taken two times		37.6	33.8	37.5	33.8	36.3	37.1	20.4	30.2	35.4	31.8	**34.1**
4	Taken 2+ times		13.6	10.6	13.7	10.2	12.5	16.0	14.8	15.4	16.3	15.7	**14.1**

AGE: 15 yrs **STATE : Uttar Pradesh**

	Pattern of sugar intake in last one day		MALE					FEMALE					STATE TOTAL
			REGIONS		STATE			REGIONS		STATE			
			1	2	R	U	T	1	2	R	U	T	
		n=	205	112	212	105	317	205	109	211	103	314	631
1	Not taken		18.3	26.1	23.0	15.6	20.6	13.5	23.8	18.9	11.7	16.5	**18.6**
2	Taken one time		26.0	34.9	26.9	33.3	29.0	31.8	38.3	33.6	34.4	33.9	**31.5**
3	Taken two times		40.6	23.1	32.3	41.2	35.2	35.3	22.9	29.5	35.8	31.6	**33.4**
4	Taken 2+ times		15.2	15.9	17.8	9.8	15.2	19.4	15.0	18.0	18.1	18.0	**16.6**

AGE: 35-44 yrs **STATE : Uttar Pradesh**

	Pattern of sugar intake in last one day		MALE					FEMALE					STATE TOTAL
			REGIONS		STATE			REGIONS		STATE			
			1	2	R	U	T	1	2	R	U	T	
		n=	205	110	214	101	315	202	111	209	104	313	628
1	Not taken		14.0	28.7	21.7	11.1	18.3	16.3	22.6	21.5	10.8	18.0	**18.2**
2	Taken one time		28.7	32.2	27.6	35.4	30.0	25.3	36.5	27.2	32.9	29.1	**29.6**
3	Taken two times		42.6	31.7	36.6	45.5	39.4	41.5	28.0	33.6	45.5	37.5	**38.5**
4	Taken 2+ times		14.8	7.4	14.1	8.1	12.2	16.9	13.0	17.7	10.8	15.4	**13.8**

AGE: 65-74 yrs **STATE : Uttar Pradesh**

	Pattern of sugar intake in last one day		MALE					FEMALE					STATE TOTAL
			REGIONS		STATE			REGIONS		STATE			
			1	2	R	U	T	1	2	R	U	T	
		n=	200	116	213	103	316	210	103	211	102	313	629
1	Not taken		26.6	31.0	28.1	27.8	28.0	20.0	35.4	25.3	23.1	24.6	**26.3**
2	Taken one time		27.1	39.9	26.1	44.3	32.0	30.6	36.4	27.9	43.1	32.8	**32.4**
3	Taken two times		30.6	22.8	30.6	21.7	27.7	32.2	20.2	31.1	22.5	28.3	**28.0**
4	Taken 2+ times		15.7	6.3	15.2	6.2	12.3	17.2	8.0	15.7	11.3	14.3	**13.3**

5.2.1 5 year olds

About 23 percent of respondents, of this age group did not take sugar during last one day while the remaining 77 percent had taken sugar once and more times during last one day. There was no large differences in the percent of not takers and takers of sugar during last one day either by their sex or places of residence.

Comparatively more in North-western plain region reported taken sugar in last one day than in south-west region.

5.2.2 12 year olds

About 23 percent of respondents of this age group, across both sexes did not take sugar during last one day. While 29 percent of respondents across both sexes & more in urban than in rural had taken sugar one time in the last one day. Other about 48 percent more males in urban & more females in rural reported taken sugar two & more times during last one day. Comparatively more did not- take sugar in last one day in South-West Plains than in North-West Plains of the state.

5.2.3 15 year olds

About 19 percent of respondents of this age group more males than females & more in rural did not take sugar in last one day. Other 32 percent, more females & more in urban, reported taken sugar one time during last one day. While other 50 percent, across both sexes more in urban had taken sugar two & more times during last one day.

As regards two regions, there was more not takers of sugar in South-West Plains than in North-West Plains and were more takers of sugar two & more times during last one day in North West plains than in South West plain.

5.2.4 35-44 year olds

About 18 percent of respondents across both sexes & more in rural did not take sugar during last one day. About 52 percent, across both sexes & more in urban, had taken sugar two and more times in last one day.

There was more did not-take of sugar in South-West Plains than in North-West Plains.

5.2.5 65-74 year olds

About 26 percent respondents of this age group did not take sugar during last one day. Another 32 percent of them reported taken sugar one time during last one day. The remaining 40percent had taken sugar two & more times in last one day. Not much differences were noticed between males and females in the habit of taking sugar. In the case of rural and urban areas, though percent not-takers and takers of sugar were similar but more reported taking sugar more often in rural than in urban.

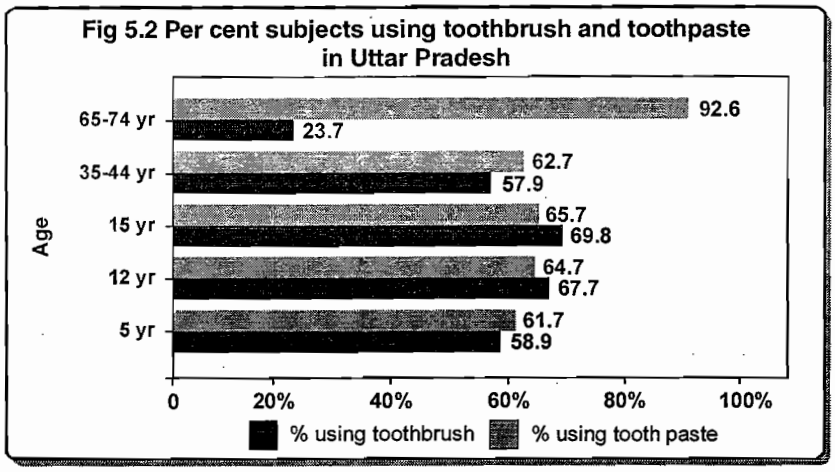
Similar to earlier findings there was more not-takers of sugar in South-West Plains than in North-West Plains.

EATING HABITS ACROSS AGE GROUPS (SUMMING UP)

About 80%, irrespective of age differentials across both sexes & places of residence reported taken sugar at least once in last one day. About 45-50%, irrespective of age differentials, across both sexes & places of residence had taken sugar two & more time in last one day.

5.3 ORAL HYGIENE PRACTICE

A series of questions were asked about oral hygiene practices covering aspects like: how the teeth are cleaned, what material is used to clean, whether it is fluoridated, how often teeth are cleaned and whether and how often mouth is rinsed after meals. The responses that obtained from respondents are presented in Tables 5.3.1 to 5.3.5 & **Fig. 5.2** and are discussed below.



5.3.1 5 year olds

Nearly 50 percent of this age group, across both sexes & more in urban, reported the use of tooth brush to clean teeth in the state Table 5.3.1

As regard regions, there was comparatively more using tooth brush in North West Plains than in South West Plains.

As regard change of tooth brushes only one percent had changed tooth brushes once in 1-3 months. Other about 20 percent across both sexes & more in urban reported change of brushes once in 4-6 months. But a large 78 percent of respondents, across both sexes & more in rural, had changed tooth brushes once in after 6 months of use.

There were no difference in the pattern of change of tooth brushes either between the regions or regions & state.

Almost 91 percent of respondents of this age group had cleaned teeth only once a day. This was so across both sexes and regions. Cleaning teeth more than once was slightly higher in urban areas than in rural.

As regards the use of material for cleaning of teeth, about 62 percent of the children reported the use of tooth paste and another 34 percent had used tooth powder. Use of tooth paste was much greater in urban areas than in rural—more than 90 percent in urban areas against 45 percent in rural areas. The situation was same for both sexes. Use of tooth paste was more in North-west plains

The use of fluoridated tooth paste/powder was very low (less than 2 percent) & it was so across both sexes & places of their living (rural and urban). About 90 percent of this age group reported using non-fluoridated tooth paste/powder. This was same across both sexes, places of their living & regions.

When asked about mouth rinsing practices, more than 50 percent reported rinsing mouth after every meal. This was so between males and females. This practice was reported more in urban areas than in rural.

The population of North-west plain reported higher practice of rinsing mouth after every meal than south-west plains.

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

AGE: 5 yrs **STATE : Uttar Pradesh**

	Oral Hygiene Practices		MALE					FEMALE					STATE TOTAL
			REGIONS		STATE			REGIONS		STATE			
			1	2	R	U	T	1	2	R	U	T	
1	**Clean teeth with**	n=	212	115	221	106	327	197	106	203	100	303	630
	finger		31.8	48.6	48.7	9.3	36.1	35.4	49.3	54.6	5.1	38.4	**37.3**
	brush		60.4	47.6	42.2	90.7	57.7	63.0	48.6	43.0	94.9	60.0	**58.9**
	datun		7.3	2.8	8.2	0.0	5.6	1.6	1.0	2.0	0.0	1.3	**3.5**
	others		0.5	0.9	0.9	0.0	0.6	0.0	1.0	0.5	0.0	0.3	**0.5**
2	**Frequency of cleaning teeth**	n=	196	111	201	106	307	194	104	198	100	298	605
	Once a day		89.1	89.9	91.6	84.3	89.1	93.2	89.1	90.5	95.1	92.0	**90.6**
	Twice a day		7.7	5.2	3.0	15.7	7.3	2.5	3.7	2.0	4.9	3.0	**5.2**
	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**
3	**Material used for cleaning teeth**												
	Tooth paste		65.8	48.5	44.4	94.8	61.6	66.1	48.0	46.1	93.3	61.7	**61.7**
	Tooth powder		31.1	44.7	49.3	5.2	34.2	29.1	38.5	43.1	6.7	31.0	**32.6**
4	**Type of toothpaste / powder**	n=	190	104	188	106	294	185	91	176	100	276	570
	Flouridated		0.5	0.9	0.0	1.9	0.7	3.3	3.1	2.9	3.8	3.2	**2.0**
	Non flouridated		95.2	86.8	90.1	97.2	92.7	91.1	83.8	85.4	96.2	89.3	**91.0**
5	**Change of toothbrush once in**	n=	130	58	92	96	188	126	55	86	95	181	369
	1-3 months		1.5	0.0	1.1	1.1	1.1	0.8	1.8	1.2	1.0	1.1	**1.1**
	4-6 months		17.9	23.9	11.9	28.3	20.2	19.0	16.3	9.3	28.2	19.1	**19.7**
	6 + months		79.8	74.1	84.9	70.5	77.7	78.5	79.9	86.1	70.8	78.2	**78.0**
6	**Rinse mouth after eating**	n=	212	115	221	106	327	197	106	203	100	303	630
	Sometimes		34.8	42.6	39.3	32.2	37.0	37.5	47.4	46.5	26.7	40.0	**38.5**
	Always		56.2	42.9	47.7	62.2	52.4	52.8	42.8	41.7	68.2	50.4	**51.4**

5.3.2 12 year olds

About 67 percent of respondents reported cleaning teeth with tooth brush. This percentage was much higher in urban (95 percent) than in rural (55 percent). Use of tooth brush was much higher in North-west plains than in South-West plains.

About 83 percent of those using tooth brushes, changed tooth brushes once after 6 months of use. There was no difference in this practice across sexes. But in rural areas tooth brushes were used for longer period. More changed tooth brushes once in 4-6 months in South-West Plains than in North-West plains.

It is heartening to note that nearly 93 percent of this age group, equally distributed among sex, had cleaned their teeth once a day. More in urban reported cleaning teeth more than once.

About 65 percent of the respondents reported the use of tooth paste and another about 30 percent reported the use of tooth powder. No differences were found of this practice in males and females. But use of tooth paste was much higher in urban than in rural areas.

In regard to the two regions, there were comparatively more tooth paste users in North-West Plains & more tooth powder users in South-West Plains.

More than 90 percent of the users had used non-fluoridated tooth paste/powder. There was no differences in the use of non-fluoridated tooth paste either between sexes or between their places of residence (Rural/Urban). Also, there was no difference in the use of non-fluoridated tooth paste/ powder between the two regions i.e. North-West Plains & South West Plains.

Most of the respondents (73 percent) reported rinsing mouth after every meal; it was so for both males & females but more in urban areas than in rural area. This practice was more or less same in both regions. **Table 5.3.2.**

5.3.3 15 year olds

About 69 percent of respondents, across both sexes but more in urban reported the use of tooth brush to clean teeth (Table 5.3.3).

As regard the situation in the regions, there were more cleaning teeth with tooth brush in North-West Plains than in South-West Plains.

More than 80 percent of the tooth brush users had changed tooth brushes once after six months of use. The percent of those changed tooth brush once after six months were more or less equally divided by sexes. Slightly higher percentage in urban areas had changed tooth brushes earlier than six months (more than 28 percent) compared to in rural (9 percent).

Approximately 90 percent of the respondents, both males and females, cleaned teeth once a day. A slightly higher percentage of people in urban cleaned teeth twice a day. This practice was similar in both regions.

About 64 percent males & 67 percent females, more in urban than in rural areas, reported the use of tooth paste. 93 percent of these had used non-fluoridated tooth paste.

About three fourth of respondents of this age group, across both sexes reported rinsing mouth after every meal. They were more in urban than in rural areas. There were no differences between regions.

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

AGE: 12 yrs STATE : Uttar Pradesh

	Oral Hygiene Practices		MALE					FEMALE					STATE TOTAL
			REGIONS		STATE			REGIONS		STATE			
			1	2	R	U	T	1	2	R	U	T	
1	**Clean teeth with**	n=	**205**	**110**	**211**	**104**	**315**	**204**	**111**	**214**	**101**	**315**	**630**
	finger		23.0	44.3	40.1	5.6	28.8	20.1	44.9	37.6	4.7	27.2	**28.0**
	brush		71.5	50.8	52.3	94.4	66.1	75.4	53.2	57.2	95.3	69.3	**67.7**
	datun		5.5	3.9	7.1	0.0	4.8	4.5	1.9	5.2	0.0	3.5	**4.2**
	others		0.0	1.0	0.4	0.0	0.3	0.0	0.0	0.0	0.0	0.0	**0.2**
2	**Frequency of cleaning teeth**	n=	**194**	**105**	**195**	**104**	**299**	**195**	**109**	**203**	**101**	**304**	**603**
	Once a day		93.0	94.3	95.4	89.1	93.2	92.0	91.7	93.1	88.9	91.7	**92.5**
	Twice a day		4.3	3.6	1.0	10.9	4.4	5.9	4.3	3.0	11.1	5.7	**5.1**
	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**
3	**Material used for cleaning teeth**												
	Tooth paste		71.8	46.0	50.5	92.1	64.8	70.5	48.8	50.9	92.5	64.6	**64.7**
	Tooth powder		23.4	47.9	41.9	7.9	30.2	26.9	40.4	41.5	7.5	30.3	**30.3**
4	**Type of toothpaste / powder**	n=	**185**	**99**	**180**	**104**	**284**	**190**	**98**	**187**	**101**	**288**	**572**
	Flouridated		1.7	0.9	1.7	0.9	1.4	2.7	0.9	2.2	2.0	2.1	**1.8**
	Non flouridated		95.5	83.8	88.1	99.1	92.1	90.3	90.2	86.7	98.0	90.6	**91.4**
5	**Change of toothbrush once in**	n=	**148**	**59**	**109**	**98**	**207**	**155**	**62**	**121**	**96**	**217**	**424**
	1-3 months		0.6	0.0	0.0	1.1	0.5	0.7	0.0	0.8	0.0	0.5	**0.5**
	4-6 months		15.6	23.5	9.1	28.8	18.3	14.2	13.9	5.8	26.6	14.9	**16.6**
	6 + months		83.1	76.5	90.0	70.1	80.7	84.5	80.6	90.2	73.4	82.9	**81.8**
6	**Rinse mouth after eating**	n=	**205**	**110**	**211**	**104**	**315**	**204**	**111**	**214**	**101**	**315**	**630**
	Sometimes		23.0	28.0	30.7	10.0	23.9	27.6	26.6	33.2	12.3	26.6	**25.3**
	Always		75.0	72.0	67.4	90.0	74.7	70.9	72.4	64.9	87.7	72.1	**73.4**

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

AGE: 15 yrs STATE : Uttar Pradesh

	Oral Hygiene Practices		MALE					FEMALE					STATE TOTAL
			REGIONS		STATE			REGIONS		STATE			
			1	2	R	U	T	1	2	R	U	T	
1	**Clean teeth with**	n=	**205**	**112**	**212**	**105**	**317**	**205**	**109**	**211**	**103**	**314**	**631**
	finger		18.1	47.2	37.4	4.4	26.6	20.9	37.1	35.0	4.9	25.2	**25.9**
	brush		77.9	48.0	56.5	95.6	69.3	73.5	59.9	58.3	95.1	70.3	**69.8**
	datun		4.0	3.8	5.6	0.0	3.8	5.5	3.0	6.7	0.0	4.5	**4.2**
	others		0.0	1.0	0.4	0.0	0.3	0.0	0.0	0.0	0.0	0.0	**0.2**
2	**Frequency of cleaning teeth**	n=	**197**	**107**	**199**	**105**	**304**	**194**	**106**	**197**	**103**	**300**	**604**
	Once a day		92.0	91.4	92.5	90.2	91.7	90.0	90.6	92.9	84.0	89.9	**90.8**
	Twice a day		4.8	3.6	2.0	9.8	4.7	8.4	6.3	4.1	16.0	8.1	**6.4**
	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**
3	**Material used for cleaning teeth**												
	Tooth paste		71.3	45.7	49.5	92.8	64.3	71.9	53.1	52.9	94.5	67.0	**65.7**
	Tooth powder		26.1	42.3	42.2	7.2	30.2	23.9	40.8	40.1	5.5	28.3	**29.3**
4	**Type of toothpaste / powder**	n=	**192**	**95**	**182**	**105**	**287**	**186**	**100**	**183**	**103**	**286**	**573**
	Flouridated		2.2	1.0	2.2	0.9	1.7	4.3	0.0	3.3	2.1	2.9	**2.3**
	Non flouridated		95.2	87.6	89.8	99.1	93.2	92.9	91.4	89.7	97.9	92.7	**93.0**
5	**Change of toothbrush once in**	n=	**161**	**57**	**118**	**100**	**218**	**152**	**68**	**122**	**98**	**220**	**438**
	1-3 months		1.2	0.0	0.9	1.1	1.0	0.6	0.0	0.0	1.1	0.5	**0.8**
	4-6 months		15.0	19.0	8.5	26.4	16.5	17.1	15.6	9.1	28.1	17.4	**17.0**
	6 + months		83.2	81.0	89.8	72.6	82.0	82.3	77.8	87.9	70.8	80.4	**81.2**
6	**Rinse mouth after eating**	n=	**205**	**112**	**212**	**105**	**317**	**205**	**109**	**211**	**103**	**314**	**631**
	Sometimes		24.0	31.3	33.3	9.9	25.7	25.5	24.7	32.2	8.5	24.5	**25.1**
	Always		75.0	67.7	65.3	90.1	73.4	74.0	75.3	67.3	91.5	75.2	**74.3**

5.3.4 35-44 year olds

About 58 percent of the respondents, of this age group across both sexes, reported cleaning teeth with brush (Table 5.3.4). The percentage of such was much higher in urban than in rural areas. This practice was no different in the regions.

Almost three-fourths of those cleaning teeth with brush, changed their brushes once after 6 months' of use. These were more in rural areas than in urban areas. Where as about 19 percent had changed brushes once in 4-6 months. These were more in urban than in rural areas. Only about one percent of them changed once in 1-3 months. The regional differences were not large.

As regard to frequency of cleaning teeth, more than 90 percent, more in rural than in urban areas, reported cleaning their mouth once a day. In urban areas, almost 15 percent had cleaned teeth twice a day.

About 63 percent of respondents, across both sexes, reported the use of tooth paste for cleaning teeth. Most of the remaining had used tooth powder. These were more males than females and more in rural than in urban areas. The practice of tooth paste over tooth powder was more prevalent in urban areas.

There were comparatively more tooth paste users in North-West Plains & more tooth powder users in South-West Plains.

More than three fourth of respondents reported rinsing mouths always i.e. after every meal. These were more in urban than in rural areas.

There were more rinsing mouth always in North - West Plains than in South –West Plains.

5.3.5 65-74 year olds

Only 24 percent of respondents, across both sexes more in urban areas, reported using tooth brush to clean teeth (Table 5.3.5). Those cleaning teeth with tooth brush were slightly higher in South-West Plains than in North-West Plains.

About 84 percent of those using tooth brush, across both sexes, had changed tooth brushes once after 6 months of use. More respondents in urban areas reported change of tooth brushes even earlier. Slightly higher percentage in North-West Plains than in South-West Plains had changed brushes once after 6 months of use.

Most of the tooth paste/tooth powder users reported using non-fluoridated. It was so across both sexes, urban/rural and regions. As high as 78 percent of respondents reported rinsing mouth after every meal. They were more in urban than in rural areas and more in North-west region than in south-West Plains region.

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

AGE: 35-44 yrs STATE : Uttar Pradesh

	Oral Hygiene Practices		MALE					FEMALE					STATE TOTAL
			REGIONS		STATE			REGIONS		STATE			
			1	2	R	U	T	1	2	R	U	T	
1	**Clean teeth with**	n=	**205**	**110**	**214**	**101**	**315**	**202**	**111**	**209**	**104**	**313**	**628**
	finger		27.0	43.7	41.6	9.4	31.4	23.4	31.2	34.2	6.5	25.1	**28.3**
	brush		59.0	47.5	41.1	90.6	56.8	59.3	53.3	42.0	93.5	58.9	**57.9**
	datun		11.5	5.9	13.6	0.0	9.3	12.8	8.7	16.3	0.0	10.9	**10.1**
	others		2.5	2.9	3.7	0.0	2.5	4.6	6.8	7.6	0.0	5.1	**3.8**
2	**Frequency of cleaning teeth**	n=	**177**	**101**	**177**	**101**	**278**	**168**	**95**	**159**	**104**	**263**	**541**
	Once a day		91.9	93.5	96.6	83.8	92.0	88.9	92.7	91.8	87.1	90.0	**91.0**
	Twice a day		6.3	4.6	1.2	15.3	6.2	9.2	5.0	5.1	12.9	8.1	**7.2**
	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**
3	**Material used for cleaning teeth**												
	Tooth paste		64.5	49.9	44.0	91.6	61.1	67.4	53.2	46.5	91.7	64.2	**62.7**
	Tooth powder		30.9	37.4	45.5	7.5	31.8	27.6	40.0	44.8	8.3	30.5	**31.2**
4	**Type of toothpaste / powder**	n=	**169**	**89**	**158**	**100**	**258**	**160**	**89**	**145**	**104**	**249**	**507**
	Flouridated		2.4	3.1	1.9	3.8	2.7	1.9	0.0	1.4	1.0	1.3	**2.0**
	Non flouridated		94.6	92.0	92.5	96.2	93.9	95.5	91.4	91.2	99.0	94.4	**94.2**
5	**Change of toothbrush once in**	n=	**123**	**55**	**87**	**91**	**178**	**122**	**62**	**87**	**97**	**184**	**362**
	1-3 months		2.4	0.0	1.2	2.4	1.8	0.8	0.0	0.0	1.1	0.6	**1.2**
	4-6 months		19.4	24.8	8.0	35.5	21.9	17.3	17.5	8.0	27.4	18.1	**20.0**
	6 + months		77.4	69.0	86.4	62.1	74.1	81.1	80.7	89.8	71.5	80.3	**77.2**
6	**Rinse mouth after eating**	n=	**205**	**110**	**214**	**101**	**315**	**202**	**111**	**209**	**104**	**313**	**628**
	Sometimes		19.5	31.0	26.5	14.7	22.8	18.2	31.8	25.6	15.5	22.3	**22.6**
	Always		80.0	68.0	72.6	85.3	76.6	80.8	68.2	73.4	84.5	77.1	**76.9**

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

AGE: 65-74 yrs STATE : Uttar Pradesh

	Oral Hygiene Practices		MALE					FEMALE					STATE TOTAL
			REGIONS		STATE			REGIONS		STATE			
			1	2	R	U	T	1	2	R	U	T	
1	**Clean teeth with**	n=	**200**	**116**	**213**	**103**	**316**	**210**	**103**	**211**	**102**	**313**	**629**
	finger		23.9	42.1	33.9	20.5	29.6	26.9	41.3	33.4	26.0	31.0	**30.3**
	brush		20.9	26.7	12.8	47.1	23.8	19.1	31.1	13.8	44.1	23.6	**23.7**
	datun		7.7	11.7	12.1	1.8	8.8	7.8	5.2	10.0	0.0	6.8	**7.8**
	others		47.5	19.5	41.2	30.6	37.8	46.2	22.3	42.9	29.9	38.7	**38.3**
2	**Frequency of cleaning teeth**	n=	**90**	**81**	**100**	**71**	**171**	**97**	**76**	**100**	**73**	**173**	**344**
	Once a day		92.6	93.7	95.1	89.6	92.8	90.6	94.9	91.9	93.1	92.4	**92.6**
	Twice a day		6.2	2.5	2.0	9.1	4.9	3.0	3.7	1.0	6.9	3.4	**4.2**
	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**
3	**Material used for cleaning teeth**												
	Tooth paste		50.1	42.3	30.5	73.7	48.1	39.6	38.2	23.5	64.0	40.3	**44.2**
	Tooth powder		41.9	48.7	57.6	23.7	43.8	53.0	53.4	64.6	34.7	52.2	**48.0**
4	**Type of toothpaste / powder**	n=	**83**	**74**	**88**	**69**	**157**	**90**	**70**	**88**	**72**	**160**	**317**
	Flouridated		3.7	2.5	3.5	2.7	3.2	3.2	0.0	1.2	3.0	2.0	**2.6**
	Non flouridated		93.8	91.6	89.8	97.3	93.1	94.5	96.9	94.4	97.0	95.5	**94.3**
5	**Change of toothbrush once in**	n=	**43**	**33**	**27**	**49**	**76**	**41**	**34**	**29**	**46**	**75**	**151**
	1-3 months		2.2	0.0	0.0	2.2	1.4	0.0	0.0	0.0	0.0	0.0	**0.7**
	4-6 months		13.9	21.2	14.7	18.1	16.9	9.1	11.4	0.0	17.7	10.7	**13.8**
	6 + months		83.9	75.9	85.3	77.8	80.5	88.6	82.4	96.8	77.9	85.4	**83.0**
6	**Rinse mouth after eating**	n=	**200**	**116**	**213**	**103**	**316**	**210**	**103**	**211**	**102**	**313**	**629**
	Sometimes		19.5	24.1	24.4	12.7	20.6	18.6	24.8	25.5	8.2	19.9	**20.3**
	Always		79.0	75.0	73.7	87.3	78.1	80.4	75.2	73.5	91.8	79.4	**78.8**

ORAL HYGIENE PRACTICES ACROSS AGE GROUPS (SUMMING UP)

(i) 53 to 69% of respondents belonging to ages/age groups 5, 12, 15 & 35-44 years, across both sexes & more in urban and 24% aged (65-74) years, across both sexes & more in urban, reported the use of tooth brush to clean teeth.

As regard to frequency of cleaning teeth, about 90% in each age group, across both sexes & more in rural, had cleaned teeth once a day.

(ii) More than 75% in each age group, across both sexes & more in rural, had changed tooth brushes once after six months of use.

(iii) 62-65% in each age group, across both sexes & more in urban reported the use of tooth paste and 90% of these across both sexes & places of residence reported using non-fluoridated tooth paste.

(iv) 73 to 75% respondents belonging to ages 12, 15, 35-44 & 65-74 & 50% aged 5 year olds, across both sexes & more in urban, reported rinsing month always after every meal.

5.4 DENTAL PROBLEMS & TREATMENT PRACTICES

The respondents were asked whether they had any dental problem in the last one year, if so, whom they consulted for treatment. Further they were asked on the availability of dental care facility and time required to reach such facility places. They were also asked whether they ever suffered from hypertension, diabetes, epilepsy, Jaundice or asthma. Responses on all these aspects are presented in Tables 5.4.1 to 5.4: 5 and are discussed below:

5.4.1 5 year olds

It is surprising to find that about one percent of respondents of this age group had dental problems in last one year. (This information was collected from his/her caretaker).

As regard type of problems, about 18 percent, all females & in urban area had problem of dental decay. This followed by other about 61 percent more males & more in rural reported foul breath.

Only 9 percent more females & more in urban (who had problems,) consulted trained dentist. About 4 percent across both sexes & more in rural were aware of Govt. dental care facility.

Nearly half of them, more females & more in urban reported less than half hour to reach dental care facility. **Table 5.4.1.**

Table 5 . 4. 1 Percent 5 years old by reported nature of dental problems and treatment related aspects, sex & geographical area.

AGE: 5 yrs STATE : Uttar Pradesh

	Nature of Dental Problems and Treatment related aspects		MALE					FEMALE					STATE TOTAL
			REGIONS		STATE			REGIONS		STATE			
			1	2	R	U	T	1	2	R	U	T	
1	**Suffered from oral health**	n=	212	115	221	106	327	197	106	203	100	303	630
	problems in last one year		0.5	0.0	0.5	0.0	0.3	1.6	1.7	1.5	1.8	1.6	**1.0**
2	**Type of oral health problems**	n=	1	0	1	0	1	3	2	3	2	5	6
	Dental decay		0.0	0.0	0.0		0.0	0.0	100.0	0.0	100.0	37.1	**18.6**
	Gum disease		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
	Foul breath		100.0	0.0	100.0		100.0	33.3	0.0	33.3	0.0	21.0	**60.5**
	Bleeding gums		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
	Others		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
3	**Consulted (out of those suffered)**												
	None		100.0	0.0	100.0		100.0	0.0	50.0	0.0	50.0	18.5	**59.3**
	Trained dentist		0.0	0.0	0.0		0.0	0.0	50.0	0.0	50.0	18.5	**9.3**
4	**Availaibility of dental facility**	n=	212	115	221	106	327	197	106	203	100	303	630
	None		0.0	0.0	0.0	0.0	0.0	1.0	0.9	0.5	2.0	1.0	**0.5**
	Govt. facility		1.9	9.2	5.7	0.9	4.1	3.1	6.9	5.8	0.9	4.2	**4.2**
	Pvt. facility		10.7	0.0	10.2	0.0	6.9	9.4	1.7	9.1	1.8	6.7	**6.8**
	Do not know		87.4	90.8	84.1	99.1	88.9	87.0	91.3	85.1	96.2	88.7	**88.8**
5	**Time taken to reach the facility**	n=	26	10	35	1	36	23	8	29	2	31	67
	Less than 1/2 hr.		38.5	18.8	31.8	###	33.6	56.5	22.1	45.6	100.0	48.7	**41.2**
	1/2 - 1 hr.		46.2	0.0	35.0	0.0	34.1	17.4	0.0	14.0	0.0	13.2	**23.7**
	> 1 hr.		7.7	81.2	27.4	0.0	26.7	17.4	77.9	33.4	0.0	31.5	**29.1**
	Cannot say		7.7	0.0	5.8	0.0	5.7	8.7	0.0	7.0	0.0	6.6	**6.2**
6	**Ever suffered from**	n=	212	115	221	106	327	197	106	203	100	303	630
	Hypertension		0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	1.1	0.4	**0.2**
	Diabetes		0.5	0.0	0.5	0.0	0.3	0.0	0.0	0.0	0.0	0.0	**0.2**
	Epilepsy		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
	Jaundice		0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.5	0.0	0.3	**0.2**
	Asthma		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**

5.4.2 12 year olds

Only three percent of respondents, more males than females, had some dental problem in last one year (Table 5.4.2).

There was no difference in percent of respondents reported some dental problem in the two regions.

As regards the nature of problems, about 58 percent of them had dental decay. Other 10 percent, only males in rural area, had gum disease. All those reported suffered none of them consulted for dental advice. More in South-West Plains & more in North-West Plains reported suffered from dental decay & gum disease respectively.

As regard to availability of dental care facility, about 67 percent had no knowledge about their existence. The remaining were evenly divided in regard to knowledge of availability of Govt. & Pvt. dental facility in their areas. About two-thirds reported that one hour & below would be required to reach the facility places.

Situation in regard to knowledge in respect of availability of dental care facility & amount of time to reach them were more or less same in both the regions and similar to that reported for the state.

5.4.3 15 year olds

Thirteen percent of respondents across both sexes & places of residence, had from some dental problem in last one year (Table 5.4.3). About 84 percent of these had problem of dental decay, followed by about 7 percent who had gum disease during the last one year. More respondents in South-West plains reported dental problems than in North-west Plains.

About 58 percent of respondents in the state as well as in each region did not consult dentists for the problems. Only 6 percent, more females & more in urban consulted trained dentists. None consulted trained dentists in North-West Plains. But about 9 percent consulted trained dentists in South-West Plains.

Only about 10 percent of respondents did not know about the dental facilities. 72 percent were aware of availability of private facilities while 68 percent of the Government facilities in the area. About 42 percent reported that it would take less than half-an-hour to reach the dental care facility; other 38 percent reported half to one hour's time. About 19 percent more females & more in rural told more than an hour to reach the facailty place. More respondents had knowledge about Govt. as well as Pvt. Dental facilities in North West Plains than in the South West Plains.

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

AGE: 12 yrs STATE : Uttar Pradesh

	Nature of Dental Problems and Treatment related aspects		MALE					FEMALE					STATE TOTAL
			REGIONS		STATE			REGIONS		STATE			
			1	2	R	U	T	1	2	R	U	T	
1	**Suffered from oral health**	n=	**205**	**110**	**211**	**104**	**315**	**204**	**111**	**214**	**101**	**315**	**630**
	problems in last one year		3.5	5.4	4.7	2.6	4.1	2.0	1.6	1.9	1.8	1.9	**3.0**
2	**Type of oral health problems**	n=	**7**	**6**	**10**	**3**	**13**	**4**	**2**	**4**	**2**	**6**	**19**
	Dental decay		71.4	64.0	60.6	100.0	69.0	25.0	100.0	25.0	100.0	48.0	**58.5**
	Gum disease		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
	Foul breath		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
	Bleeding gums		14.3	0.0	10.2	0.0	8.0	0.0	0.0	0.0	0.0	0.0	**4.0**
	Others		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
3	**Consulted (out of those suffered)**												
	None		57.1	82.0	59.8	100.0	68.4	25.0	100.0	25.0	100.0	48.0	**58.2**
	Trained dentist		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
4	**Availaibility of dental facility**	n=	**205**	**110**	**211**	**104**	**315**	**204**	**111**	**214**	**101**	**315**	**630**
	None		1.0	0.0	1.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	**0.4**
	Govt. facility		27.1	14.9	22.8	24.1	23.3	23.6	12.8	21.6	16.3	20.0	**21.7**
	Pvt. facility		29.2	8.7	18.3	33.1	23.1	28.7	4.1	19.1	24.9	20.9	**22.0**
	Do not know		57.8	79.8	65.1	64.1	64.8	60.9	86.4	67.9	72.1	69.2	**67.0**
5	**Time taken to reach the facility**	n=	**85**	**22**	**71**	**36**	**107**	**80**	**15**	**68**	**27**	**95**	**202**
	Less than 1/2 hr.		51.3	24.7	27.1	89.7	48.4	47.8	12.1	32.7	71.6	43.9	**46.2**
	1/2 - 1 hr.		34.0	9.7	41.2	2.9	28.2	35.5	13.1	37.0	18.6	31.7	**30.0**
	> 1 hr.		13.4	43.5	27.6	0.0	18.2	16.7	56.7	30.3	0.0	21.6	**19.9**
	Cannot say		1.2	22.0	4.1	7.4	5.2	0.0	18.1	0.0	9.8	2.8	**4.0**
6	**Ever suffered from**	n=	**205**	**110**	**211**	**104**	**315**	**204**	**111**	**214**	**101**	**315**	**630**
	Hypertension		0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	1.1	0.3	**0.2**
	Diabetes		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
	Epilepsy		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
	Jaundice		2.4	0.0	1.5	2.1	1.7	0.5	0.8	0.5	0.9	0.6	**1.2**
	Asthma		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**

Table 5 . 4. 3 Percent 15 years old by reported nature of dental problems and treatment related aspects, sex & geographical area.

AGE: 15 yrs **STATE : Uttar Pradesh**

	Nature of Dental Problems and Treatment related aspects		MALE					FEMALE					STATE TOTAL
			REGIONS		STATE			REGIONS		STATE			
			1	2	R	U	T	1	2	R	U	T	
1	**Suffered from oral health**	n=	**205**	112	**212**	**105**	**317**	**205**	**109**	211	**103**	**314**	**631**
	problems in last one year		7.0	25.1	13.9	10.5	12.8	8.0	21.7	12.7	11.6	12.3	**12.6**
2	**Type of oral health problems**	n=	**14**	**28**	**30**	**12**	**42**	**16**	**24**	**27**	**13**	40	82
	Dental decay		78.6	86.4	86.4	75.0	83.3	81.3	87.1	81.5	92.3	84.8	**84.1**
	Gum disease		7.1	7.6	9.9	0.0	7.2	6.3	9.1	10.9	0.0	7.6	**7.4**
	Foul breath		0.0	3.8	3.2	0.0	2.3	6.3	4.5	7.4	0.0	5.1	**3.7**
	Bleeding gums		0.0	7.1	3.2	8.3	4.6	12.5	0.0	7.6	0.0	5.3	**5.0**
	Others		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
3	**Consulted (out of those suffered)**												
	None		42.9	49.4	43.3	58.3	47.4	62.5	76.2	73.5	61.5	69.9	**58.7**
	Trained dentist		0.0	3.2	0.0	8.3	2.2	0.0	15.4	0.0	30.8	9.4	**5.8**
4	**Availaibility of dental facility**	n=	**205**	**112**	**212**	**105**	**317**	**205**	**109**	**211**	**103**	**314**	**631**
	None		1.0	3.6	1.9	1.8	1.8	0.0	0.0	0.0	0.0	0.0	**0.9**
	Govt. facility		71.4	55.6	66.9	64.7	66.2	74.6	58.9	72.0	63.6	69.3	**67.8**
	Pvt. facility		84.0	49.7	70.8	78.0	73.2	82.0	43.5	66.5	77.6	70.1	**71.7**
	Do not know		4.5	18.3	10.6	5.3	8.8	6.0	23.3	12.5	9.1	11.4	**10.1**
5	**Time taken to reach the facility**	n=	**195**	**88**	**186**	**97**	**283**	**193**	**84**	**184**	**93**	277	**560**
	Less than 1/2 hr.		39.3	42.9	20.3	85.0	42.3	39.5	43.9	19.3	90.0	42.9	**42.6**
	1/2 - 1 hr.		43.3	31.4	51.1	15.0	38.8	39.7	34.3	50.4	10.0	36.9	**37.9**
	> 1 hr.		16.9	25.8	28.1	0.0	18.6	20.8	21.8	30.3	0.0	20.2	**19.4**
	Cannot say		0.5	0.0	0.5	0.0	0.4	0.0	0.0	0.0	0.0	0.0	**0.2**
6	**Ever suffered from**	n=	**205**	**112**	**212**	**105**	**317**	**205**	**109**	**211**	**103**	**314**	**631**
	Hypertension		0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	1.0	0.3	**0.2**
	Diabetes		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
	Epilepsy		0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.5	0.0	0.3	**0.2**
	Jaundice		1.5	1.9	1.9	1.0	1.6	1.5	1.0	1.4	1.0	1.3	**1.5**
	Asthma		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**

5.4.4 35-44 year olds

About 60 percent of all respondents of this age group, across both sexes and more (65 percent) in rural areas than in urban (48 percent) had dental problems in the last one year (Table 5.4.4). Three-fourths of those who had problems, suffered from dental decay alone and two-thirds had gum disease also. About 9 percent had problem of foul breath.

More reported dental problems in South-West plains than in North-West Plains.

Approximately 44 percent with dental problems did not consult any dentist. Only 11 percent consulted trained dentists – more in urban areas than in rural. Practice of consulting dentists though small, was more in South-West Plains than in North-West Plains.

About 75 percent of respondents, reported knowledge of Govt. Dental Care facility. Also large percent reported availability of private facility. The situation in this regard was similar in both the regions.

Approximately 40 percent of the respondents, more in urban areas, reported less than half an hour to reach the facility. In rural areas, most of them reported more than half an hour time for travel to the facility. The situation in this regard was identical in two regions.

About 4 percent of respondents of this age group, reported ever suffered from hypertension, followed by 1.4 percent who had diabetes.

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

AGE: 35-44 yrs **STATE : Uttar Pradesh**

	Nature of Dental Problems and Treatment related aspects		MALE					FEMALE					STATE TOTAL
			REGIONS		STATE			REGIONS		STATE			
			1	2	R	U	T	1	2	R	U	T	
1	**Suffered from oral health**	n=	**205**	**110**	214	**101**	**315**	**202**	**111**	209	**104**	**313**	**628**
	problems in last one year		50.5	77.0	62.4	50.2	58.5	53.8	76.9	67.7	46.2	60.6	**59.6**
2	**Type of oral health problems**	n=	**102**	**85**	134	**53**	**187**	**107**	**85**	142	**50**	**192**	**379**
	Dental decay		79.2	70.2	74.1	79.7	75.6	78.4	72.9	72.1	89.8	76.6	**76.1**
	Gum disease		41.6	67.0	56.1	40.3	51.8	47.1	60.5	58.7	31.6	51.9	**51.9**
	Foul breath		8.8	15.3	11.1	13.0	11.6	7.6	7.2	8.5	3.8	7.3	**9.5**
	Bleeding gums		11.8	10.8	12.7	7.6	11.3	11.2	13.1	11.9	12.1	12.0	**11.7**
	Others		1.0	0.0	0.8	0.0	0.6	0.9	0.0	0.7	0.0	0.5	**0.6**
3	**Consulted (out of those suffered)**												
	None		41.1	51.8	43.8	50.9	45.7	37.8	47.5	44.9	30.9	41.4	**43.6**
	Trained dentist		5.6	11.0	3.0	22.7	8.4	11.4	13.0	3.6	41.3	13.0	**10.7**
4	**Availaibility of dental facility**	n=	**205**	**110**	**214**	**101**	**315**	**202**	**111**	**209**	**104**	**313**	**628**
	None		0.5	0.8	0.5	0.9	0.6	0.5	1.0	0.9	0.0	0.6	**0.6**
	Govt. facility		79.4	68.0	76.1	74.5	75.6	79.8	66.3	77.1	71.2	75.1	**75.4**
	Pvt. facility		92.5	71.2	83.6	90.9	85.9	91.8	70.9	83.6	88.5	85.2	**85.6**
	Do not know		0.5	2.0	1.4	0.0	0.9	0.5	1.9	1.4	0.0	0.9	**0.9**
5	**Time taken to reach the facility**	n=	**204**	**107**	**211**	**100**	**311**	**201**	**108**	**205**	**104**	**309**	**620**
	Less than 1/2 hr.		34.7	41.4	18.3	82.3	38.6	39.0	40.9	19.4	86.1	41.6	**40.1**
	1/2 - 1 hr.		44.6	30.5	49.3	17.7	39.3	39.9	35.3	49.1	13.9	37.4	**38.4**
	> 1 hr.		20.7	28.1	32.4	0.0	22.1	21.0	22.9	31.0	0.0	20.7	**21.4**
	Cannot say		0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.5	0.0	0.3	**0.2**
6	**Ever suffered from**	n=	**205**	**110**	**214**	**101**	**315**	**202**	**111**	**209**	**104**	**313**	**628**
	Hypertension		3.7	6.3	2.8	9.0	4.7	3.9	1.8	2.9	4.0	3.3	**4.0**
	Diabetes		1.0	2.5	1.0	2.7	1.5	1.5	1.0	1.9	0.0	1.3	**1.4**
	Epilepsy		0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.5	1.0	0.7	**0.4**
	Jaundice		0.5	2.0	1.4	0.0	0.9	1.0	4.4	1.9	2.6	2.1	**1.5**
	Asthma		0.0	1.0	0.4	0.0	0.3	0.0	0.0	0.0	0.0	0.0	**0.2**

5.4.5 65-74 year olds

About 68 percent of all respondents in this age group, slightly more males than females (70 percent and 67 percent respectively), across places of residence reported dental problems in the last one year.

The percent with dental problem was more in South-West Plains than in North-West Plains.

The major problems, reported by most of the respondents, were dental decay and gum diseases. About one-quarter of the respondents reported "other" problems (other than dental decay and gum diseases).

Nearly 42 percent of respondents, with some dental problem, did not consult any dentist. About 16 percent irrespective of sex, from urban areas consulted trained dentist for their dental problems.

Three-fourths of respondents reported that Govt. and private dental care facilities with an access time of less than half an hour and half to one hour. As expected, access was much less to rural people than urban. But one important finding was that most of the respondents knew about the facility.

Nearly 10 percent of respondents reported ever suffered from hypertension; more in urban areas than in rural and more males than females (Table 5.4.5). The other 5 percent & 3 percent reported suffered from diabetes and asthma respectively. The situation in regard to prevalent of hypertension, diabetes & asthma was similar in the two regions and similar to that in the state.

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

(1) 60-68% of respondents aged 35-44 & 65-74 years & about 13% or less from younger ages, across both sexes & places of residence, reported suffered from oral health problems in last one year.

    As regard to nature of problem they suffered, about 75% in each age/age group suffered from dental decay and about 10% & less belonging to ages 15 & below & about 65% from older ages, had problems of gum diseases in last one year.

(2) 58% from younger ages & about 42% from older ages did not consult any body.

(3) Nearly 70% of respondents irrespective of age differentials had knowledge of dental care facility in the area.

(4) More in urban & less in rural, reported less than an hour to reach the dental care facility places.

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

AGE: 65-74 yrs **STATE : Uttar Pradesh**

	Nature of Dental Problems and Treatment related aspects		MALE					FEMALE					STATE TOTAL
			REGIONS		STATE			REGIONS		STATE			
			1	2	R	U	T	1	2	R	U	T	
1	**Suffered from oral health**	n=	**200**	**116**	213	103	**316**	**210**	**103**	**211**	**102**	**313**	629
	problems in last one year		66.2	78.5	72.4	65.0	70.0	65.9	68.3	66.0	68.0	66.6	**68.3**
2	**Type of oral health problems**	n=	**131**	92	154	**69**	**223**	**138**	71	**139**	70	**209**	432
	Dental decay		67.7	67.8	63.7	78.4	68.1	58.2	70.4	57.3	73.1	62.5	**65.3**
	Gum disease		70.6	85.3	79.0	68.5	75.8	72.9	89.1	75.9	82.8	78.2	77.0
	Foul breath		24.6	18.6	24.8	15.9	22.1	16.0	28.0	18.6	22.3	19.8	**21.0**
	Bleeding gums		35.4	27.1	38.3	16.1	31.7	33.6	29.6	38.7	17.7	31.8	**31.8**
	Others		3.1	0.0	2.7	0.0	1.9	3.0	0.0	2.9	0.0	2.0	**2.0**
3	**Consulted (out of those suffered)**												
	None		46.3	33.9	47.0	27.1	41.0	44.2	37.2	49.7	23.8	41.2	**41.1**
	Trained dentist		13.6	15.6	5.8	37.5	15.3	15.5	14.3	2.9	44.0	16.5	**15.9**
4	**Availaibility of dental facility**	n=	**200**	**116**	**213**	**103**	**316**	**210**	**103**	**211**	**102**	**313**	**629**
	None		0.5	0.8	0.5	0.9	0.6	0.5	1.9	0.9	0.9	0.9	**0.8**
	Govt. facility		79.0	68.5	75.6	74.7	75.3	78.9	64.4	74.0	75.6	74.5	**74.9**
	Pvt. facility		90.7	65.9	80.3	87.5	82.6	88.2	65.5	78.6	88.3	81.7	**82.2**
	Do not know		0.5	2.8	1.8	0.0	1.2	1.0	5.2	3.2	0.0	2.2	**1.7**
5	**Time taken to reach the facility**	n=	**199**	**112**	**209**	**102**	**311**	**207**	**96**	**202**	**101**	**303**	**614**
	Less than 1/2 hr.		37.0	43.7	19.0	87.6	41.2	37.3	41.1	17.7	86.8	40.5	**40.9**
	1/2 - 1 hr.		39.8	29.4	46.4	12.4	35.4	43.3	35.3	52.9	13.2	39.8	**37.6**
	> 1 hr.		23.3	26.8	34.7	0.0	23.4	18.9	22.5	28.5	0.0	19.1	**21.3**
	Cannot say		0.0	0.0	0.0	0.0	0.0	0.5	1.1	1.0	0.0	0.6	**0.3**
6	**Ever suffered from**	n=	**200**	**116**	**213**	**103**	**316**	**210**	**103**	**211**	**102**	**313**	**629**
	Hypertension		9.9	9.2	8.5	12.6	9.8	7.8	13.8	4.7	21.3	10.1	**10.0**
	Diabetes		4.4	5.0	3.3	7.8	4.7	4.6	5.6	3.3	8.9	5.1	**4.9**
	Epilepsy		1.0	0.9	1.4	0.0	1.0	0.5	0.0	0.5	0.0	0.3	**0.7**
	Jaundice		0.0	0.8	0.0	0.9	0.3	0.0	1.0	0.4	0.0	0.3	**0.3**
	Asthma		4.0	3.4	3.8	3.9	3.8	2.8	3.0	2.8	3.0	2.9	**3.4**

5.5 AWARENESS OF DENTAL HEALTH PROBLEMS

Three questions were asked about awareness of dental health problems. The first was about the common dental problems, the second about major factors responsible for the problems and the third on how to prevent these problems. Responses on all these questions are presented in Tables 5.5.2 to 5.5:5.

5.5.2 12 year olds

About 81 percent of respondents in this age group across both sexes & more in rural did not know about the oral health problems; (Table 5.5.2). Those who reported knowledge, cited dental decay. As low as two percent reported gum diseases also.

When respondents were asked on factors/causes of oral health problems. 59 percent of respondents, more in rural than in urban areas, had no knowledge of the factors that cause oral health problem. More in South-west Plains compared to the North-west Plains reported lack of knowledge of the factors.

Most of those aware of the factors reported not brushing regularly (33 percent), eating sweets/ice cream/chocolates (10 percent) and not rinsing (3 percent) as the major causes of oral health problems. These were more in urban areas and more males.

Among the preventive measures for avoiding oral health problems, major measures reported were cleaning teeth regularly (34) and avoid sweet items (6 percent). About 61 percent, more males & more in rural were unaware of preventive measures. There were more unaware of preventive measures in South-west Plains than in North-west Plains.

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 : Uttar Pradesh**

	Awareness of Oral Health Problems, Causes and Preventive Measures		MALE					FEMALE					STATE TOTAL
			REGIONS		STATE			REGIONS		STATE			
			1	2	R	U	T	1	2	R	U	T	
1	**Awareness of Oral Health Problems**	n=	205	110	211	104	315	204	111	214	101	315	630
	No knowledge		78.9	83.3	84.7	69.9	79.9	78.0	90.0	83.8	77.1	81.7	**80.8**
	Tooth decay		21.1	15.8	15.3	29.3	19.8	21.0	9.2	15.2	22.0	17.4	**18.6**
	Gum disease		1.4	1.0	0.9	2.1	1.3	2.3	0.8	0.5	5.2	2.0	**1.7**
	Bad smell		0.0	0.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0	0.7	**0.4**
	Stained teeth		0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.5	0.0	0.3	**0.2**
	Others		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
2	**Factors that cause Oral Health Problems**												
	Eating sweets/ice cream		7.8	11.0	6.3	14.7	9.0	12.0	8.4	11.4	9.3	10.7	**9.9**
	Not brushing regularly		39.0	13.6	24.9	45.6	31.6	42.9	19.7	30.6	47.5	36.0	**33.8**
	Not rinsing		1.0	4.9	3.2	0.0	2.2	3.0	1.9	3.7	0.0	2.6	**2.4**
	Consuming tobacco		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
	Do not know		55.4	71.5	67.5	43.8	59.8	50.1	70.0	61.4	44.3	56.0	**57.9**
3	**Reported Preventive Measures**												
	Not consuming Tobacco		0.0	0.8	0.0	0.9	0.3	0.0	1.8	0.4	0.9	0.6	**0.5**
	Cleaning teeth regularly		37.5	19.1	24.8	48.2	32.4	43.9	22.2	31.6	50.2	37.5	**35.0**
	Visiting dentist regularly		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
	Using flouride paste / powder		0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.5	0.0	0.3	**0.2**
	Avoid sweet items		4.8	5.0	2.9	9.4	5.0	6.0	3.4	5.7	3.8	5.1	**5.1**
	Do not know		61.0	72.5	73.3	43.8	63.7	53.1	70.1	64.7	43.4	57.9	**60.8**

5.5.3 15 year olds

About 41 percent of respondents of this age group, across both sexes, more in rural than in urban areas, were not aware of oral health problems (Table 5.5.3).The awareness on oral health problems was lower in South-West Plains than in North-West Plains of the state. Those who were aware of the problems, mainly reported tooth decay and gum disease as the oral health problems.

As regard the factors that cause oral health problems, about 41 percent of them did not know the causes. Another 43 percent of respondents, more in urban than in rural, reported not brushing regularly as the major cause. Other 21 percent, more in urban than in rural area, reported eating sweets/ice cream etc as another causing factor. Respondents in South-West Plains had poorer knowledge of causes than those in the North-West Plains.

About 48 percent of respondents were unaware of preventive measures & they were more in rural than in urban areas 44 percent reported regular cleaning of teeth regularly and about 14 percent reported avoid of sweet items, the measures to prevent oral health problems.

Respondents in South-West Plains were less aware of the preventive measures. As stated above, they were also less familiar with the causes of dental problems.

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 : Uttar Pradesh**

	Awareness of Oral Health Problems, Causes and Preventive Measures		MALE					FEMALE					STATE TOTAL
			REGIONS		STATE			REGIONS		STATE			
			1	2	R	U	T	1	2	R	U	T	
1	**Awareness of Oral Health Problems**	n=	205	112	212	105	317	205	109	211	103	314	631
	No knowledge		34.8	57.8	48.2	28.1	41.6	35.4	58.3	51.2	22.2	41.8	**41.7**
	Tooth decay		63.7	39.5	49.4	71.1	56.5	63.6	39.1	47.4	76.1	56.7	**56.6**
	Gum disease		10.7	7.1	5.6	18.9	10.0	10.3	6.3	5.7	17.2	9.4	**9.7**
	Bad smell		0.5	3.6	1.4	1.8	1.5	0.0	0.8	0.0	0.9	0.3	**0.9**
	Stained teeth		0.5	0.0	0.5	0.0	0.3	0.4	0.0	0.0	1.0	0.3	**0.3**
	Others		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
2	**Factors that cause Oral Health Problems**												
	Eating sweets/ice cream		24.2	24.0	23.8	24.7	24.1	15.8	20.9	15.3	22.2	17.5	**20.8**
	Not brushing regularly		51.4	26.3	37.1	58.1	44.0	47.4	27.3	34.8	56.3	41.8	**42.9**
	Not rinsing		5.9	4.8	6.6	3.1	5.4	5.5	3.9	6.6	1.0	4.8	**5.1**
	Consuming tobacco		0.9	1.9	1.4	1.0	1.3	0.0	0.0	0.0	0.0	0.0	**0.7**
	Do not know		34.6	48.5	44.9	25.3	38.5	42.1	48.7	51.5	26.7	43.4	**41.0**
3	**Reported Preventive Measures**												
	Not consuming Tobacco		0.9	4.7	2.3	1.9	2.1	0.5	0.0	0.5	0.0	0.3	**1.20**
	Cleaning teeth regularly		52.4	29.6	38.1	61.6	45.8	46.4	29.7	33.4	59.8	42.0	**43.9**
	Visiting dentist regularly		0.0	1.0	0.4	0.0	0.3	0.5	0.0	0.5	0.0	0.3	**0.3**
	Using flouride paste / powder		0.5	0.0	0.5	0.0	0.3	0.0	0.0	0.0	0.0	0.0	**0.2**
	Avoid sweet items		17.2	11.2	15.3	15.1	15.2	12.3	12.9	11.1	15.8	12.6	**13.9**
	Do not know		39.1	55.6	51.0	28.8	43.8	48.1	58.3	60.4	29.5	50.4	**47.1**

5.5.4 35-44 year olds

About 8 percent of respondents of this age group, had no knowledge of oral health problems (Table 5.5.4). As expected, these people were more in rural areas than in urban. Both the regions had similar level of awareness.

As regard the respondents who had knowledge of oral health problems, 80 percent of them reported dental decay & 55 percent cited gum disease. A small percent (6 percent) pointed out bad smell as oral health problems.

In regard to factors that cause oral health problems, about 28 percent of the respondents told that they did not know 27 percent reported eating of sweets/ice creams etc. 48 percent & 18 percent cited not brushing regularly & not rinsing factors that causes oral health problems, respectively.

The situation in this regard in the two regions was same in regard to knowledge & factors responsible for oral health problems.

Approximately 37 percent of the respondents had no knowledge of preventive measures. They were more females than males & more in rural areas than in urban. Again, two preventive measures, mainly reported, were cleaning of teeth regularly and avoid of sweets/ice-creams.

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 : Uttar Pradesh**

	Awareness of Oral Health Problems, Causes and Preventive Measures		MALE					FEMALE					STATE TOTAL
			REGIONS		STATE			REGIONS		STATE			
			1	2	R	U	T	1	2	R	U	T	
1	**Awareness of Oral Health Problems**	n=	205	110	214	101	315	202	111	209	104	313	628
	No knowledge		9.0	5.7	10.3	2.0	7.7	7.1	10.3	10.4	2.8	7.9	**7.8**
	Tooth decay		83.0	68.1	70.6	97.1	79.0	86.9	64.9	73.8	93.5	80.3	**79.7**
	Gum disease		46.7	71.0	51.2	62.8	54.9	52.3	61.9	51.8	64.3	55.9	**55.4**
	Bad smell		2.4	13.5	4.5	9.4	6.1	3.0	8.8	4.3	6.3	4.9	**5.5**
	Stained teeth		1.0	2.8	1.8	0.9	1.5	1.0	0.8	1.0	0.9	0.9	**1.2**
	Others		0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.5	0.0	0.3	**0.2**
2	**Factors that cause Oral Health Problems**												
	Eating sweets/ice cream		30.4	30.3	33.4	22.5	29.9	22.6	24.3	23.1	23.0	23.1	**26.5**
	Not brushing regularly		53.0	41.5	41.9	68.0	50.1	49.2	40.7	38.4	65.5	47.3	**48.7**
	Not rinsing		15.9	28.2	21.3	16.0	19.6	12.1	23.3	19.3	7.4	15.4	**17.5**
	Consuming tobacco		0.4	7.5	2.6	2.9	2.7	4.0	7.3	5.7	3.7	5.0	**3.9**
	Do not know		24.0	22.7	27.0	15.3	23.3	32.0	31.1	35.9	22.0	31.3	**27.3**
3	**Reported Preventive Measures**												
	Not consuming Tobacco		2.5	10.1	4.6	5.7	4.9	4.0	9.9	6.1	5.5	5.9	**5.4**
	Cleaning teeth regularly		55.4	44.8	44.6	70.8	52.9	51.2	42.2	39.9	68.1	49.2	**51.1**
	Visiting dentist regularly		0.0	6.5	1.8	2.8	2.1	0.0	2.6	0.5	1.8	0.9	**1.5**
	Using flouride paste / powder		0.5	1.7	0.5	1.8	0.9	0.0	0.0	0.0	0.0	0.0	**0.5**
	Avoid sweet items		23.9	20.1	25.9	14.4	22.3	16.5	12.4	15.9	13.3	15.1	**18.7**
	Do not know		33.5	33.1	39.1	19.1	32.8	41.1	43.4	49.2	24.8	41.1	**37.0**

5.5.5 65-74 year olds

Only 12 percent of respondent had no knowledge of oral health problems (Table 5.5.5). Like in the earlier age groups, they were more in rural than in urban areas. As regard to their knowledge on nature of oral health problems, almost three-fourths of them reported tooth decay & gum disease respectively. About 12 percent cited bad smell a oral health problem.

Situation in respect of knowledge of oral health problems in the two regions was the similar & equal to that in the state.

As regard the factors that cause oral health problems, about 48 percent of them reported that they did not know. It may be noted that this percent is much higher than those in the age group 35-44 year olds.

It may also be noted that this population group has reported three factors for the oral health problems –almost 20-25 percent reported each "one factor such as eating sweets", "not brushing teeth regularly" and "not rinsing" that cause oral health problems. It is also important that about 6 percent reported that consuming tobacco products also causes oral health problems.

About 60 percent of respondents had no knowledge of preventive measures. These were more in rural than in the urban areas. Three important preventive measures reported were cleaning teeth regularly, avoid sweets items and not consuming tobacco, in that order.

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

(i) 60% of respondents aged 15 years & about 80% from age groups 35-44 & 65-74 years & only 9% from 12 year olds, more in rural, reported aware of oral health problems such as dental decay and gum disease.

(ii) 40 to 70% (minimum 40% & maximum 70%) of respondents were aware of causative factors and a large percent from each age group reported factors such as not brushing regularly, eating of sweets & not rinsing always.

(iii) About 40%, more in rural, from each age group of respondents, were aware of preventive measures. Most of these reported preventive measures such as regular cleaning of teeth & avoid of sweets etc.

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 : Uttar Pradesh

	Awareness of Oral Health Problems, Causes and Preventive Measures		MALE					FEMALE					STATE TOTAL
			REGIONS		STATE			REGIONS		STATE			
			1	2	R	U	T	1	2	R	U	T	
1	**Awareness of Oral Health Problems**	n=	200	116	213	103	316	210	103	211	102	313	629
	No knowledge		9.2	12.4	12.6	4.6	10.0	14.1	14.0	17.0	6.8	13.7	**11.9**
	Tooth decay		79.0	64.1	67.1	90.7	74.7	71.9	63.7	62.4	86.5	70.1	**72.4**
	Gum disease		74.7	78.9	74.9	79.2	76.3	72.0	73.4	70.9	76.3	72.7	**74.5**
	Bad smell		10.8	14.3	9.3	18.4	12.3	12.7	12.2	10.0	18.6	12.8	**12.6**
	Stained teeth		2.9	0.0	1.4	3.2	2.0	1.4	0.0	1.0	1.1	1.0	**1.5**
	Others		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
2	**Factors that cause Oral Health Problems**												
	Eating sweets/ice cream		28.0	25.3	25.5	30.8	27.2	20.7	28.0	21.4	26.2	23.0	**25.1**
	Not brushing regularly		26.3	30.9	19.2	48.8	28.7	18.8	26.1	16.1	32.7	21.5	**25.1**
	Not rinsing		22.0	42.0	30.8	23.6	28.5	20.3	29.9	24.1	20.7	23.0	**25.8**
	Consuming tobacco		6.3	6.2	5.6	8.1	6.4	4.9	5.1	6.6	0.9	4.8	**5.6**
	Do not know		45.3	37.1	47.9	29.5	42.0	56.4	44.6	54.0	50.4	52.8	**47.4**
3	**Reported Preventive Measures**												
	Not consuming Tobacco		8.2	9.8	7.4	12.1	8.9	5.3	12.6	8.0	6.4	7.5	**8.2**
	Cleaning teeth regularly		27.8	30.8	20.2	49.7	29.7	20.7	27.3	18.5	32.9	23.1	**26.4**
	Visiting dentist regularly		1.0	5.3	2.7	1.8	2.4	0.5	1.8	0.5	1.8	0.9	**1.7**
	Using flouride paste / powder		0.0	0.8	0.0	0.9	0.3	0.0	2.8	0.4	1.8	0.9	**0.6**
	Avoid sweet items		20.3	17.1	17.9	22.6	19.4	16.8	19.0	17.1	18.1	17.4	**18.4**
	Do not know		58.2	52.6	64.4	36.7	55.5	68.1	55.2	67.4	56.8	64.0	**59.8**

5.6 TOBACCO SMOKING AND CHEWING HABITS

Smoking & chewing tobacco have great affects on oral health. Therefore, questions related to smoking habits, chewing pan and pan masala with tobacco & drinking of alcohol were asked from respondents belonging to age groups (35-44) & (65-74) years (assuming that negligible fraction of people in younger ages of 5, 12, & 15 years have such habit). The responses thus obtained are presented in Table 5.6.4 & 5.6.5 7 are discussed as below.

5.6.4 35-44 year old

About 68 percent of males and 8 percent of females, across places of residence had the habit of smoking tobacco (Table 5.6.4). More males as well as females reported smoking in North-West Plains than in South-West Plains.

More males reported smoking cigarettes in urban areas. A large percentage of smokers were mainly smoking Bidis and Hookahs, in that order. These were more females and more in the rural.

When asked about frequency of smoking, more than 90 percent males as well as females reported smoking less than ten times in a day.

The practice of chewing tobacco or pan masala with tobacco was more in females than in males. This was more in urban areas. This practice was similar in both the regions.

The respondents were asked since how long they have been chewing pan or pan masala with tobacco; all, irrespective of their sex, & place of living reported practicing this habit for the last about ten years. As regards the number of times they chew tobacco etc, 96 percent of females & 92 percent males were chewing it for less than ten times in a day. The position in this regard in the two regions was more or less same.

About 32 percent of males & 2 percent females reported taking alcohol and most of those who took alcohol, were taking it "Occasionally". Only one-third of males had reported taking it daily or on alternate days.

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

AGE: 35-44 yrs STATE : Uttar Pradesh

	Tobacco Smoking or Chewing with Pan masala and Alcohol taking habits		MALE					FEMALE					STATE TOTAL
			REGIONS		STATE			REGIONS		STATE			
			1	2	R	U	T	1	2	R	U	T	
1	**Smoking Habits**	n=	**205**	**110**	**214**	**101**	**315**	**202**	**111**	**209**	**104**	**313**	**628**
	Subjects smoking tobacco		72.5	59.7	69.2	66.5	68.4	9.1	5.4	9.7	3.7	7.7	**38.1**
2	**Nature of Smoking**	n=	**149**	**65**	**148**	**66**	**214**	**18**	**6**	**20**	**4**	**24**	**238**
	Chillum		0.7	1.4	0.7	1.4	0.9	0.0	0.0	0.0	0.0	0.0	**0.5**
	Hookah		40.8	24.0	49.0	2.7	34.7	61.5	33.3	60.3	24.0	54.6	**44.7**
	Cigars		1.4	1.4	1.4	1.4	1.4	0.0	0.0	0.0	0.0	0.0	**0.7**
	Cigarettes		26.6	22.8	8.9	69.1	27.4	0.0	15.3	0.0	24.0	3.8	**15.6**
	Bidis		30.4	50.4	40.1	25.4	35.6	38.5	51.3	39.7	52.1	41.6	**38.6**
3	**Number of times Smoking in a day**												
	< 10 times		91.2	90.9	91.2	91.1	91.2	88.8	100.0	89.9	100.0	91.5	**91.4**
	10-20 times		8.8	9.1	8.8	8.9	8.8	11.2	0.0	10.1	0.0	8.5	**8.7**
	20 + times		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
4	**Chewing pan/pan masala habits**	n=	**205**	**110**	**214**	**101**	**315**	**202**	**111**	**209**	**104**	**313**	**628**
	Chew pan or pan masala with tobacco		6.4	12.5	7.4	10.5	8.4	17.4	11.2	13.4	20.3	15.6	**12.0**
5	**Number of years of chewing pan or**												
	pan masala with Tobacco	n=	**13**	**14**	**16**	**11**	**27**	**36**	**12**	**28**	**20**	**48**	**75**
	Less than 5 years		70.2	48.8	63.4	53.6	59.5	42.4	48.1	46.8	38.6	43.3	**51.4**
	5 - 10 years		29.8	51.2	36.6	46.4	40.5	57.6	43.3	49.9	61.4	54.8	**47.7**
	> 10 years		0.0	0.0	0.0	0.0	0.0	0.0	8.7	3.4	0.0	1.9	**1.0**
6	**Number of times of chewing tobacco**												
	in a day												
	Less than 5 times		63.2	84.4	75.2	69.4	72.9	51.2	40.7	57.7	34.3	47.7	**60.3**
	5 - 10 times		28.9	7.8	12.4	30.6	19.6	46.2	50.6	38.9	60.6	48.1	**33.9**
	> 10 times		7.9	7.8	12.4	0.0	7.5	2.6	8.7	3.4	5.1	4.1	**5.8**
7	**Alcohol consumption habits**	n=	**205**	**110**	**214**	**101**	**315**	**202**	**110**	**209**	**103**	**312**	**627**
	Consuming alcohol		39.3	15.9	32.5	30.2	31.8	2.6	0.8	2.4	0.9	1.9	**16.9**
8	**Frequency of alcohol consumption**	n=	**81**	**17**	**69**	**29**	**98**	**5**	**1**	**5**	**1**	**6**	**104**
	Daily		10.9	5.2	7.3	17.2	10.3	20.0	0.0	20.0	0.0	17.0	**13.7**
	3 times a week		23.5	35.1	26.0	23.7	25.3	0.0	0.0	0.0	0.0	0.0	**12.7**
	Occasionally		65.5	59.7	66.7	59.1	64.4	80.0	100.0	80.0	100.0	83.0	**73.7**

5.6.5 65-74 year olds

As high as 60 percent males and 12 percent females respondents of this age group, had the habit of smoking tobacco (table 5.6.5). They were more in rural areas than in urban. Smoking was more prevalent in North-West Plains than in the South-West Plains.

Hookah and Bidis were more popular among females; the former in rural areas and the later in urban. In the case of males, hookah and bidis were equally popular. Not much differences were found in both the regions. Cigarettes were consumed more in urban areas; Hookah and Bidis in rural areas.

As regard to number of times smoking, 71 percent males & 87 percent females were smoking less then 10 times in a day. Both were more in urban than in rural; that is, frequency of smoking was higher in rural areas than in urban. Not much differences were found between North-west plains and South-west plains.

The practice of chewing tobacco or pan masala with tobacco was more in females than in males.

There were comparatively more males in South-West Plans & more females in North-West Plains reported the habit of chewing tobacco or pan masala with tobacco.

When asked how long they had been chewing tobacco etc., 75 percent males & 70 percent females reported chewing for less than ten years.

As regard the frequency of chewing pan masala, 96 percent males & 75 percent females, irrespective of their places of living, were chewing pan masala ten times or less in a day. About 25 percent of males and one percent of females irrespective of their places of residence reported taking alcohol. 62 percent of males & 33 percent of females who reported taking alcohol, were taking this occasionally.

It is quite strange to find that only 13 percent males & 33 percent of females reported taking alcohol daily.

There were more males as well as females taking alcohol daily in North-West Plains than in the South-West Plains of the State.

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

About one third of respondents in each age group more males & more in rural had habit of smoking. The respondent more of them females & more in rural, were smoking Bidis & Hookah. While more males in urban reported smoking cigarettes. About 90%, across both sexes, were smoking less than ten times in a day.

More females reported chewing tobacco and pan masala with tobacco & carrying on this practice for the last ten years & chewing tobacco and pan masala with tobacco ten times in a day.

Nearly 15% in each age group, more males & more in rural were consuming alcohol & most of them were consuming occasionally.

Table 5. 6. 5 Percent 65-44 year olds by reported smoking, chewing pan & pan masala and alcohol taking habits, sex & geographical area.

AGE: 65-44 yrs STATE : Uttar Pradesh

	Tobacco Smoking or Chewing with Pan masala and Alcohol taking habits		MALE					FEMALE					STATE TOTAL
			REGIONS		STATE			REGIONS		STATE			
			1	2	R	U	T	1	2	R	U	T	
1	**Smoking Habits**	n=	200	116	213	103	316	210	103	211	102	313	629
	Subjects smoking tobacco		64.9	51.0	62.9	53.8	60.0	13.6	10.5	14.8	7.5	12.4	36.2
2	**Nature of Smoking**	n=	130	58	134	54	188	28	11	31	8	39	227
	Chillum		0.0	1.5	0.0	1.7	0.5	7.2	8.4	6.5	12.0	7.6	4.1
	Hookah		66.6	58.7	83.8	8.6	62.1	78.8	39.6	80.7	14.1	67.7	64.9
	Cigars		3.8	0.0	2.3	3.9	2.8	0.0	0.0	0.0	0.0	0.0	1.4
	Cigarettes		13.4	9.8	1.4	43.8	13.6	3.6	8.4	3.3	12.0	5.0	9.3
	Bidis		16.3	29.9	12.5	42.0	21.0	10.4	43.6	9.5	62.0	19.7	20.4
3	**Number of times Smoking in a day**												
	< 10 times		68.5	74.9	67.9	76.8	70.5	89.2	80.2	84.2	100.0	87.2	78.9
	10-20 times		31.5	25.1	32.1	23.2	29.5	10.8	19.8	15.8	0.0	12.8	21.2
	20 + times		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	**Chewing pan/pan masala habits**	n=	200	116	213	103	316	210	103	211	102	313	629
	Chew pan or pan masala with tobacco		5.5	10.7	8.3	4.8	7.2	11.1	8.9	8.5	15.3	10.7	9.0
5	**Number of years of chewing pan or**												
	pan masala with Tobacco	n=	11	12	18	5	23	24	9	18	15	33	56
	Less than 5 years		45.4	23.4	28.4	59.3	35.1	34.3	33.3	44.7	19.6	33.1	34.1
	5 - 10 years		54.6	26.0	44.9	22.0	40.0	40.2	21.6	16.7	60.8	37.1	38.6
	> 10 years		0.0	50.6	26.7	18.7	25.0	25.5	45.0	38.6	19.6	29.8	27.4
6	**Number of times of chewing tobacco**												
	in a day												
	Less than 5 times		63.9	30.8	40.0	78.0	48.2	21.1	31.6	22.4	25.4	23.8	36.0
	5 - 10 times		36.1	60.6	54.7	22.0	47.6	54.9	45.0	61.4	40.2	51.6	49.6
	> 10 times		0.0	8.7	5.3	0.0	4.2	24.0	23.4	16.2	34.4	24.6	14.4
7	**Alcohol consumption habits**	n=	200	116	213	103	316	210	103	211	102	313	629
	Consuming alcohol		31.1	13.7	23.2	30.3	25.5	1.5	0.0	1.5	0.0	1.0	13.3
8	**Frequency of alcohol consumption**	n=	63	16	49	30	79	3	0	3	0	3	82
	Daily		13.8	5.8	6.2	23.8	12.9	33.3	0.0	33.3	0.0	33.3	23.1
	3 times a week		27.2	19.3	28.6	20.3	25.4	33.3	0.0	33.3	0.0	33.3	29.4
	Occasionally		59.1	75.0	65.2	55.9	61.6	33.3	0.0	33.3	0.0	33.3	47.5

CHAPTER VI
ORAL HEALTH STATUS

6.0 CLINICAL FINDINGS

The clinical findings are presented under the following broad heads:

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

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

6.1 DENTAL CARIES STATUS

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

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

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

6.1.1 Coronal caries

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

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

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

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=	212	196	408	Region 1	n=	205	204	409	205	205	410	205	202	407	200	210	410
With caries experience		36.3	39.6	38.0	With caries experience		42.9	43.1	43.0	66.8	68.8	67.8	94.6	91.6	93.1	97.0	96.7	96.9
dmft value 1-3		25.5	31.5	28.5	DMFT value 1-3		34.1	35.8	35.0	49.8	50.2	50.0	26.8	23.3	25.1	4.5	3.3	3.9
dmft value 4-5		5.7	5.6	5.7	DMFT value 4-7; 4-8		7.3	5.4	6.4	16.1	16.1	16.1	46.3	44.6	45.5	13.5	17.6	15.6
dmft value 6-10		4.2	2.0	3.1	DMFT value 8-14; 9-16		1.5	2.0	1.8	1.0	2.4	1.7	19.0	21.3	20.2	29.5	30.0	29.8
dmft value 11-15		0.5	0.5	0.5	DMFT value 15-21; 17-24		0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.0	1.3	19.5	11.0	15.3
dmft value 16 or more		0.5	0.0	0.3	DMFT value 22-28; 25-28		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	3.8	3.2
					DMFT value 29 or more		0.0	0.0	NA	0.0	0.0	NA	1.0	1.5	1.3	27.5	31.0	29.3
Region 2	n=	115	106	221	**Region 2**	n=	110	111	221	112	109	221	110	111	221	116	103	219
With caries experience		52.2	48.1	50.2	With caries experience		66.4	65.8	66.1	77.7	89.9	83.8	93.6	99.1	96.4	97.4	98.1	97.8
dmft value 1-3		32.2	30.2	31.2	DMFT value 1-3		56.4	53.2	54.8	43.8	51.4	47.6	15.5	7.2	11.4	3.4	1.9	2.7
dmft value 4-5		9.6	10.4	10.0	DMFT value 4-7; 4-8		10.0	10.8	10.4	29.5	34.9	32.2	44.5	54.1	49.3	14.7	9.7	12.2
dmft value 6-10		5.2	6.6	5.9	DMFT value 8-14; 9-16		0.0	1.8	0.9	4.5	3.7	4.1	30.0	33.3	31.7	37.9	40.8	39.4
dmft value 11-15		4.3	0.9	2.6	DMFT value 15-21; 17-24		0.0	0.0	0.0	0.0	0.0	0.0	1.8	2.7	2.3	20.7	20.4	20.6
dmft value 16 or more		0.9	0.0	0.5	DMFT value 22-28; 25-28		0.0	0.0	0.0	0.0	0.0	0.0	1.8	1.8	1.8	6.9	4.9	5.9
					DMFT value 29 or more		0.0	0.0	NA	0.0	0.0	NA	0.0	0.0	0.0	13.8	20.4	17.1
State Rural	n=	221	202	423	**State Rural**	n=	211	214	425	212	211	423	214	209	423	213	211	424
With caries experience		44.8	44.3	44.6	With caries experience		53.6	51.4	52.5	71.2	80.6	75.9	95.8	94.3	95.1	96.7	97.6	97.2
dmft value 1-3		28.5	30.0	29.3	DMFT value 1-3		40.3	40.2	40.3	44.8	50.7	47.8	18.2	12.9	15.6	1.9	0.9	1.4
dmft value 4-5		6.3	8.9	7.6	DMFT value 4-7; 4-8		11.8	8.4	10.1	23.1	26.5	24.8	46.7	45.5	46.1	12.2	13.7	13.0
dmft value 6-10		6.3	4.9	5.6	DMFT value 8-14; 9-16		1.4	2.8	2.1	3.3	3.3	3.3	27.1	32.1	29.6	33.8	33.2	33.5
dmft value 11-15		2.7	0.5	1.6	DMFT value 15-21; 17-24		0.0	0.0	0.0	0.0	0.0	0.0	1.9	1.9	1.9	20.2	14.7	17.5
dmft value 16 or more		0.9	0.0	0.5	DMFT value 22-28; 25-28		0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.5	0.7	5.6	5.2	5.4
					DMFT value 29 or more		0.0	0.0	NA	0.0	0.0	NA	0.9	1.4	1.2	23.0	29.9	26.5
State Urban	n=	106	100	206	**State Urban**	n=	104	101	205	105	103	208	101	104	205	103	102	205
With caries experience		35.8	39.0	37.4	With caries experience		46.2	50.5	48.4	69.5	67.0	68.3	91.1	94.2	92.7	98.1	96.1	97.1
dmft value 1-3		26.4	33.0	29.7	DMFT value 1-3		45.2	45.5	45.4	53.3	50.5	51.9	32.7	26.9	29.8	8.7	6.9	7.8
dmft value 4-5		8.5	4.0	6.3	DMFT value 4-7; 4-8		1.0	5.0	3.0	16.2	14.6	15.4	43.6	52.9	48.3	17.5	17.6	17.6
dmft value 6-10		0.9	1.0	1.0	DMFT value 8-14; 9-16		0.0	0.0	0.0	0.0	1.9	1.0	13.9	12.5	13.2	30.1	34.3	32.2
dmft value 11-15		0.0	1.0	0.5	DMFT value 15-21; 17-24		0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	19.4	12.7	16.1
dmft value 16 or more		0.0	0.0	0.0	DMFT value 22-28; 25-28		0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.5	1.0	2.0	1.5
					DMFT value 29 or more		0.0	0.0	NA	0.0	0.0	NA	0.0	0.0	0.0	21.4	22.5	22.0
State Total	n=	327	302	629	**State Total**	n=	315	315	630	317	314	631	315	313	628	316	313	629
With caries experience		41.9	42.6	42.3	With caries experience		51.1	51.1	51.1	70.7	76.1	73.4	94.3	94.2	94.3	97.2	97.1	97.2
dmft value 1-3		27.8	31.0	29.4	DMFT value 1-3		41.9	41.9	41.9	47.6	50.6	49.1	22.9	17.6	20.3	4.1	2.9	3.5
dmft value 4-5		7.0	7.3	7.2	DMFT value 4-7; 4-8		8.3	7.3	7.8	20.8	22.6	21.7	45.7	47.9	46.8	13.9	15.0	14.5
dmft value 6-10		4.6	3.6	4.1	DMFT value 8-14; 9-16		1.0	1.9	1.5	2.2	2.9	2.6	22.9	25.6	24.3	32.6	33.5	33.1
dmft value 11-15		1.8	0.7	1.3	DMFT value 15-21; 17-24		0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.6	1.6	19.9	14.1	17.0
dmft value 16 or more		0.6	0.0	0.3	DMFT value 22-28; 25-28		0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6	4.1	4.2	4.2
					DMFT value 29 or more		0.0	0.0	NA	0.0	0.0	NA	0.6	1.0	0.8	22.5	27.5	25.0

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

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

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=	212	196	408	205	204	409	204	203	407	205	202	407	199	208	407
Mean no. of teeth present (mnt/MNT)		19.9	19.9	19.9	27.8	27.9	27.9	27.8	27.8	27.8	29.4	29.1	29.3	15.5	15.5	15.5
Mean dmft and Mean DMFT		1.1	0.9	1.0	1.1	1.1	1.1	1.8	1.9	1.9	5.9	5.9	5.9	17.9	17.7	17.8
Mean no. of Decayed teeth (dt/DT)		1.1	0.9	1.0	1.0	1.0	1.0	1.6	1.8	1.7	3.1	2.9	3.0	1.4	1.2	1.3
Mean no. of Missing teeth (mt/MT)		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	2.6	2.9	2.8	16.5	16.5	16.5
Mean no. of Filled teeth (ft/FT)		0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0
SIC Index		3.3	2.6	3.0	3.1	2.9	3.0	3.9	4.2	4.1	10.9	11.0	11.0	30.3	31.3	30.8
No. of subjects edentulous		0	0	0	0	0	0	0	0	0	2	3	5	47	51	98
Region 2	n=	115	106	221	109	111	220	112	109	221	110	111	221	116	103	219
Mean no. of teeth present (mnt/MNT)		19.9	19.9	19.9	28.0	27.8	27.9	27.7	27.8	27.8	28.1	27.7	27.9	18.2	15.7	17.0
Mean dmft and Mean DMFT		2.0	1.6	1.8	1.5	1.7	1.6	2.9	2.9	2.9	7.3	8.2	7.8	15.9	18.0	17.0
Mean no. of Decayed teeth (dt/DT)		2.0	1.4	1.7	1.5	1.6	1.6	2.6	2.7	2.7	3.3	3.9	3.6	2.2	1.7	2.0
Mean no. of Missing teeth (mt/MT)		0.1	0.1	0.1	0.0	0.1	0.1	0.2	0.1	0.2	3.9	4.3	4.1	13.8	16.3	15.1
Mean no. of Filled teeth (ft/FT)		0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
SIC Index		5.4	4.3	4.9	3.2	3.7	3.5	5.9	5.3	5.6	12.5	13.1	12.8	26.5	29.0	27.8
No. of subjects edentulous		0	0	0	0	0	0	0	0	0	0	0	0	13	20	33
State Rural	n=	221	202	423	211	214	425	211	209	420	214	209	423	213	209	422
Mean no. of teeth present (mnt/MNT)		19.9	19.9	19.9	27.8	27.9	27.9	27.8	27.8	27.8	28.3	27.9	28.1	15.7	14.5	15.1
Mean dmft and Mean DMFT		1.7	1.3	1.5	1.5	1.4	1.5	2.3	2.5	2.4	7.0	7.4	7.2	17.8	18.8	18.3
Mean no. of Decayed teeth (dt/DT)		1.6	1.2	1.4	1.4	1.3	1.4	2.1	2.3	2.2	3.2	3.3	3.3	1.5	1.3	1.4
Mean no. of Missing teeth (mt/MT)		0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	3.7	4.1	3.9	16.3	17.5	16.9
Mean no. of Filled teeth (ft/FT)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0
SIC Index		4.8	3.6	4.2	3.6	3.6	3.6	5.0	5.0	5.0	12.5	12.8	12.7	29.5	31.1	30.3
No. of subjects edentulous		0	0	0	0	0	0	0	0	0	2	3	5	40	51	91
State Urban	n=	106	100	206	103	101	204	105	103	208	101	104	205	102	102	204
Mean no. of teeth present (mnt/MNT)		20.0	20.0	20.0	27.9	27.9	27.9	27.8	27.9	27.9	30.5	30.2	30.4	18.1	17.8	18.0
Mean dmft and Mean DMFT		0.9	0.9	0.9	0.8	1.0	0.9	1.8	1.7	1.8	4.9	5.2	5.1	15.9	15.7	15.8
Mean no. of Decayed teeth (dt/DT)		0.8	0.7	0.8	0.7	0.9	0.8	1.5	1.5	1.5	3.1	3.1	3.1	2.0	1.5	1.8
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	1.5	1.8	1.7	13.9	14.2	14.1
Mean no. of Filled teeth (ft/FT)		0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.3	0.1	0.0	0.1
SIC Index		2.6	2.6	2.6	2.0	2.5	2.3	4.0	3.8	3.9	9.0	9.3	9.2	28.2	28.9	28.6
No. of subjects edentulous		0	0	0	0	0	0	0	0	0	0	0	0	20	20	40
State Total	n=	327	302	629	314	315	629	316	312	628	315	313	628	315	311	626
Mean no. of teeth present (mnt/MNT)		19.9	19.9	19.9	27.8	27.9	27.9	27.8	27.8	27.8	28.9	28.6	28.8	16.4	15.4	15.9
Mean dmft and Mean DMFT		1.5	1.2	1.4	1.3	1.3	1.3	2.2	2.2	2.2	6.4	6.8	6.6	17.3	17.9	17.6
Mean no. of Decayed teeth (dt/DT)		1.4	1.1	1.3	1.2	1.2	1.2	1.9	2.1	2.0	3.2	3.2	3.2	1.6	1.3	1.5
Mean no. of Missing teeth (mt/MT)		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	3.1	3.4	3.3	15.6	16.6	16.1
Mean no. of Filled teeth (ft/FT)		0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
SIC Index		4.1	3.3	3.7	3.2	3.3	3.3	4.7	4.7	4.7	11.5	11.9	11.7	29.2	30.6	29.9
No. of subjects edentulous		0	0	0	0	0	0	0	0	0	2	3	5	60	71	131

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

Missing Teeth		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=	205	204	*409*	204	203	*407*	205	202	*407*	199	208	*407*
Mean no. of teeth missing due to caries		0.1	0.1	*0.1*	0.1	0.1	*0.1*	1.6	1.4	*1.5*	1.3	1.2	*1.3*
Mean no. of teeth missing due to other reasons		0.1	0.0	*0.1*	0.1	0.1	*0.1*	1.0	1.5	*1.3*	15.2	15.3	*15.3*
Region 2	n=	109	111	*220*	112	109	*221*	110	111	*221*	116	103	*219*
Mean no. of teeth missing due to caries		0.0	0.1	*0.1*	0.2	0.1	*0.2*	1.7	2.8	*2.3*	3.3	2.8	*3.1*
Mean no. of teeth missing due to other reasons		0.0	0.1	*0.1*	0.0	0.0	*0.0*	2.1	1.5	*1.8*	10.4	13.5	*12.0*
State Rural	n=	211	214	*425*	211	209	*420*	214	209	*423*	213	209	*422*
Mean no. of teeth missing due to caries		0.1	0.1	*0.1*	0.2	0.1	*0.2*	2.0	2.1	*2.1*	1.9	1.4	*1.7*
Mean no. of teeth missing due to other reasons		0.1	0.0	*0.1*	0.1	0.1	*0.1*	1.7	2.0	*1.9*	14.5	16.1	*15.3*
State Urban	n=	103	101	*204*	105	103	*208*	101	104	*205*	102	102	*204*
Mean no. of teeth missing due to caries		0.0	0.0	*0.0*	0.1	0.0	*0.1*	0.9	1.3	*1.1*	2.2	2.4	*2.3*
Mean no. of teeth missing due to other reasons		0.1	0.1	*0.1*	0.1	0.0	*0.1*	0.6	0.5	*0.6*	11.7	11.8	*11.8*
State Total	n=	314	315	*629*	316	312	*628*	315	313	*628*	315	311	*626*
Mean no. of teeth missing due to caries		0.1	0.1	*0.1*	0.1	0.1	*0.1*	1.7	1.9	*1.8*	2.0	1.7	*1.9*
Mean no. of teeth missing due to other reasons		0.1	0.0	*0.1*	0.1	0.1	*0.1*	1.4	1.6	*1.5*	13.7	14.9	*14.3*

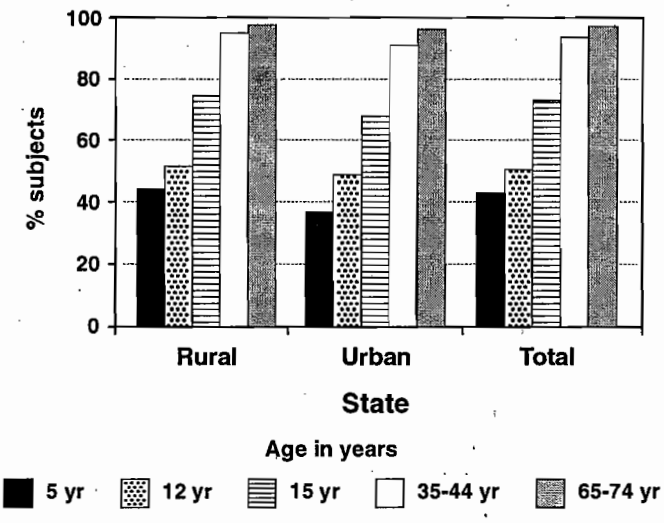
Note: In age groups 35-44 yr and 65-74 yr, the 'M' (Missing) component in DMF includes both missing due to caries and missing due to other reasons. Related **Tables : 6.01 and 6.02.**

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

The prevalence of caries experience (Fig 6.01) was high in the state in all age groups and in both primary teeth and permanent teeth. About 42.3 percent subjects in the 5 year age group had experienced caries in the primary teeth with a mean number of teeth affected in the population being 1.4 (mean dmft score = 1.4). Of those affected, the dmft value of 1-3 was most prevalent (29.4%) followed by dmft value 4-5 (7.2%). The decayed teeth (dt) component contributed almost completely to the mean dmft value of 1.4, the balance 0.1 being contributed by missing teeth.

The prevalence of caries experience was higher in rural areas (44.6%) compared with urban areas (37.4%). The pattern of distribution of caries and mean dmft values were similar in both rural and urban areas. There were no marked differentials between regions and between male and female subjects.

Fig 6.01. Percent subjects with caries experience in Uttar Pradesh

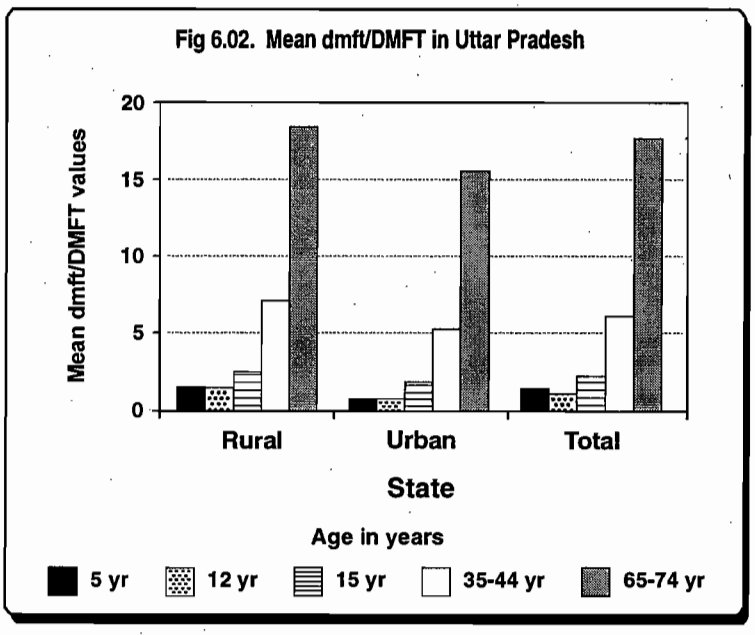


The caries experience in permanent teeth increased as age advanced (Table 6.01). The percent subjects with caries experience at 12 years was 51.1; at 15 years it was 73.4; at 35-44 years it was 94.3; and at 65-74 years it reached a peak of 97.2. The DMFT value of 1-3 teeth was most prevalent in all age groups except in the 35-44 years, where the DMFT value of 4-7 and 4-8 was most prevalent.

The decayed teeth (DT) component accounted for almost the whole of DMFT in 12 and 15 year old subjects. In 35-44 year old subjects, the missing teeth component was higher than the decayed teeth component. In the 65-74 year old subjects, the missing teeth component was much higher (16.1) compared with the decayed teeth (1.5) component. In the highest age group of 65-74 years, the mean number of teeth missing due to reasons other than caries was markedly higher than the mean number of teeth missing due to caries (Table 6.03)

There were no clearly marked rural and urban, or regional or gender based differentials in the state in the pattern of distribution of caries.

Overall, the number of teeth present in the mouth of individuals surveyed decreased as age advanced (Table 6.02). About 21% subjects in the age group of 65-74 years were edentulous or without natural teeth. The number of edentulous subjects in rural area (91) was more than double the number in urban area (40). The number was higher for females than males.



6.1.2 Root caries

Table 6.04 presents the percent subjects with root caries and fillings, if any, and the mean number of teeth with root caries and fillings, if any.

The Root Caries, does not appear in children and young adults. Therefore the data on root caries is presented only for the two age groups of 35-44 yrs and 65-74 yr.

The percentage of subjects with root caries was approximately 15.5% and 15.1% respectively in the age groups 35-44 and 65-74 years. The mean number of teeth with root caries in both age groups was about 0.5 tooth, meaning that on average, less than one tooth had root caries in the mouth of subjects examined. Root caries was more prevalent in rural rather than urban residents and more male subjects than female subjects had root caries. There were no subjects in the state with root fillings.

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

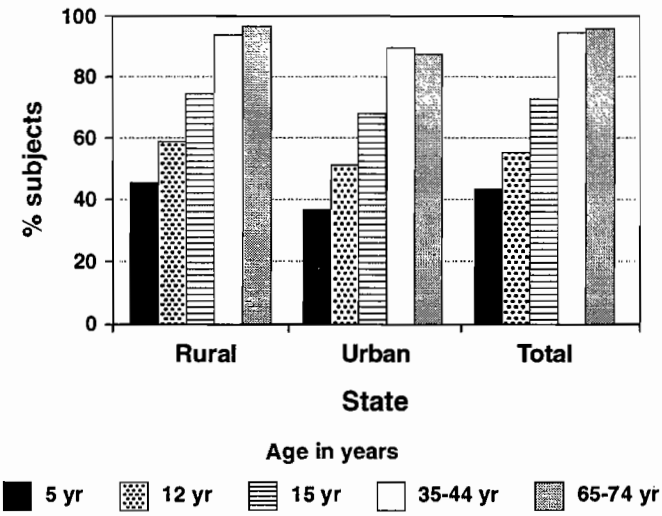
Root Caries		35-44 years			65-74 years		
		M	F	T	M	F	T
Region 1	**n=**	**205**	**202**	***407***	**195**	**207**	***402***
% Subjects with Root caries		15.0	12.7	***13.9***	16.1	10.8	***13.5***
Mean nos of teeth with Root Caries		0.5	0.3	***0.4***	0.6	0.3	***0.5***
% Subjects with Root fillings		0.0	0.0	***0.0***	0.0	0.0	***0.0***
Mean nos of teeth with Root fillings		0.0	0.0	***0.0***	0.0	0.0	***0.0***
Region 2	**n=**	**110**	**111**	***221***	**116**	**103**	***219***
% Subjects with Root caries		17.7	19.6	***18.7***	17.7	18.9	***18.3***
Mean nos of teeth with Root Caries		0.3	0.5	***0.4***	0.5	0.7	***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***
State Rural	**n=**	**214**	**209**	***423***	**213**	**210**	***423***
% Subjects with Root caries		19.6	19.2	***19.4***	19.3	15.8	***17.6***
Mean nos of teeth with Root Caries		0.6	0.5	***0.6***	0.7	0.4	***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***
State Urban	**n=**	**101**	**104**	***205***	**98**	**100**	***198***
% Subjects with Root caries		6.9	5.7	***6.3***	10.2	8.0	***9.1***
Mean nos of teeth with Root Caries		0.1	0.1	***0.1***	0.2	0.3	***0.3***
% Subjects with Root fillings		0.0	0.0	***0.0***	0.0	0.0	***0.0***
Mean nos of teeth with Root fillings		0.0	0.0	***0.0***	0.0	0.0	***0.0***
State Total	**n=**	**315**	**313**	***628***	**311**	**310**	***621***
% Subjects with Root caries		15.9	15.1	***15.5***	16.7	13.5	***15.1***
Mean nos of teeth with Root Caries		0.4	0.4	***0.4***	0.6	0.4	***0.5***
% Subjects with Root fillings		0.0	0.0	***0.0***	0.0	0.0	***0.0***
Mean nos of teeth with Root fillings		0.0	0.0	***0.0***	0.0	0.0	***0.0***

6.1.3 Treatment need

Table 6.05 presents the percent 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.

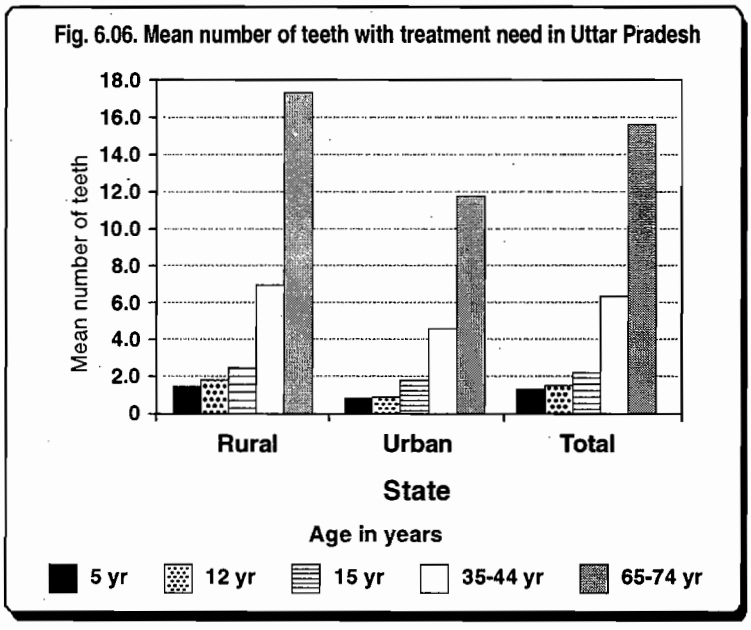
The subjects were clinically assessed for their need for both preventive and treatment care, based on their caries experience and dentition status. Preventive care need included caries arresting care and fissure sealing. Treatment need included the need for one, two or more surface fillings, extractions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

Fig 6.05. Percent subjects with treatment need in Uttar Pradesh



The percent subjects requiring treatment was consistently high in all age groups in the state and ranged from 42.7% subjects needing treatment in the 5 year age group to 94.5% subjects in the 65-74 year age group. the predominant treatment need was for one or more surface fillings, followed by veneers and crowns and then by extractions. Pulp care was a treatment need in all age groups but its overall prevalence was under 10%. There was a significantly high need for other but unspecified care. There were no marked differentials between male and female subjects requiring treatment or between rural and urban subjects. The pattern of need was similar in between regions.

Fig. 6.06. Mean number of teeth with treatment need in Uttar Pradesh



The mean number of teeth requiring treatment increased as age advanced. Only 1.3 teeth needed treatment in 5 year old subjects which rose to 1.6 and 2.2 teeth respectively in 12 and 15 year old subjects. There was a marked increase in the number of teeth requiring treatment in 35-44 years (6.4) while the number of teeth requiring treatment approached 15.7 (almost one half of the teeth present in a normal adult mouth) in subjects aged 65-74 years. The type of treatment varied with age but mainly involved fillings, crowns and veneers, extractions and pulp care. The pattern of treatment need was similar in male and female subjects and in rural and urban areas. There were no marked regional variations.

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

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=	212	197	*409*	205	204	*409*	205	205	*410*	205	202	*407*	200	210	*410*
Treatment needed		36.7	40.7	*38.7*	53.6	46.9	*50.3*	67.0	69.2	*68.1*	93.9	89.8	*91.9*	95.3	92.7	*94.0*
Preventive care & fissure sealant		0.0	0.5	*0.3*	0.0	1.0	*0.5*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
Filling one or more surfaces		33.3	34.0	*33.7*	39.9	36.4	*38.2*	59.1	64.4	*61.8*	83.7	74.3	*79.0*	41.7	31.6	*36.7*
Crown & Veneer		0.0	0.0	*0.0*	10.3	7.5	*8.9*	10.7	12.4	*11.6*	31.0	25.8	*28.4*	9.1	11.7	*10.4*
Pulp care		3.4	3.1	*3.3*	2.0	2.0	*2.0*	5.5	2.9	*4.2*	6.4	8.5	*7.5*	1.5	1.0	*1.3*
Extraction		5.3	8.8	*7.1*	8.9	9.4	*9.2*	3.4	3.5	*3.5*	24.8	24.5	*24.7*	28.2	19.3	*23.8*
Need for other care		0.5	0.5	*0.5*	2.0	1.0	*1.5*	0.0	0.0	*0.0*	26.3	29.1	*27.7*	83.1	82.2	*82.7*
Region 2	n=	115	106	*221*	110	111	*221*	112	109	*221*	110	111	*221*	116	103	*219*
Treatment needed		52.0	50.4	*51.2*	68.6	73.1	*70.9*	78.0	90.3	*84.2*	93.5	99.2	*96.4*	93.9	97.3	*95.6*
Preventive care & fissure sealant		0.0	1.9	*1.0*	2.6	0.8	*1.7*	3.3	3.8	*3.6*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
Filling one or more surfaces		46.0	43.2	*44.6*	62.5	59.9	*61.2*	70.5	85.6	*78.1*	81.3	88.0	*84.7*	59.7	47.7	*53.7*
Crown & Veneer		0.8	1.0	*0.9*	4.3	11.7	*8.0*	12.3	12.9	*12.6*	37.3	38.3	*37.8*	31.3	24.2	*27.8*
Pulp care		5.0	6.8	*5.9*	2.0	5.5	*3.8*	4.7	7.3	*6.0*	11.0	16.0	*13.5*	5.8	5.9	*5.9*
Extraction		12.0	9.4	*10.7*	8.6	11.2	*9.9*	9.7	8.4	*9.1*	43.1	49.8	*46.5*	33.7	30.9	*32.3*
Need for other care		0.8	0.0	*0.4*	0.8	0.8	*0.8*	1.0	1.0	*1.0*	27.2	29.9	*28.6*	80.5	75.2	*67.9*
State Rural	n=	221	203	*424*	211	214	*425*	212	211	*423*	214	209	*423*	213	211	*424*
Treatment needed		45.4	44.6	*45.0*	61.8	56.6	*59.2*	72.0	79.3	*75.7*	94.9	94.1	*94.5*	96.8	96.6	*96.7*
Preventive care & fissure sealant		0.0	1.0	*0.5*	0.4	1.0	*0.7*	0.0	1.3	*0.7*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
Filling one or more surfaces		40.9	38.1	*39.5*	50.8	44.9	*47.9*	65.2	74.6	*69.9*	84.3	77.8	*81.1*	45.9	34.5	*40.2*
Crown & Veneer		0.0	0.5	*0.3*	8.2	9.8	*9.0*	10.4	14.2	*12.3*	35.0	32.5	*33.8*	11.6	13.8	*12.7*
Pulp care		4.1	4.8	*4.5*	2.8	3.2	*3.0*	6.6	3.7	*5.2*	8.3	10.5	*9.4*	2.3	2.8	*2.6*
Extraction		7.2	9.9	*8.6*	10.8	11.6	*11.2*	4.6	5.6	*5.1*	33.8	36.8	*35.3*	31.4	26.3	*28.9*
Need for other care		0.5	0.0	*0.3*	1.5	1.0	*1.3*	0.4	0.4	*0.4*	32.2	35.3	*33.8*	84.3	86.6	*85.5*
State Urban	n=	106	100	*206*	104	101	*205*	105	103	*208*	101	104	*205*	103	102	*205*
Treatment needed		32.3	41.8	*37.1*	50.0	52.1	*51.1*	67.2	67.8	*67.5*	90.7	89.8	*90.3*	90.0	87.8	*88.9*
Preventive care & fissure sealant		0.0	0.9	*0.5*	1.8	0.9	*1.4*	3.5	0.9	*2.2*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
Filling one or more surfaces		28.9	34.1	*31.5*	38.4	41.7	*40.1*	57.1	62.7	*59.9*	79.5	80.9	*80.2*	52.0	40.8	*46.4*
Crown & Veneer		0.9	0.0	*0.5*	8.7	6.5	*7.6*	13.2	8.5	*10.9*	28.0	23.4	*25.7*	28.2	19.2	*23.7*
Pulp care		3.5	2.9	*3.2*	0.0	2.9	*1.5*	1.9	5.7	*3.8*	6.7	11.9	*9.3*	4.5	1.8	*3.2*
Extraction		8.0	6.7	*7.4*	4.0	5.9	*5.0*	7.3	3.7	*5.5*	22.7	23.3	*23.0*	26.8	14.4	*20.6*
Need for other care		0.9	1.1	*1.0*	1.9	0.9	*1.4*	0.0	0.0	*0.0*	12.6	15.5	*14.1*	54.1	64.4	*59.3*
State Total	n=	327	303	*630*	315	315	*630*	317	314	*631*	315	313	*628*	316	313	*629*
Treatment needed		41.6	43.8	*42.7*	58.4	55.3	*56.9*	70.6	75.9	*73.3*	93.7	92.8	*93.3*	94.8	94.1	*94.5*
Preventive care & fissure sealant		0.0	1.0	*0.5*	0.8	0.9	*0.9*	1.0	1.2	*1.1*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
Filling one or more surfaces		37.4	37.0	*37.2*	47.1	44.0	*45.6*	62.9	71.1	*67.0*	82.9	78.7	*80.8*	47.6	36.3	*42.0*
Crown & Veneer		0.2	0.3	*0.3*	8.3	8.8	*8.6*	11.2	12.6	*11.9*	33.0	29.8	*31.4*	16.4	15.3	*15.9*
Pulp care		3.9	4.3	*4.1*	2.0	3.1	*2.6*	5.2	4.3	*4.8*	7.9	10.9	*9.4*	2.9	2.5	*2.7*
Extraction		7.4	9.0	*8.2*	8.8	10.0	*9.4*	5.4	5.0	*5.2*	30.7	32.8	*31.8*	30.0	22.8	*26.4*
Need for other care		0.6	0.3	*0.5*	1.6	0.9	*1.3*	0.3	0.3	*0.3*	26.6	29.5	*28.1*	75.6	80.2	*77.9*

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

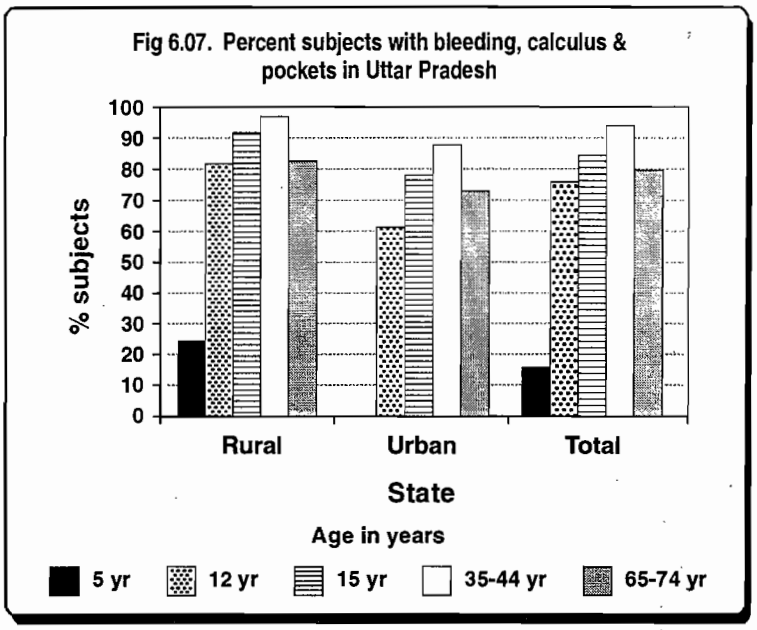
Treatment Need		5 years			12 years			15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Region 1	n=	208	191	399	205	204	409	200	201	401	205	202	407	200	209	409
Treatment needed		1.1	0.9	1.0	1.5	1.3	1.4	1.8	2.0	1.9	5.7	5.8	5.8	16.1	15.4	15.8
Preventive care/ fissure sealant		0.0	0.0	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		0.9	0.8	0.9	1.0	0.9	1.0	1.4	1.7	1.6	2.8	2.6	2.7	1.1	1.0	1.1
Crown/ Veneer		0.0	0.0	0.0	0.2	0.1	0.2	0.2	0.2	0.2	0.8	0.8	0.8	0.3	0.5	0.4
Pulp care		0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Extraction		0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.0	0.1	0.7	0.7	0.7	0.9	0.6	0.8
Need for other care		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.6	1.5	13.8	13.4	13.6
Region 2	n=	111	100	211	109	111	220	111	109	220	110	111	221	116	103	219
Treatment needed		2.1	1.7	1.9	1.7	1.8	1.8	2.8	3.0	2.9	7.1	7.8	7.5	14.0	16.7	15.4
Preventive care/ fissure sealant		0.0	0.1	0.1	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		1.5	1.2	1.4	1.3	1.3	1.3	2.3	2.4	2.4	2.9	3.2	3.1	1.8	1.4	1.6
Crown/ Veneer		0.0	0.0	0.0	0.0	0.2	0.1	0.3	0.2	0.3	0.9	1.0	1.0	1.4	0.9	1.2
Pulp care		0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.3	0.2	0.2	0.2	0.2
Extraction		0.4	0.3	0.4	0.4	0.2	0.3	0.1	0.2	0.2	1.0	1.5	1.3	1.4	1.2	1.3
Need for other care		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	1.8	2.0	9.2	12.9	11.1
State Rural	n=	217	197	414	211	214	425	207	208	415	214	209	423	213	210	423
Treatment needed		1.6	1.3	1.5	1.9	1.7	1.8	2.3	2.6	2.5	6.9	7.2	7.1	17.0	17.5	17.3
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		1.3	1.0	1.2	1.3	1.1	1.2	1.9	2.2	2.1	2.9	2.9	2.9	1.1	1.0	1.1
Crown/ Veneer		0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	1.0	1.0	1.0	0.5	0.5	0.5
Pulp care		0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.2	0.2	0.1	0.1	0.1
Extraction		0.3	0.2	0.3	0.4	0.3	0.4	0.1	0.1	0.1	1.0	1.2	1.1	1.1	0.9	1.0
Need for other care		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	2.0	2.0	14.1	14.9	14.5
State Urban	n=	102	94	196	103	101	204	104	102	206	101	104	205	103	102	205
Treatment needed		0.9	0.9	0.9	1.0	1.0	1.0	1.8	1.7	1.8	4.4	4.7	4.6	11.7	11.8	11.8
Preventive care/ fissure sealant		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
Filling one or more surfaces		0.7	0.6	0.7	0.7	0.8	0.8	1.4	1.4	1.4	2.8	2.5	2.7	1.7	1.2	1.5
Crown/ Veneer		0.0	0.0	0.0	0.2	0.1	0.2	0.2	0.1	0.2	0.5	0.5	0.5	1.1	0.9	1.0
Pulp care		0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.1	0.0	0.1
Extraction		0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.4	0.5	0.5	1.0	0.5	0.8
Need for other care		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.0	0.8	7.8	9.2	8.5
State Total	n=	319	291	610	314	315	629	311	310	621	315	313	628	316	312	628
Treatment needed		1.4	1.2	1.3	1.6	1.5	1.6	2.1	2.3	2.2	6.2	6.5	6.4	15.5	15.8	15.7
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		1.1	0.9	1.0	1.1	1.0	1.1	1.7	2.0	1.9	2.9	2.8	2.9	1.3	1.1	1.2
Crown/ Veneer		0.0	0.0	0.0	0.2	0.1	0.2	0.2	0.2	0.2	0.8	0.9	0.9	0.7	0.6	0.7
Pulp care		0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.2	0.2	0.1	0.1	0.1
Extraction		0.3	0.2	0.3	0.3	0.2	0.3	0.1	0.1	0.1	0.8	1.0	0.9	1.1	0.8	1.0
Need for other care		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.7	1.6	12.3	13.3	12.8

6.2 PERIODONTAL STATUS

6.2.1 Bleeding, calculus and pockets

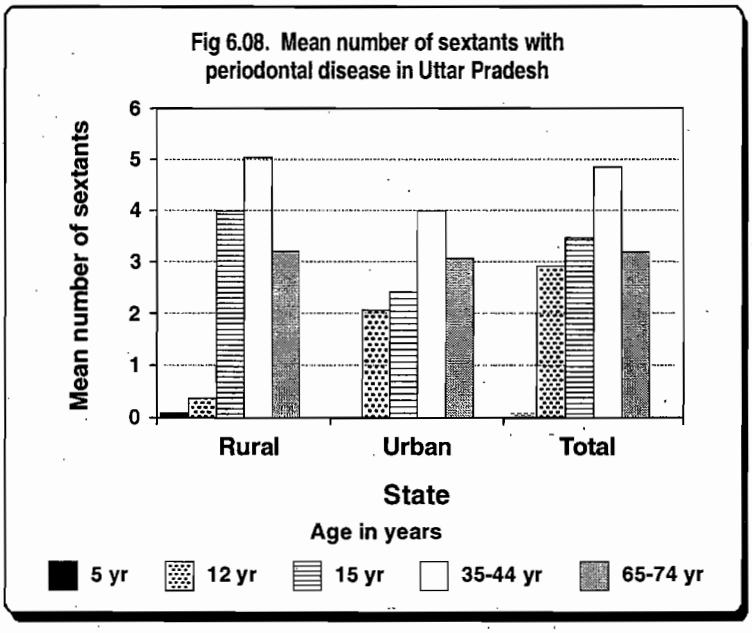
The periodontal status was assessed using the Community Periodontal Index (CPI) with its three indicators of gingival bleeding, calculus and periodontal pockets.

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



Periodontal disease prevalence in the 5 year age group, indicated by bleeding and calculus, was 15.7 percent. The periodontal disease was consistently high across age groups in the state. Bleeding with calculus was most prevalent in subjects aged 12, 15 and 35-44 years followed by these conditions with shallow pockets (4-5 mm). Deep pockets (more than 4-5 mm) were less prevalent in 35-44 years but were the most prevalent condition in the 65-74 year age group.

Overall, the rural subjects had higher prevalence of periodontal disease compared with the urban area. This may be because of improved oral hygiene practices prevailing in urban areas and because of the influence of socialization and schooling. There were no marked male and female differentials and differentials between the regions.



The dentition is divided into six sextants, three upper and three lower, for assessment of the periodontal status. The mean number of sextants with periodontal disease, i.e., sextants with bleeding, calculus and/or pockets was highest in 35-44 year old subjects (4.8) followed by the 15 year old subjects (3.5). The mean number of teeth with bleeding and calculus was generally higher than with pockets and bleeding.

Invariably, across age groups, bleeding emerged as the most prevalent condition to be followed by calculus. The prevalence of shallow and deep pockets was relatively low.

The pattern was similar for rural and urban areas and between regions. There were no marked male and female differentials.

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

Periodontal disease		12 years			15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T	M	F	T
Region 1	n=	**194**	**195**	**389**	**204**	**202**	**406**	**204**	**197**	**401**	**164**	**166**	**330**
With bleeding,calculus, and/ or pockets		72.4	70.2	***71.3***	79.3	80.2	***79.8***	90.7	92.2	***91.5***	78.0	78.4	***78.0***
with bleeding		33.1	27.2	**30.2**	11.3	9.5	***10.4***	2.3	3.0	***2.7***	0.0	0.0	***0.0***
with calculus		16.0	18.4	**17.2**	32.5	36.2	***34.4***	40.1	35.1	***37.6***	16.8	20.9	***18.9***
with pocket 4-5 mm		NA	NA	**NA**	0.0	0.0	***0.0***	2.0	1.6	***1.8***	1.9	4.3	***3.1***
with pocket 6 mm		NA	NA	**NA**	0.0	0.0	***0.0***	0.0	0.0	***0.0***	5.7	2.5	***4.1***
with bleeding or higher		56.3	51.8	**54.1**	46.4	43.9	***45.2***	20.9	20.5	***20.7***	3.6	3.7	***3.7***
with calculus of higher		16.0	18.4	**17.2**	32.9	36.2	***34.6***	64.7	65.9	***65.3***	57.5	54.2	***55.9***
with pocket 4-5 mm or higher		NA	NA	**NA**	0.0	0.0	***0.0***	5.0	5.8	***5.4***	11.3	18.0	***14.7***
with pocket 6 mm		NA	NA	**NA**	0.0	0.0	***0.0***	0.0	0.0	***0.0***	5.7	2.5	***4.1***
Region 2	n=	**107**	**110**	***217***	**112**	**109**	***221***	**109**	**110**	***219***	**103**	**96**	***199***
With bleeding,calculus, and/ or pockets		86.3	88.5	***87.4***	94.8	95.7	***95.3***	96.3	98.2	***97.3***	87.9	78.7	***83.3***
with bleeding		19.3	16.1	**17.7**	13.1	10.0	***11.6***	0.0	1.0	***0.5***	0.0	0.0	***0.0***
with calculus		26.8	28.3	**27.6**	32.1	35.2	***33.7***	19.8	24.6	***22.2***	20.2	11.0	***15.6***
with pocket 4-5 mm		NA	NA	**NA**	0.0	0.0	***0.0***	3.0	5.7	***4.4***	2.7	1.9	***2.3***
with pocket 6 mm		NA	NA	**NA**	0.0	0.0	***0.0***	2.0	2.0	***2.0***	6.1	3.2	***4.7***
with bleeding or higher		59.5	60.1	**59.8**	61.8	58.5	***60.2***	20.2	14.0	***17.1***	5.6	5.7	***5.7***
with calculus of higher		26.8	28.3	**27.6**	33.1	37.2	***35.2***	66.4	72.6	***69.5***	58.1	44.8	***51.5***
with pocket 4-5 mm or higher		NA	NA	**NA**	0.0	0.0	***0.0***	7.7	9.6	***8.7***	18.0	25.0	***21.5***
with pocket 6 mm		NA	NA	**NA**	0.0	0.0	***0.0***	2.0	2.0	***2.0***	6.1	3.2	***4.7***
State Rural	n=	**205**	**208**	***413***	**211**	**210**	***421***	**212**	**204**	***416***	**174**	**165**	***339***
With bleeding,calculus, and/ or pockets		82.3	83.0	***82.7***	90.9	92.3	***91.6***	95.7	96.0	***95.9***	83.9	82.6	***83.0***
with bleeding		63.9	58.1	**61.0**	57.2	53.8	***55.5***	16.6	18.4	***17.5***	2.9	3.1	***3.0***
with calculus		53.2	59.7	**56.5**	79.9	82.2	***81.1***	86.0	83.0	***84.5***	58.2	51.3	***54.8***
with pocket 4-5 mm		NA	NA	**NA**	0.4	1.4	***0.9***	47.1	59.0	***53.1***	61.1	65.6	***63.4***
with pocket 6 mm		NA	NA	**NA**	0.0	0.0	***0.0***	25.1	27.7	***26.4***	57.2	51.3	***54.3***
with bleeding or higher		63.9	58.1	**61.1**	57.2	53.8	***55.5***	16.6	18.4	***17.5***	2.9	3.1	***3.0***
with calculus of higher		18.4	24.9	**21.7**	33.7	38.5	***36.1***	70.3	67.1	***68.7***	55.4	48.2	***51.8***
with pocket 4-5 mm or higher		NA	NA	**NA**	0.0	0.0	***0.0***	7.9	9.7	***8.8***	17.7	27.7	***22.7***
with pocket 6 mm		NA	NA	**NA**	0.0	0.0	***0.0***	0.9	0.9	***0.9***	8.0	3.6	***5.8***
State Urban	n=	**96**	**97**	***193***	**105**	**101**	***206***	**101**	**103**	***204***	**93**	**97**	***190***
With bleeding,calculus, and/ or pockets		63.2	58.9	***61.1***	68.7	67.5	***68.1***	84.3	89.7	***87.0***	76.0	70.1	***73.1***
with bleeding		40.9	45.4	**43.2**	37.4	35.7	***36.6***	30.5	18.2	***24.4***	7.5	6.8	***7.2***
with calculus		35.9	34.9	**35.4**	54.7	57.8	***56.3***	78.0	85.6	***81.8***	70.1	62.3	***6.2***
with pocket 4-5 mm		NA	NA	**NA**	1.0	0.0	***0.5***	28.1	23.5	***25.8***	27.5	27.5	***27.5***
with pocket 6 mm		NA	NA	**NA**	0.0	0.0	***0.0***	12.8	8.0	***10.4***	15.9	18.1	***17.0***
with bleeding or higher		40.9	45.4	**43.2**	37.4	35.7	***36.6***	30.5	18.2	***24.4***	7.5	6.8	***7.2***
with calculus of higher		22.3	13.5	**17.9**	31.3	31.8	***31.6***	52.9	70.6	***61.8***	62.6	56.5	***59.6***
with pocket 4-5 mm or higher		NA	NA	**NA**	0.0	0.0	***0.0***	0.9	0.9	***0.9***	5.0	5.8	***5.4***
with pocket 6 mm		NA	NA	**NA**	0.0	0.0	***0.0***	0.0	0.0	***0.0***	1.0	0.9	***1.0***
State Total	n=	**301**	**305**	***606***	**316**	**311**	***627***	**313**	**307**	***620***	**267**	**262**	***529***
With bleeding,calculus, and/ or pockets		76.9	76.2	***76.6***	84.3	85.1	***84.7***	92.4	94.1	***93.3***	81.4	78.4	***79.9***
with bleeding		57.4	54.5	**56.0**	51.3	48.5	***49.9***	20.6	18.3	***19.5***	4.3	4.3	***4.3***
with calculus		48.3	52.7	**50.5**	72.5	75.2	***73.9***	83.7	83.7	***83.7***	61.9	54.9	***58.4***
with pocket 4-5 mm		NA	NA	**NA**	0.6	1.0	***0.8***	41.7	48.4	***45.1***	50.6	52.9	***51.8***
with pocket 6 mm		NA	NA	**NA**	0.0	0.0	***0.0***	21.5	21.8	***21.7***	44.4	40.3	***42.4***
with bleeding or higher		57.4	54.5	**56.0**	51.3	48.5	***49.9***	20.6	18.3	***19.5***	4.3	4.3	***4.3***
with calculus of higher		19.5	21.7	**20.6**	33.0	36.6	***34.8***	65.3	68.1	***66.7***	57.6	55.9	***54.3***
with pocket 4-5 mm or higher		NA	NA	**NA**	0.0	0.0	***0.0***	5.9	7.1	***6.5***	13.7	20.4	***17.1***
with pocket 6 mm		NA	NA	**NA**	0.0	0.0	***0.0***	0.6	0.7	***0.7***	5.8	2.7	***4.3***

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

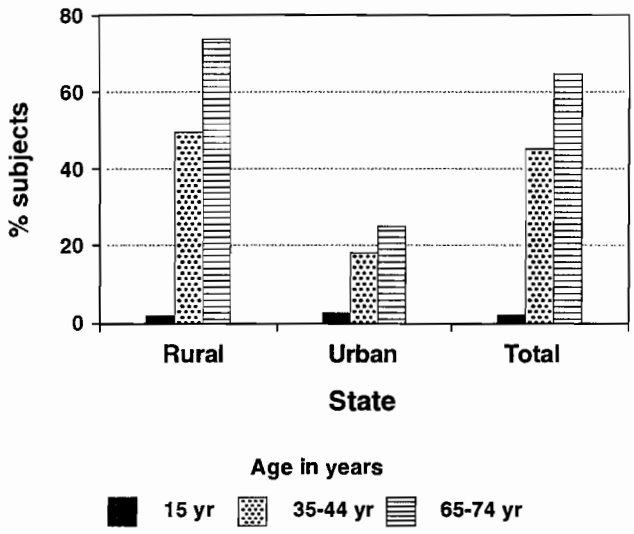
Periodontal Disease		12 years			15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T	M	F	T
Region 1	n=	205	204	409	205	205	410	205	202	407	200	210	410
Mean no. of healthy sextants		3.0	2.9	**3.0**	2.6	2.5	**2.6**	1.3	1.2	**1.3**	0.2	0.3	**0.3**
With bleeding, calculus, pockets		2.7	2.8	**2.8**	3.4	3.4	**3.4**	4.5	4.6	**4.6**	3.0	3.1	**3.1**
with bleeding		1.9	1.9	**1.9**	1.3	1.1	**1.2**	0.5	0.4	**0.5**	0.0	0.0	**0.0**
with calculus		0.7	0.9	**0.8**	2.1	2.4	**2.3**	3.0	2.9	**3.0**	1.4	1.4	**1.4**
with pockets(4-5 mm)		NA	NA	**NA**	0.0	0.0	**0.0**	0.7	1.0	**0.9**	0.9	1.0	**1.0**
with pockets (6mm or more)		NA	NA	**NA**	0.0	0.0	**0.0**	0.3	0.3	**0.3**	0.7	0.6	**0.7**
Excluded sextants		0.0	0.0	**0.0**	0.0	0.0	**0.0**	0.1	0.1	**0.1**	1.2	1.0	**1.1**
Not recorded		0.3	0.3	**0.3**	0.0	0.1	**0.1**	0.1	0.2	**0.2**	1.6	1.7	**1.7**
Region 2	n=	110	111	221	112	109	221	110	111	221	116	103	219
Mean no. of healthy sextants		2.5	2.8	**2.7**	2.2	2.3	**2.3**	0.4	0.4	**0.4**	0.1	0.2	**0.2**
With bleeding, calculus, pockets		3.3	3.2	**3.3**	3.8	3.7	**3.8**	5.2	5.2	**5.2**	3.7	3.3	**3.5**
with bleeding		1.8	1.7	**1.8**	1.6	1.5	**1.6**	0.3	0.4	**0.4**	0.1	0.1	**0.1**
with calculus		1.5	1.5	**1.5**	2.1	2.1	**2.1**	2.4	2.5	**2.5**	1.6	1.2	**1.4**
with pockets(4-5 mm)		NA	NA	**NA**	0.0	0.1	**0.1**	1.6	1.7	**1.7**	1.0	1.0	**1.0**
with pockets (6mm or more)		NA	NA	**NA**	0.0	0.0	**0.0**	0.8	0.6	**0.7**	1.0	1.0	**1.0**
Excluded sextants		0.0	0.0	**0.0**	0.0	0.0	**0.0**	0.3	0.3	**0.3**	1.3	2.0	**1.7**
Not recorded		0.2	0.0	**0.1**	0.0	0.0	**0.0**	0.1	0.1	**0.1**	0.8	0.5	**0.7**
State Rural	n=	211	214	425	212	211	423	214	209	423	213	211	424
Mean no. of healthy sextants		2.6	2.6	**2.6**	2.0	2.0	**2.0**	0.7	0.5	**0.6**	0.1	0.1	**0.1**
With bleeding, calculus, pockets		3.2	3.3	**3.3**	4.0	3.9	**4.0**	5.0	5.1	**5.1**	3.3	3.1	**3.2**
with bleeding		2.1	2.0	**2.1**	1.5	1.3	**1.4**	0.3	0.3	**0.3**	0.0	0.0	**0.0**
with calculus		1.2	1.3	**1.3**	2.5	2.6	**2.6**	2.9	2.7	**2.8**	1.1	1.1	**1.1**
with pockets(4-5 mm)		NA	NA	**NA**	0.0	0.0	**0.0**	1.2	1.5	**1.4**	1.1	1.2	**1.2**
with pockets (6mm or more)		NA	NA	**NA**	0.0	0.0	**0.0**	0.5	0.6	**0.6**	1.1	0.9	**1.0**
Excluded sextants		0.0	0.0	**0.0**	0.0	0.0	**0.0**	0.2	0.2	**0.2**	1.1	1.1	**1.1**
Not recorded		0.2	0.2	**0.2**	0.0	0.0	**0.0**	0.1	0.2	**0.2**	1.5	1.7	**1.6**
State Urban	n=	104	101	205	105	103	208	101	104	205	103	102	205
Mean no. of healthy sextants		3.4	3.7	**3.6**	3.5	3.5	**3.5**	1.9	1.9	**1.9**	0.5	0.7	**0.6**
With bleeding, calculus, pockets		2.1	2.0	**2.1**	2.5	2.4	**2.5**	4.0	3.9	**4.0**	3.1	3.1	**3.1**
with bleeding		1.5	1.4	**1.5**	1.1	0.9	**1.0**	0.7	0.4	**0.6**	0.1	0.1	**0.1**
with calculus		0.5	0.6	**0.6**	1.3	1.5	**1.4**	2.6	2.8	**2.7**	2.3	2.2	**2.3**
with pockets(4-5 mm)		NA	NA	**NA**	0.0	0.0	**0.0**	0.6	0.5	**0.6**	0.6	0.5	**0.6**
with pockets (6mm or more)		NA	NA	**NA**	0.0	0.0	**0.0**	0.2	0.1	**0.2**	0.2	0.3	**0.3**
Excluded sextants		0.0	0.0	**0.0**	0.0	0.0	**0.0**	0.0	0.1	**0.1**	1.6	1.8	**1.7**
Not recorded		0.5	0.3	**0.4**	0.0	0.1	**0.1**	0.0	0.1	**0.1**	0.8	0.4	**0.6**
State Total	n=	315	315	630	317	314	631	315	313	628	316	313	629
Mean no. of healthy sextants		2.8	2.9	**2.9**	2.4	2.4	**2.4**	1.0	0.9	**1.0**	0.2	0.3	**0.3**
With bleeding, calculus, pockets		2.9	2.9	**2.9**	3.5	3.5	**3.5**	4.7	4.8	**4.8**	3.2	3.1	**3.2**
with bleeding		1.9	1.8	**1.9**	1.4	1.2	**1.3**	0.4	0.4	**0.4**	0.0	0.0	**0.0**
with calculus		1.0	1.1	**1.1**	2.1	2.3	**2.2**	2.8	2.8	**2.8**	1.4	1.4	**1.4**
with pockets(4-5 mm)		NA	NA	**NA**	0.0	0.0	**0.0**	1.0	1.2	**1.1**	0.9	1.0	**1.0**
with pockets (6mm or more)		NA	NA	**NA**	0.0	0.0	**0.0**	0.5	0.4	**0.5**	0.8	0.7	**0.8**
Excluded sextants		0.0	0.0	**0.0**	0.0	0.0	**0.0**	0.1	0.1	**0.1**	1.3	1.3	**1.3**
Not recorded		0.3	0.2	**0.3**	0.0	0.1	**0.1**	0.1	0.2	**0.2**	1.3	1.3	**1.3**

6.2.2 Loss of attachment

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

The destructive and degenerative nature of the periodontal disease was assessed, in addition to the CPI scores, with the measurement of Loss of Attachment for 15 yr, 35-44 yr and 65-74 yr age groups only. The CPI Probe was used to measure pocket depth.

Fig. 6.09. Percent subjects with Loss of Attachment in Uttar Pradesh



Overall, the prevalence proportion of subjects with loss of attachment in one or more sextants was lowest in the 15 yr age group (2%) and highest in the 65-74 yr age group (63.4%) in the state (Fig 6.09). It was almost equally distributed by sex in the age groups of 35-44 yr and 65-74 yr. The least severe form of loss of attachment (4-5 mm) was the most prevalent in subjects aged 35-44 years while loss of attachment of 6-8 mm was more prevalent in the age group of 65-74 years.

The proportion of residents with loss of attachment was higher in rural residents than urban residents (Table 6.09) 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.

The mean number of sextants with loss of attachment was 1.0 and 1.4 respectively in subjects aged 35-44 years and 65-74 years. Again, the pattern was similar in between rural and urban areas, male and female subjects and between regions.

Fig. 6.10. Mean number of sextants with Loss of Attachment in Uttar Pradesh

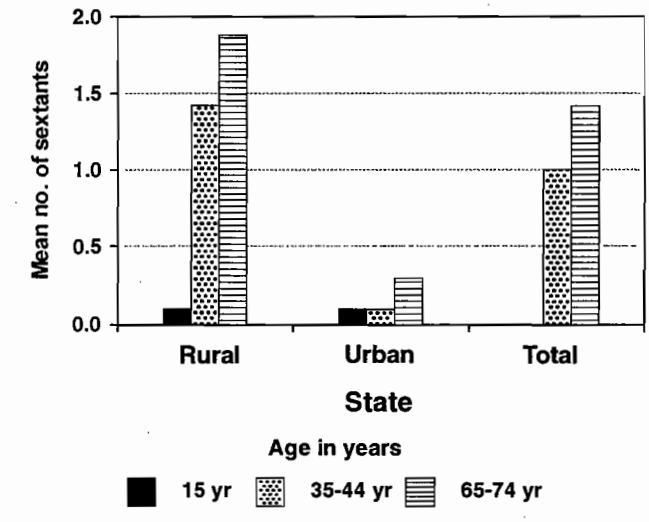


Table 6.09 Percent distribution of subjects with highest scores of loss of attachment by age, sex, and geographical area. State : Uttar Pradesh

Loss of Attachment (LOA)		15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T
Region 1	**n=**	**191**	**193**	***384***	**202**	**198**	***400***	**158**	**161**	***319***
With no loss of attachment (0-3 mm)		96.9	98.4	***97.7***	62.2	57.9	***60.1***	13.9	18.9	***16.4***
With loss of attachment		3.1	1.6	***2.4***	36.3	41.1	***38.7***	63.3	59.4	***61.4***
with LOA 4-5 mm		3.1	1.6	***2.4***	26.6	29.1	***27.9***	29.7	27.7	***28.7***
with LOA 4-5 mm & 6-8 mm		0.0	0.0	***0.0***	8.7	10.4	***9.6***	29.7	29.2	***29.5***
with LOA 4-5 mm & 6-8 mm & 9-11 mm		0.0	0.0	***0.0***	0.5	0.5	***0.5***	3.3	1.9	***2.6***
with LOA 4-5 mm & 6-8 mm & 9-11 mm & 12 mm or higher		0.0	0.0	***0.0***	0.5	1.0	***0.8***	0.7	0.6	***0.7***
Region 2	**n=**	**60**	**56**	***116***	**56**	**56**	***112***	**51**	**47**	***98***
With no loss of attachment (0-3 mm)		100.0	98.2	***99.1***	30.4	32.1	***31.3***	0.0	2.1	***1.1***
With loss of attachment		0.0	1.8	***0.9***	62.4	66.1	***64.3***	76.5	63.8	***70.2***
with LOA 4-5 mm only		0.0	1.8	***0.9***	42.7	41.1	***41.9***	27.5	19.1	***23.3***
with LOA 4-5 mm & 6-8 mm		0.0	0.0	***0.0***	17.9	25.0	***21.5***	47.1	38.3	***42.7***
with LOA 4-5 mm & 6-8 mm & 9-11 mm		0.0	0.0	***0.0***	1.8	0.0	***0.9***	2.0	4.3	***3.2***
with LOA 4-5 mm & 6-8 mm & 9-11 mm & 12 mm or higher		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	2.1	***1.1***
State Rural	**n=**	**210**	**204**	***414***	**207**	**201**	***408***	**165**	**158**	***323***
With no loss of attachment (0-3 mm)		98.1	98.0	***98.1***	49.2	45.6	***47.4***	5.0	11.6	***8.3***
With loss of attachment		1.9	2.0	***2.0***	47.5	53.0	***50.3***	77.0	69.1	***73.1***
with LOA 4-5 mm only		1.9	2.0	***2.0***	33.2	34.7	***34.0***	33.5	28.1	***30.8***
with LOA 4-5 mm & 6-8 mm		0.0	0.0	***0.0***	12.9	16.7	***14.8***	39.2	36.7	***38.0***
with LOA 4-5 mm & 6-8 mm & 9-11 mm		0.0	0.0	***0.0***	0.9	0.5	***0.7***	3.7	3.1	***3.4***
with LOA 4-5 mm & 6-8 mm & 9-11 mm & 12 mm or higher		0.0	0.0	***0.0***	0.5	1.0	***0.8***	0.6	1.2	***0.9***
State Urban	**n=**	**41**	**45**	***86***	**51**	**53**	***104***	**44**	**50**	***94***
With no loss of attachment (0-3 mm)		95.1	100.0	***97.6***	84.6	81.1	***82.9***	34.1	28.0	***31.1***
With loss of attachment		4.9	0.0	***2.5***	15.4	18.9	***17.2***	22.7	30.0	***26.4***
with LOA 4-5 mm only		4.9	0.0	***2.5***	15.4	18.9	***17.2***	11.4	18.0	***14.7***
with LOA 4-5 mm & 6-8 mm		0.0	0.0	***0.0***	0.0	0.0	***0.0***	11.4	12.0	***11.7***
with LOA 4-5 mm & 6-8 mm & 9-11 mm		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
with LOA 4-5 mm & 6-8 mm & 9-11 mm & 12 mm or higher		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
State Total	**n=**	**251**	**249**	***500***	**258**	**254**	***512***	**209**	**208**	***417***
With no loss of attachment (0-3 mm)		97.6	98.4	***98.0***	55.6	52.4	***54.0***	10.7	15.3	***13.0***
With loss of attachment		2.4	1.6	***2.0***	41.7	46.4	***44.1***	66.4	60.3	***63.4***
with LOA 4-5 mm only		2.4	1.6	***2.0***	29.9	31.6	***30.8***	29.1	25.8	***27.5***
with LOA 4-5 mm & 6-8 mm		0.0	0.0	***0.0***	10.6	13.5	***12.1***	33.8	31.1	***32.5***
with LOA 4-5 mm & 6-8 mm & 9-11 mm		0.0	0.0	***0.0***	0.8	0.4	***0.6***	3.0	2.4	***2.7***
with LOA 4-5 mm & 6-8 mm & 9-11 mm & 12 mm or higher		0.0	0.0	***0.0***	0.4	0.8	***0.6***	0.5	1.0	***0.8***

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

Loss of Attachment (LOA)		15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T
Region 1	**n=**	**205**	**205**	***410***	**205**	**202**	***407***	**200**	**210**	***410***
With no loss of attachment (0-3 mm)		5.6	5.6	***5.6***	4.8	4.8	***4.8***	1.4	1.7	***1.6***
With loss of attachment		0.1	0.0	***0.1***	0.9	0.9	***0.9***	1.6	1.4	***1.5***
with loss of attachment 4-5 mm		0.1	0.0	***0.1***	0.7	0.6	***0.7***	0.9	0.8	***0.9***
with loss of attachment 6-8 mm		0.0	0.0	***0.0***	0.2	0.2	***0.2***	0.6	0.5	***0.6***
with loss of attachment 9-11 mm		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.1	***0.1***
with loss of attachment 12 mm or more		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
Excluded sextants		0.0	0.0	***0.0***	0.1	0.1	***0.1***	1.2	1.0	***1.1***
Not recorded		0.4	0.3	***0.4***	0.3	0.2	***0.3***	1.9	1.9	***1.9***
Region 2	**n=**	**112**	**109**	***221***	**110**	**111**	***221***	**116**	**103**	***219***
With no loss of attachment (0-3 mm)		3.5	3.3	***3.4***	1.6	1.7	***1.7***	0.4	0.4	***0.4***
With loss of attachment		0.0	0.0	***0.0***	1.2	1.2	***1.2***	1.2	0.9	***1.1***
with loss of attachment 4-5 mm		0.0	0.0	***0.0***	0.9	0.9	***0.9***	0.7	0.4	***0.6***
with loss of attachment 6-8 mm		0.0	0.0	***0.0***	0.3	0.3	***0.3***	0.5	0.4	***0.5***
with loss of attachment 9-11 mm		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
with loss of attachment 12 mm or more		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
Excluded sextants		0.0	0.0	***0.0***	0.3	0.2	***0.3***	0.9	1.4	***1.2***
Not recorded		2.5	2.7	***2.6***	2.9	2.9	***2.9***	3.4	3.2	***3.3***
State Rural	**n=**	**212**	**211**	***423***	**214**	**209**	***423***	**213**	**211**	***424***
With no loss of attachment (0-3 mm)		5.9	5.7	***5.8***	4.1	4.1	***4.1***	1.0	1.2	***1.1***
With loss of attachment		0.0	0.1	***0.1***	1.3	1.4	***1.4***	1.9	1.7	***1.8***
with loss of attachment 4-5 mm		0.0	0.1	***0.1***	1.0	1.0	***1.0***	1.1	0.9	***1.0***
with loss of attachment 6-8 mm		0.0	0.0	***0.0***	0.3	0.4	***0.4***	0.8	0.7	***0.8***
with loss of attachment 9-11 mm		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.1	***0.1***
with loss of attachment 12 mm or more		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
Excluded sextants		0.0	0.0	***0.0***	0.2	0.1	***0.2***	1.1	1.1	***1.1***
Not recorded		0.1	0.2	***0.2***	0.4	0.4	***0.4***	2.0	2.1	***2.1***
State Urban	**n=**	**105**	**103**	***208***	**101**	**104**	***205***	**103**	**102**	***205***
With no loss of attachment (0-3 mm)		2.5	2.8	***2.7***	3.1	3.2	***3.2***	1.3	1.6	***1.5***
With loss of attachment		0.1	0.0	***0.1***	0.1	0.1	***0.1***	0.3	0.3	***0.3***
with loss of attachment 4-5 mm		0.1	0.0	***0.1***	0.1	0.1	***0.1***	0.2	0.3	***0.3***
with loss of attachment 6-8 mm		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.1	0.1	***0.1***
with loss of attachment 9-11 mm		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
with loss of attachment 12 mm or more		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
Excluded sextants		0.0	0.0	***0.0***	0.0	0.0	***0.0***	1.2	1.2	***1.2***
Not recorded		3.5	3.2	***3.4***	2.8	2.7	***2.8***	3.2	2.9	***3.1***
State Total	**n=**	**317**	**314**	***631***	**315**	**313**	***628***	**316**	**313**	***629***
With no loss of attachment (0-3 mm)		4.9	4.9	***4.9***	3.8	3.8	***3.8***	1.1	1.3	***1.2***
With loss of attachment		0.0	0.0	***0.0***	1.0	1.0	***1.0***	1.5	1.3	***1.4***
with loss of attachment 4-5 mm		0.0	0.0	***0.0***	0.8	0.7	***0.8***	0.8	0.7	***0.8***
with loss of attachment 6-8 mm		0.0	0.0	***0.0***	0.2	0.2	***0.2***	0.6	0.5	***0.6***
with loss of attachment 9-11 mm		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.1	***0.1***
with loss of attachment 12 mm or more		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
Excluded sextants		0.0	0.0	***0.0***	0.1	0.1	***0.1***	1.1	1.1	***1.1***
Not recorded		1.1	1.1	***1.1***	1.1	1.1	***1.1***	2.4	2.3	***2.4***

6.3 MALOCCLUSION STATUS

Table 6.11 presents the malocclusion status of subjects measured by DAI scores. The highest age group of 65-74 years is excluded.

The Dental Aesthetic Index (DAI), recommended by the WHO, was used to analyze the severity of malocclusion in the surveyed population.

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

No significant malocclusion was reported in the age group of 5 yrs where only primary teeth are present.

The majority of the subjects examined had low prevalence of severe or very severe form of malocclusion (Fig 6.11). The prevalence of definite malocclusion, as indicated by the DA Index, was about 15.8% in 12 yrs old subjects and about 21.2% in 15 yrs old subjects. This was followed by a significant but lower prevalence of severe malocclusion in 12 and 15 year old subjects. The prevalence of very severe malocclusion was lower in both age groups. However, very severe malocclusion was prevalent in the 35-44 year old subjects (24.7%).

Malocclusion appeared more prevalent in rural than in urban areas although the differences were small. There were no marked differentials between sexes. There was no significant variation between the regions.

Fig. 6.11. Percent subjects with malocclusion in Uttar Pradesh

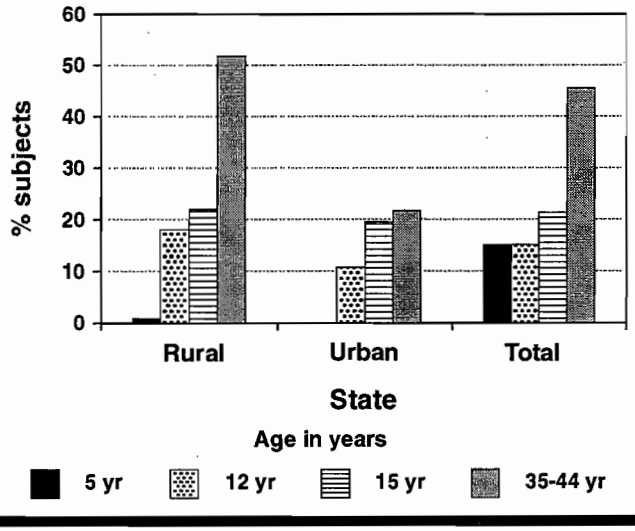


Table 6.11 Percent subjects with malocclusion by age, sex and geographical areas. **State : Uttar Pradesh**

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=**	**212**	**197**	**409**	**205**	**204**	**409**	**205**	**205**	**410**	**205**	**202**	**407**
No malocclusion (<25)		99.0	100.0	**100.0**	83.0	85.5	**84.3**	78.7	81.1	**79.9**	63.4	53.0	**58.2**
Malocclusion present :		1.0	0.0	**0.5**	17.0	14.4	**15.7**	21.3	18.8	**20.1**	36.5	47.0	**41.7**
Definite malocclusion (26 -30)		0.0	0.0	**0.0**	11.5	7.4	**9.4**	14.3	10.3	**12.3**	11.1	13.4	**12.2**
Severe malocclusion (31 - 35)		0.5	0.0	**0.3**	1.0	5.5	**3.2**	3.0	6.5	**4.7**	6.9	7.6	**7.2**
V Severe malocclusion (36 or more)		0.5	0.0	**0.3**	4.5	1.5	**3.0**	4.0	2.0	**3.0**	18.5	26.0	**22.2**
Region 2	**n=**	**115**	**106**	**221**	**110**	**111**	**221**	**112**	**109**	**221**	**110**	**111**	**221**
No malocclusion (<25)		99.1	99.0	**99.0**	86.4	81.4	**83.9**	75.1	77.2	**76.2**	43.5	46.1	**44.8**
Malocclusion present :		0.9	1.0	**1.0**	13.6	18.5	**16.1**	24.9	22.8	**23.9**	56.5	53.9	**55.2**
Definite malocclusion (26 -30)		0.0	0.0	**0.0**	12.8	15.1	**14**	15.7	16.8	**16.3**	18.6	15.1	**16.8**
Severe malocclusion (31 - 35)		0.9	1.0	**1.0**	0.8	2.6	**1.7**	4.5	5.2	**4.8**	9.2	8.3	8.7
V Severe malocclusion (36 or more)		0.0	0.0	**0.0**	0.0	0.8	**0.4**	4.7	0.8	**2.7**	28.7	30.5	**29.6**
State Rural	**n=**	**221**	**203**	**424**	**211**	**214**	**425**	**212**	**211**	**423**	**214**	**209**	**423**
No malocclusion (<25)		98.6	100.0	**99.0**	80.9	83.1	**82.0**	75.4	80.4	**77.9**	54.5	41.7	**48.1**
Malocclusion present :		1.4	0.5	**1.0**	19.1	16.8	**18.0**	24.5	19.5	**22.0**	45.6	58.4	**52.0**
Definite malocclusion (26 -30)		0.0	0.0	**0.0**	14.2	9.7	**12.0**	14.7	10.9	**12.8**	11.2	13.9	**12.5**
Severe malocclusion (31 - 35)		0.9	0.5	**0.7**	1.0	5.7	**3.3**	4.2	6.7	**5.4**	8.4	9.6	**9.0**
V Severe malocclusion (36 or more)		0.5	0.0	**0.3**	3.9	1.4	**2.6**	5.6	1.9	**3.7**	26.0	34.9	**30.4**
State Urban	**n=**	**106**	**100**	**206**	**104**	**101**	**205**	**105**	**103**	**208**	**101**	**104**	**205**
No malocclusion (<25)		100.0	100.0	**100.0**	91.7	86.9	**89.3**	82.6	78.9	**80.8**	63.8	72.3	**68.0**
Malocclusion present :		0.0	0.0	**0.0**	8.2	13.0	**10.6**	17.5	21.2	**19.4**	36.2	27.8	**32.0**
Definite malocclusion (26 -30)		0.0	0.0	**0.0**	6.3	10.3	**8.3**	14.8	15.8	**15.3**	19.3	14.2	**16.7**
Severe malocclusion (31 - 35)		0.0	0.0	**0.0**	0.9	1.8	**1.3**	1.8	4.5	**3.1**	5.8	3.7	**4.7**
V Severe malocclusion (36 or more)		0.0	0.0	**0.0**	1.0	0.9	**0.9**	0.9	0.9	**0.9**	11.1	9.9	**10.5**
State Total	**n=**	**327**	**303**	**630**	**315**	**315**	**630**	**317**	**314**	**631**	**315**	**313**	**628**
No malocclusion (<25)		99.0	100.0	**99.5**	84.1	84.2	**84.2**	77.6	80.0	**78.8**	57.1	50.7	**53.9**
Malocclusion present :		0.9	0.3	**0.6**	15.8	15.8	**15.8**	22.4	20.0	**21.2**	42.9	49.3	**46.1**
Definite malocclusion (26 -30)		0.0	0.0	**0.0**	11.9	9.9	**10.9**	14.7	12.3	**13.5**	13.5	14.0	**13.7**
Severe malocclusion (31 - 35)		0.6	0.3	**0.4**	0.9	4.6	**2.7**	3.5	6.1	**4.8**	7.6	7.8	**7.7**
V Severe malocclusion (36 or more)		0.3	0.0	**0.1**	3.0	1.3	**2.1**	4.2	1.6	**2.9**	21.8	27.5	**24.6**

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

6.4 ORAL CANCER & ORAL MUCOSAL LESIONS

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

The prevalence of oral mucosal lesions was quite low in the state (Fig 6.12). In subjects aged 5 yr, only 0.2%, all females and all from rural area, had oral mucosal lesions. These were equally distributed in the form of abscess (Table 6.12).

In subjects aged 12 yr, only 0.8% subjects, had lesions of which there were no cancers or pre cancer.

In children aged 15 years, 1.8 per cent had oral mucosal lesions of which 0.2 per cent were oral cancer.

In adults aged 35-44 years, 4.7 per cent had oral mucosal lesions of which 0.2 per cent were oral cancers and 2.0 per cent leukoplakia. In adults aged 65-74 years, 6.1 per cent had oral mucosal lesions with 0.4 per cent having oral cancer and 2.5 having leukoplakia. The state of UP is known for high consumption of tobacco smoking & non-smoking forms. This may explain the relatively higher oral cancer and pre-cancer lesions here.

The distribution of lesions was higher in rural than in urban areas. The most favoured site for leukoplakia was by buccal mucosa. Oral cancer appeared most on commissures and vermillion border.

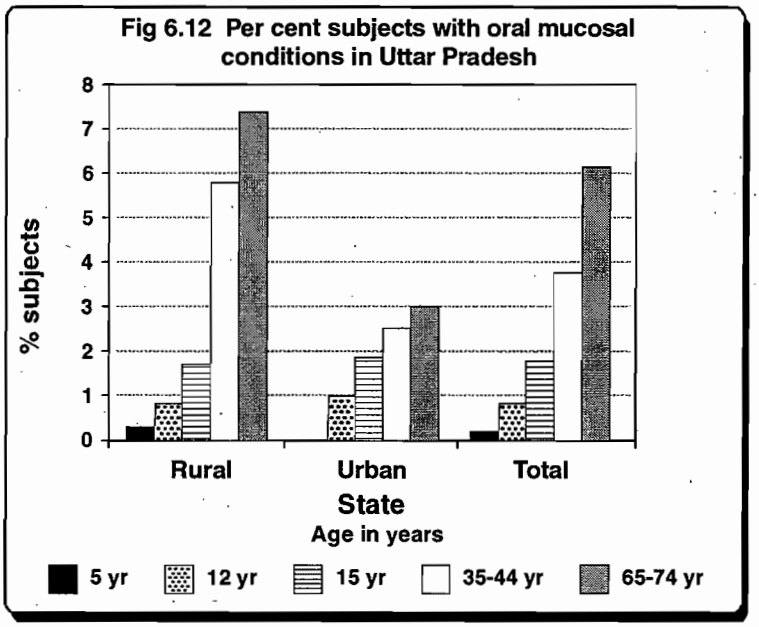


Table 6.12 Per cent subjects with oral mucosal lesions and type of lesions by age, sex and geographical area. State : Uttar Pradesh

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=	212	196	408	205	202	407	203	201	404	205	201	406	200	209	409
Oral mucosal lesions		0	0	0	2	2	4	1.0	3.1	2.1	6.4	2.6	4.5	5.5	5.9	5.7
Oral Cancer		0	0	0	0	0	0	0.0	0.5	0.3	0.0	0.5	0.3	0.0	0.5	0.3
Leukoplakia		0	0	0	0	0	0	0.0	0.0	0.0	2.5	0.5	1.5	2.0	2.5	2.3
Lichen planus		0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ulceration		0	0	0	0	1	1	0.0	1.0	0.5	2.0	1.5	1.8	0.5	0.5	0.5
ANUG		0	0	0	0	0	0	0.0	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Candidiasis		0	0	0	1	0	1	0.0	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Abscess		0	0	0	1	0	1	0.5	0.0	0.3	0.0	0.0	0.0	0.5	0.0	0.3
Others		0	0	0	0	1	1	0.4	0.5	0.5	1.9	0.0	1.0	3.0	2.4	2.7
Region 2	n=	115	105	220	110	111	221	112	108	220	110	111	221	114	103	217
Oral mucosal lesions		0	1	1	0	1	1	1.6	0.8	1.2	4.7	5.5	5.1	5.4	8.2	6.8
Oral Cancer		0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.5
Leukoplakia		0	0	0	0	0	0	0.0	0.0	0.0	2.9	2.9	2.9	2.8	3.0	2.9
Lichen planus		0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ulceration		0	0	0	0	0	0	0.0	0.8	0.4	2.9	3.7	3.3	2.5	4.2	3.4
ANUG		0	0	0	0	1	1	0.0	0.0	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	1.0	0.5	0.0	1.0	0.5
Abscess		0	1	1	0	0	0	1.6	0.0	0.8	1.8	0.8	1.3	1.9	2.1	2.0
Others		0	0	0	0	0	0	0.0	0.0	0.0	1.0	1.0	1.0	0.0	2.1	1.1
State Rural	n=	221	201	422	211	212	423	211	209	420	214	208	422	212	211	423
Oral mucosal lesions		0	1	1	1	2	3	0.5	2.9	1.7	7.0	4.3	5.7	6.1	8.4	7.3
Oral Cancer		0	0	0	0	0	0	0.0	0.5	0.3	0.0	0.5	0.3	0.0	0.9	0.5
Leukoplakia		0	0	0	0	0	0	0.0	0.0	0.0	3.2	1.9	2.6	2.8	3.3	3.1
Lichen planus		0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ulceration		0	0	0	0	1	1	0.0	1.0	0.5	3.2	2.8	3.0	0.9	2.3	1.6
ANUG		0	0	0	0	0	0	0.0	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Candidiasis		0	0	0	0	0	0	0.0	0.5	0.3	0.0	0.5	0.3	0.0	0.4	0.2
Abscess		0	1	1	1	0	1	0.5	0.0	0.3	0.4	0.0	0.2	1.4	0.9	1.2
Others		0	0	0	0	1	1	0.0	0.5	0.3	1.9	0.5	1.2	2.4	2.8	2.6
State Urban	n=	106	100	206	104	101	205	104	100	204	101	104	205	102	101	203
Oral mucosal lesions		0	0	0	1	1	2	2.8	0.9	1.9	3.1	1.8	2.5	3.9	2.0	3.0
Oral Cancer		0	0	0	0	0	0	0.0	0.0	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	1.1	0.0	0.6	1.1	0.9	1.0
Lichen planus		0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ulceration		0	0	0	0	0	0	0.0	0.9	0.5	0.0	0.9	0.5	1.8	0.0	0.9
ANUG		0	0	0	0	1	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Candidiasis		0	0	0	1	0	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Abscess		0	0	0	0	0	0	1.8	0.0	0.9	0.9	0.9	0.9	0.0	0.0	0.0
Others		0	0	0	0	0	0	1.0	0.0	0.5	1.1	0.0	0.6	1.1	1.1	1.1
State Total	n=	327	301	628	315	313	628	315	309	624	315	312	627	314	312	626
Oral mucosal lesions		0	1	1	2	3	5	1.2	2.4	1.8	5.9	3.5	4.7	5.5	6.6	6.1
Oral Cancer		0	0	0	0	0	0	0.0	0.3	0.2	0.0	0.3	0.2	0.0	0.7	0.4
Leukoplakia		0	0	0	0	0	0	0.0	0.0	0.0	2.6	1.3	2.0	2.3	2.6	2.5
Lichen planus		0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ulceration		0	0	0	0	1	1	0.0	1.0	0.5	2.3	2.3	2.3	1.2	1.6	1.4
ANUG		0	0	0	0	1	1	0.0	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Candidiasis		0	0	0	1	0	1	0.0	0.3	0.2	0.0	0.3	0.2	0.0	0.3	0.2
Abscess		0	1	1	1	0	1	0.9	0.0	0.5	0.6	0.3	0.5	1.0	0.6	0.8
Others		0	0	0	0	1	1	0.3	0.3	0.3	1.6	0.3	1.0	2.0	2.3	2.2

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

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	1	3	1	0	0	3	4	0	0	0	1	1	0	1	1	**8**	**8**
Commissures	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	1	**1**	**3**
Lips	0	1	2	0	0	0	0	1	0	0	0	0	0	0	1	1	**3**	**3**
Sulci	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	**1**	**0**
Buccal mucosa	0	0	7	8	0	0	4	2	0	0	0	0	0	0	5	4	**16**	**14**
Floor of mouth	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	**0**	**2**
Tongue	0	0	0	2	0	0	1	2	0	0	0	0	0	0	1	1	**2**	**5**
Hard/Soft palate	0	0	3	1	0	0	0	0	0	0	0	0	1	0	1	0	**5**	**1**
Alv ridges/ Gingiva	0	0	2	1	0	0	0	1	0	1	0	0	3	2	2	0	**7**	**5**
Rural Total	**0**	**4**	**18**	**13**	**0**	**0**	**8**	**11**	**0**	**1**	**0**	**2**	**6**	**2**	**11**	**8**	**43**	**41**
State Urban																		
Vermilion Border	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
Commissures	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
Lips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
Sulci	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
Buccal mucosa	0	0	2	1	0	0	2	1	0	1	0	0	0	0	2	0	**6**	**3**
Floor of mouth	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	**0**	**2**
Tongue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
Hard/Soft palate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
Alv ridges/ Gingiva	0	0	0	0	0	0	0	0	0	0	0	0	3	1	1	0	**4**	**1**
Urban Total	**0**	**0**	**2**	**1**	**0**	**0**	**2**	**2**	**0**	**1**	**0**	**0**	**3**	**1**	**3**	**1**	**10**	**6**
State Total																		
Vermilion Border	0	1	3	1	0	0	3	4	0	0	0	1	1	0	1	1	**8**	**8**
Commissures	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	1	**1**	**3**
Lips	0	1	2	0	0	0	0	1	0	0	0	0	0	0	1	1	**3**	**3**
Sulci	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	**1**	**0**
Buccal mucosa	0	0	9	9	0	0	6	3	0	1	0	0	0	0	7	4	**22**	**17**
Floor of mouth	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	1	**0**	**4**
Tongue	0	0	0	2	0	0	1	2	0	0	0	0	0	0	1	1	**2**	**5**
Hard/Soft palate	0	0	3	1	0	0	0	0	0	0	0	0	1	0	1	0	**5**	**1**
Alv ridges/ Gingiva	0	0	2	1	0	0	0	1	0	1	0	0	6	3	3	0	**11**	**6**
State Total	**0**	**4**	**20**	**14**	**0**	**0**	**10**	**13**	**0**	**2**	**0**	**2**	**9**	**3**	**14**	**9**	**53**	**47**

6.5 DENTAL FLUOROSIS STATUS

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

Fluorosis did not appear to be a problem in the state. Fluorosis was not observed in the 5 year old subjects in the state. Only 0.3% subjects aged 12 years, 0.5% subjects aged 15 years and 0.2% subjects aged 65-74 years had questionable or mild fluorosis. The fluorosis was higher in subjects aged 35-44 years (1.1%), of which 0.3% subjects had moderate fluorosis. Very mild or mild fluorosis occurred in 0.5% subjects in this age group.

The prevalence of fluorosis was almost evenly distributed between male and female subjects and between rural and urban residents. However, fluorosis was observed only in one of the two regions (Region 1) surveyed.

Fig. 6.14. Percent subjects with fluorosis in Uttar Pradesh

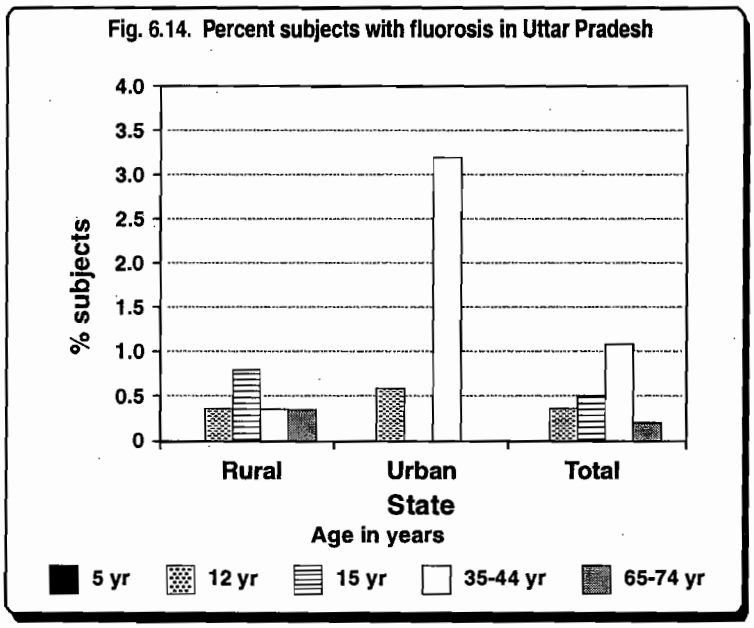


Table 6.14 Percent distribution of subjects with severity of dental fluorosis by age, sex and geographical area. **State : Uttar Pradesh**

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=**	**210**	**191**	***401***	**203**	**201**	***404***	**202**	**200**	***402***	**202**	**195**	***397***	**147**	**157**	***304***
With Fluorosis		0.0	0.0	***0.0***	0.5	0.5	***0.5***	1.5	0.0	***0.8***	0.9	2.4	***1.7***	0.7	0.0	***0.4***
Questionable		0.0	0.0	***0.0***	0.0	0.5	***0.3***	1.0	0.0	***0.5***	0.5	0.5	***0.5***	0.7	0.0	***0.4***
V Mild & Mild		0.0	0.0	***0.0***	0.5	0.0	***0.3***	0.5	0.0	***0.3***	0.5	1.0	***0.8***	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	0.9	***0.5***	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 2	**n=**	**104**	**99**	***203***	**109**	**111**	***220***	**109**	**108**	***217***	**109**	**109**	***218***	95	87	***182***
With Fluorosis		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
Questionable		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	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***	0.0	0.0	***0.0***	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***
State Rural	**n=**	**216**	**195**	***411***	**211**	**212**	***423***	**207**	**207**	***414***	**210**	**201**	***411***	**162**	**164**	***326***
With Fluorosis		0.0	0.0	***0.0***	0.5	0.0	***0.3***	1.5	0.0	***0.8***	0.0	0.5	***0.3***	0.6	0.0	***0.3***
Questionable		0.0	0.0	***0.0***	0.0	0.0	***0.0***	1.0	0.0	***0.5***	0.0	0.0	***0.0***	0.6	0.0	***0.3***
V Mild & Mild		0.0	0.0	***0.0***	0.5	0.0	***0.3***	0.5	0.0	***0.3***	0.0	0.5	***0.3***	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***
State Urban	**n=**	**98**	**95**	***193***	**101**	**100**	***201***	**104**	**101**	***205***	**101**	**103**	***204***	**80**	**80**	***160***
With Fluorosis		0.0	0.0	***0.0***	0.0	1.1	***0.6***	0.0	0.0	***0.0***	2.1	4.2	***3.2***	0.0	0.0	***0.0***
Questionable		0.0	0.0	***0.0***	0.0	1.1	***0.6***	0.0	0.0	***0.0***	1.1	1.0	***1.1***	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***	1.1	1.0	***1.1***	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	2.1	***1.1***	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=**	**314**	**290**	***604***	**312**	**312**	***624***	**311**	**308**	***619***	**311**	**304**	***615***	**242**	**244**	***486***
With Fluorosis		0.0	0.0	***0.0***	0.3	0.3	***0.3***	1.0	0.0	***0.5***	0.6	1.6	***1.1***	0.4	0.0	***0.2***
Questionable		0.0	0.0	***0.0***	0.0	0.3	***0.2***	0.7	0.0	***0.4***	0.3	0.3	***0.3***	0.4	0.0	***0.2***
V Mild & Mild		0.0	0.0	***0.0***	0.3	0.0	***0.2***	0.3	0.0	***0.2***	0.3	0.7	***0.5***	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	0.6	***0.3***	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***

6.6 OTHER LESIONS

6.6.1 Extra Oral Lesions

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

There was an even but very low prevalence of extra oral lesions in the state across age groups surveyed. The prevalence was 0.3% each in 5, 12 and 35-44 year old subjects and it was 0.5% in 15 and 65-74 year old subjects. These were all either ulceration, sores, erosions or fissures or abnormalities of upper and lower lips.

There were no major differentials between sexes, urban and rural areas or between regions.

Fig. 6.15. Percent subjects with extra oral lesions in Uttar Pradesh

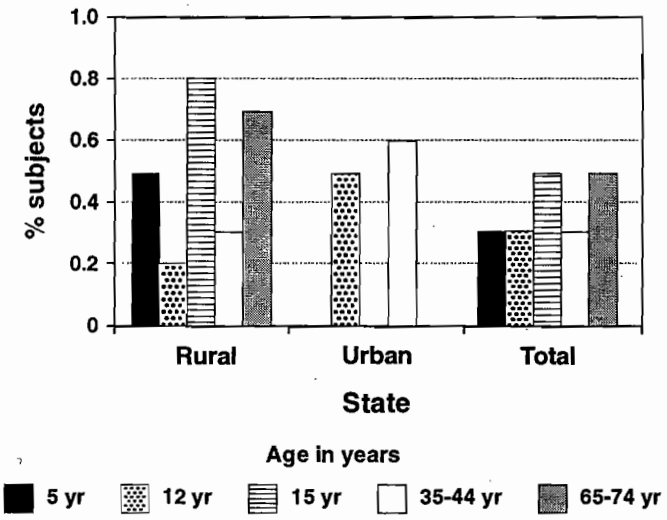


Table 6.15 Percent distribution of subjects with extra oral lesions by age, sex and geographical area. **State : Uttar Pradesh**

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=	212	196	408	205	202	407	204	203	407	205	201	406	200	210	410
With extra oral lesions		0.5	0.0	0.3	0.0	0.0	0.0	0.5	1.0	0.8	0.4	0.5	0.5	0.0	0.5	0.3
Ulceration,sores,erosions,fissures		0.0	0.0	0.0	0.0	0.0	0.0	0.5	1.0	0.8	0.0	0.5	0.3	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	0.5	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	0.5	0.3	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	0.5	0.0	0.3	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	0.4	0.0	0.2	0.0	0.0	0.0
Abnormalities of upper & lower lips		0.5	0.0	0.3	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)		0.0	0.0	0.0	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=	115	105	220	110	111	221	112	109	221	110	111	221	116	103	219
With extra oral lesions		0.0	1.0	0.5	1.8	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.9	1.0	1.0
Ulceration,sores,erosions,fissures		0.0	0.0	0.0	1.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.9	1.0	1.0
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	0.0	0.0	0.0	0.9	0.0	0.5
commissures		0.0	0.0	0.0	1.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.5
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	1.0	0.5	0.8	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Enlarged lymph nodes(head & neck)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
State Rural	n=	221	201	422	211	212	423	211	210	421	214	208	422	213	211	424
With extra oral lesions		0.5	0.5	0.5	0.4	0.0	0.2	0.5	1.0	0.8	0.0	0.5	0.3	0.4	0.9	0.7
Ulceration,sores,erosions,fissures		0.0	0.0	0.0	0.4	0.0	0.2	0.5	1.0	0.8	0.0	0.5	0.3	0.4	0.4	0.4
head, neck, limbs		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.3	0.0	0.5	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	0.5	0.3	0.0	0.0	0.0	0.4	0.0	0.2
commissures		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	0.4	0.2
vermilion border		0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.3	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		0.5	0.5	0.5	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)		0.0	0.0	0.0	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=	106	100	206	104	101	205	105	102	207	101	104	205	103	102	205
With extra oral lesions		0.0	0.0	0.0	0.9	0.0	0.5	0.0	0.0	0.0	1.1	0.0	0.6	0.0	0.0	0.0
Ulceration,sores,erosions,fissures		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	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	0.0	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	1.1	0.0	0.6	0.0	0.0	0.0
Abnormalities of upper & lower lips		0.0	0.0	0.0	0.9	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Enlarged lymph nodes(head & neck)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
State Total	n=	327	301	628	315	313	628	316	312	628	315	312	627	316	313	629
With extra oral lesions		0.3	0.3	0.3	0.6	0.0	0.3	0.3	0.7	0.5	0.3	0.3	0.3	0.3	0.7	0.5
Ulceration,sores,erosions,fissures		0.0	0.0	0.0	0.3	0.0	0.2	0.3	0.7	0.5	0.0	0.3	0.2	0.3	0.3	0.3
head, neck, limbs		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.0	0.3	0.2	0.0	0.0	0.0
nose, cheeks, chin		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.0	0.0	0.0	0.3	0.0	0.2
commissures		0.0	0.0	0.0	0.3	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2
vermilion border		0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.2	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	0.3	0.0	0.2	0.0	0.0	0.0
Abnormalities of upper & lower lips		0.3	0.3	0.3	0.3	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2
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

6.6.2 T M joint symptoms and signs

Table 6.16 presents the percent subjects with temporomandibular joint (TM Joint) symptoms and signs.

Overall, TM Joint symptoms and signs did not appear to be a major public health problem in the state as the prevalence and distribution was extremely low and rare. Symptoms were not reported in 5 year old subjects but increased in prevalence as advanced from 12 years to 65-74 years. The range was between 0.2% in 12 year olds to 6.0% in 65-74 year olds. Signs were present in all age groups and ranged from 0.2% in 5 and 12 years olds to 6.5% in 65-74 year olds. Clicking, tenderness and reduced jaw mobility were prevalent across age groups more or less in that order.

No major differentials were reported between sexes, rural and urban areas, or regions surveyed.

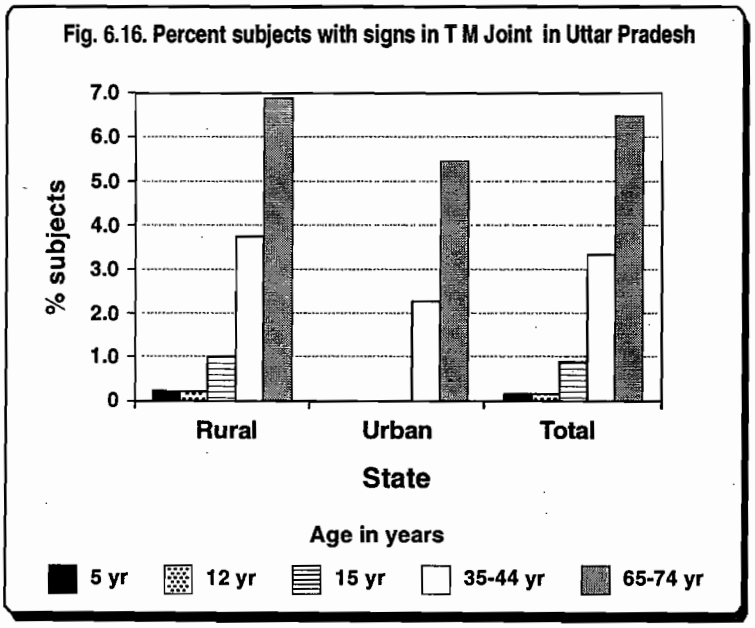
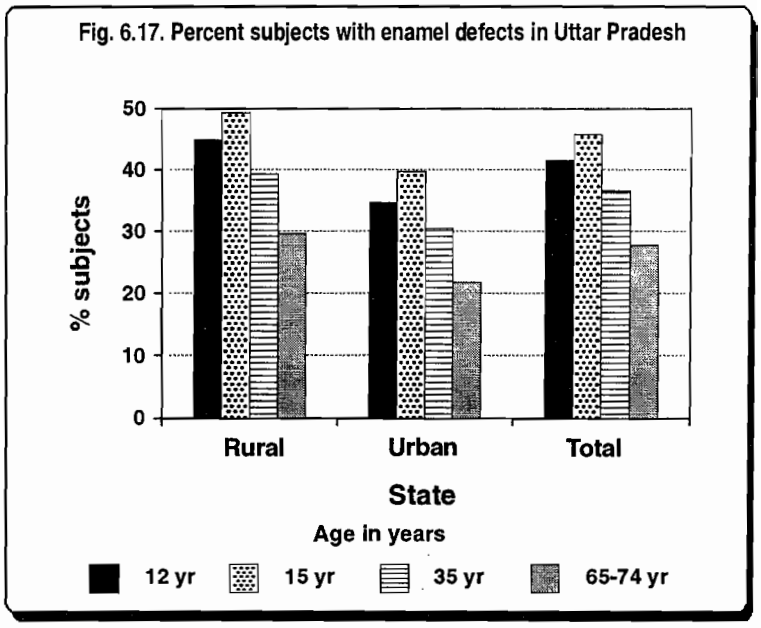


Table 6.16 Percent subjects with symptoms and signs in the tempromandibular joints by age, sex and geographical area State : Uttar Pradesh

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=*	**212**	**196**	***408***	**205**	**202**	***407***	**204**	**203**	***407***	**205**	**201**	***406***	**200**	**210**	***410***
Symptoms present		0.0	0.0	***0.0***	0.0	0.5	***0.3***	0.5	0.5	***0.5***	1.5	2.1	***1.8***	6.1	5.3	***5.7***
Signs present		0.0	0.5	***0.3***	0.0	0.5	***0.3***	1.0	0.5	***0.8***	1.5	2.1	***1.8***	5.6	5.3	***5.5***
Clicking		0.0	0.5	***0.3***	0.0	0.5	***0.3***	1.0	0.0	***0.5***	1.5	2.1	***1.8***	3.6	4.8	***4.2***
Tenderness		0.0	0.0	***0.0***	0.0	0.5	***0.3***	0.5	0.5	***0.5***	1.0	1.0	***1.0***	2.5	4.8	***3.7***
Reduced jaw mobility		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.5	0.0	***0.3***	0.0	0.5	***0.3***	1.0	1.4	***1.2***
Region 2	*n=*	**115**	**105**	***220***	**110**	**111**	***221***	**112**	**109**	***221***	**110**	**111**	***221***	**116**	**103**	***219***
Symptoms present		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	1.0	***0.5***	7.2	4.5	***5.9***	8.6	4.6	***6.6***
Signs present		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	1.0	***0.5***	8.4	4.5	***6.5***	10.3	6.7	***8.5***
Clicking		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	7.4	2.8	***5.1***	7.6	6.7	***7.2***
Tenderness		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	1.0	***0.5***	3.9	1.8	***2.9***	6.8	5.6	***6.2***
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***	2.8	0.0	***1.4***
State Rural	*n=*	**221**	**201**	***422***	**211**	**212**	***423***	**211**	**210**	***421***	**214**	**208**	***422***	**213**	**211**	***424***
Symptoms present		0.0	0.0	***0.0***	0.0	0.5	***0.3***	0.5	0.9	***0.7***	3.2	3.3	***3.3***	7.5	5.3	***6.4***
Signs present		0.0	0.5	***0.3***	0.0	0.5	***0.3***	1.0	0.9	***1.0***	4.1	3.3	***3.7***	7.5	6.2	***6.9***
Clicking		0.0	0.5	***0.3***	0.0	0.5	***0.3***	1.0	0.0	***0.5***	3.6	2.9	***3.3***	5.1	5.7	***5.4***
Tenderness		0.0	0.0	***0.0***	0.0	0.5	***0.3***	0.5	0.9	***0.7***	2.7	1.4	***2.1***	3.7	5.2	***4.5***
Reduced jaw mobility		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.5	0.0	***0.3***	0.0	0.5	***0.3***	2.3	1.0	***1.7***
State Urban	*n=*	**106**	**100**	***206***	**104**	**101**	***205***	**105**	**102**	***207***	**101**	**104**	***205***	**103**	**102**	***205***
Symptoms present		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	3.6	1.8	***2.7***	5.5	4.6	***5.1***
Signs present		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	2.7	1.8	***2.3***	6.4	4.6	***5.5***
Clicking		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	2.7	0.9	***1.8***	4.5	4.6	***4.6***
Tenderness		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.9	***0.5***	4.6	4.6	***4.6***
Reduced jaw mobility		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	1.1	***0.6***
State Total	*n=*	**327**	**301**	***628***	**315**	**313**	***628***	**316**	**312**	***628***	**315**	**312**	***627***	**316**	**313**	***629***
Symptoms present		0.0	0.0	***0.0***	0.0	0.3	***0.2***	0.3	0.7	***0.5***	3.3	2.9	***3.1***	6.9	5.1	***6.0***
Signs present		0.0	0.4	***0.2***	0.0	0.3	***0.2***	0.7	0.7	***0.7***	3.7	2.9	***3.3***	7.2	5.7	***6.5***
Clicking		0.0	0.4	***0.2***	0.0	0.3	***0.2***	0.7	0.0	***0.4***	3.4	2.3	***2.9***	4.9	5.4	***5.2***
Tenderness		0.0	0.0	***0.0***	0.0	0.3	***0.2***	0.3	0.7	***0.5***	2.0	1.3	***1.7***	4.0	5.1	***4.6***
Reduced jaw mobility		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.3	0.0	***0.2***	0.0	0.3	***0.2***	1.6	1.0	***1.3***

6.6.3 Enamel defects (opacities, hypoplasia)

Table 6.17 presents the percent 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 lower age group of 5 yr was excluded from examination.

Overall, there was a relatively high prevalence of enamel defects in the state ranging from about 27.7% in 65-74 year old subjects to a maximum of 46.4% in the 15 year old subjects. In all age groups, the most prevalent type of enamel defect was demarcated opacity, followed by diffuse opacity and combination of opacity and hypoplasias. Enamel hypoplasias were relatively less prevalent with a range of 3.9% of subjects being affected in 65-74 years to 7.8% in 35-44 year age group.

Although enamel defects were prevalent in the state, the mean number of teeth with enamel defects was low across age groups, and ranged from 0.6 tooth in 65-74 year old subjects to 1.6 tooth in the 15 year olds.

There were no major male and female, rural and urban or regional differentials in the type and pattern of distribution of enamel defects.

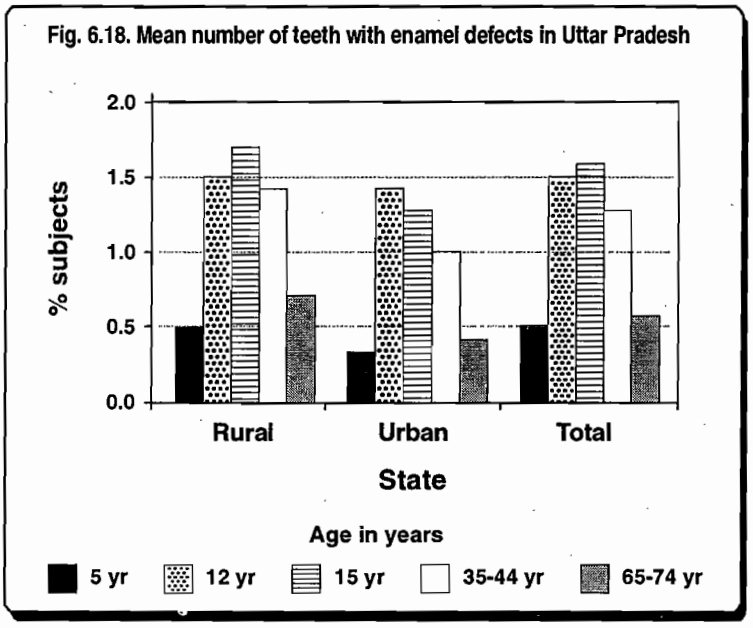


Table 6.17 Percent distribution of subjects with enamel defects (opacities/ hypoplasia) by age, sex & geographical area. State : Uttar Pradesh

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=	203	201	404	204	203	407	203	199	402	142	154	296
With enamel defects		40.7	37.3	39.0	40.7	44.9	42.8	33.8	33.7	33.8	18.7	23.2	21.0
with demarcated opacity		23.4	18.4	20.9	23.4	28.6	26.0	19.6	14.8	17.2	8.7	13.4	11.1
with diffuse opacity		22.9	21.3	22.1	21.9	23.9	22.9	12.4	19.4	15.9	9.4	9.3	9.4
with hypoplasia		8.2	8.1	8.2	4.8	7.1	6.0	5.7	6.5	6.1	1.4	1.9	1.
with other defects		0.0	0.5	0.3	0.0	0.0	0.0	0.5	1.0	0.8	0.0	0.7	0.4
with combinations of opacities and hypoplasia		13.5	8.5	11.0	9.0	10.4	9.7	10.0	8.2	9.1	5.0	7.4	6.2
with all three conditions		0.0	0.0	0.0	0.4	0.0	0.2	0.0	0.0	0.0	0.0	0.6	0.3
Region 2	n=	110	111	221	112	109	221	109	109	218	94	81	175
With enamel defects		43.4	51.8	47.6	57.8	50.3	54.1	41.0	46.0	43.5	41.5	39.6	40.6
with demarcated opacity		35.9	45.0	40.5	43.4	37.0	40.2	28.9	28.0	28.5	19.4	26.6	23.0
with diffuse opacity		13.3	14.6	14.0	24.9	20.2	22.6	11.5	13.6	12.6	16.8	7.4	12.1
with hypoplasia		2.9	3.9	3.4	6.4	4.8	5.6	9.4	12.7	11.1	8.0	8.0	8.0
with other defects		0.8	0.0	0.4	0.0	0.0	0.0	0.8	0.0	0.4	1.0	1.1	1.1
with combinations of opacities and hypoplasia		10.6	6.3	8.5	8.7	3.6	6.2	5.3	9.1	7.2	7.7	6.5	7.1
with all three conditions		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
State Rural	n=	210	212	422	211	210	421	211	205	416	161	153	314
With enamel defects		42.9	46.0	44.5	48.2	50.0	49.1	37.4	41.8	39.6	28.3	31.2	29.8
with demarcated opacity		27.1	28.9	28.0	30.6	32.9	31.8	24.2	19.4	21.8	10.6	18.3	14.5
with diffuse opacity		21.7	22.8	22.3	25.2	25.3	25.3	11.5	19.7	15.6	12.4	10.5	11.5
with hypoplasia		5.7	5.2	5.5	4.7	4.7	4.7	5.5	10.0	7.8	5.4	5.0	5.2
with other defects		0.0	0.5	0.3	0.0	0.0	0.0	0.5	1.0	0.8	0.0	0.7	0.4
with combinations of opacities and hypoplasia		13.0	8.5	10.8	10.0	8.7	9.4	9.6	9.8	9.7	7.4	9.8	8.6
with all three conditions		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
State Urban	n=	103	100	203	105	102	207	101	103	204	75	82	157
With enamel defects		38.2	32.0	35.1	41.4	38.2	39.8	32.7	28.0	30.4	23.7	21.9	22.8
with demarcated opacity		28.0	22.3	25.2	28.1	27.1	27.6	18.5	18.3	18.4	17.5	15.7	16.6
with diffuse opacity		15.4	9.9	12.7	17.4	16.4	16.9	13.6	12.4	13.0	11.2	4.7	8.0
with hypoplasia		8.4	10.8	9.6	6.9	10.4	8.7	10.2	5.1	7.7	0.0	1.3	0.7
with other defects		0.9	0.0	0.5	0.0	0.0	0.0	0.9	0.0	0.5	1.2	1.1	1.2
with combinations of opacities and hypoplasia		11.3	6.0	8.7	6.3	7.1	6.7	5.8	5.5	5.7	2.5	1.1	1.8
with all three conditions		0.0	0.0	0.0	1.0	0.0	0.5	0.0	0.0	0.0	0.0	1.3	0.7
State Total	n=	313	312	625	316	312	628	312	308	620	236	235	471
With enamel defects		41.5	42.0	41.8	46.2	46.6	46.4	36.1	37.7	36.9	27.0	28.3	27.7
with demarcated opacity		27.3	27.0	27.2	29.8	31.2	30.5	22.5	19.1	20.8	12.5	17.4	15.0
with diffuse opacity		19.8	19.1	19.5	22.9	22.7	22.8	12.1	17.5	14.8	12.0	8.7	10.4
with hypoplasia		6.5	6.8	6.7	5.3	6.4	5.9	6.9	8.6	7.8	3.9	3.9	3.9
with other defects		0.3	0.3	0.3	0.0	0.0	0.0	0.6	0.7	0.7	0.3	0.8	0.6
with combinations of opacities and hypoplasia		12.5	7.8	10.2	8.9	8.2	8.6	8.5	8.5	8.5	6.0	7.1	6.6
with all three conditions		0.0	0.0	0.0	0.3	0.0	0.2	0.0	0.0	0.0	0.0	0.4	0.2

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

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=*	**205**	**204**	***409***	**205**	**205**	***410***	**205**	**202**	***407***	**200**	**210**	***410***
Mean no. of teeth with enamel defects		1.6	1.3	***1.5***	1.6	1.7	***1.7***	1.3	1.4	***1.4***	0.5	0.6	***0.6***
with demarcated opacity		0.6	0.4	***0.5***	0.5	0.6	***0.6***	0.5	0.4	***0.5***	0.1	0.2	***0.2***
with diffuse opacity		0.6	0.6	***0.6***	0.7	0.6	***0.7***	0.3	0.6	***0.5***	0.3	0.2	***0.3***
with hypoplasia		0.2	0.2	***0.2***	0.2	0.3	***0.3***	0.2	0.2	***0.2***	0.0	0.0	***0.0***
with other defects		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
with combinations of opacities and hypoplasia		0.2	0.1	***0.2***	0.2	0.2	***0.2***	0.2	0.2	***0.2***	0.1	0.1	***0.1***
with all three conditions		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
Region 2	*n=*	**110**	**111**	***221***	**112**	**109**	***221***	**110**	**111**	***221***	**116**	**103**	***219***
Mean no. of teeth with enamel defects		1.3	1.4	***1.4***	1.7	1.4	***1.6***	1.0	1.2	***1.1***	0.9	0.6	***0.8***
with demarcated opacity		0.9	1.0	***1.0***	1.0	0.8	***0.9***	0.5	0.5	***0.5***	0.3	0.3	***0.3***
with diffuse opacity		0.3	0.3	***0.3***	0.5	0.5	***0.5***	0.2	0.3	***0.3***	0.3	0.1	***0.2***
with hypoplasia		0.0	0.1	***0.1***	0.1	0.1	***0.1***	0.2	0.3	***0.3***	0.1	0.1	***0.1***
with other defects		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
with combinations of opacities and hypoplasia		0.1	0.1	***0.1***	0.1	0.0	***0.1***	0.1	0.1	***0.1***	0.1	0.1	***0.1***
with all three conditions		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
State Rural	*n=*	**211**	**214**	***425***	**212**	**211**	***423***	**214**	**209**	***423***	**213**	**211**	***424***
Mean no. of teeth with enamel defects		1.5	1.4	***1.5***	1.7	1.7	***1.7***	1.2	1.6	***1.4***	0.6	0.7	***0.7***
with demarcated opacity		0.7	0.6	***0.7***	0.6	0.7	***0.7***	0.6	0.4	***0.5***	0.2	0.3	***0.3***
with diffuse opacity		0.5	0.6	***0.6***	0.8	0.7	***0.8***	0.3	0.6	***0.5***	0.3	0.2	***0.3***
with hypoplasia		0.1	0.1	***0.1***	0.2	0.2	***0.2***	0.1	0.3	***0.2***	0.1	0.0	***0.1***
with other defects		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
with combinations of opacities and hypoplasia		0.2	0.1	***0.2***	0.2	0.1	***0.2***	0.2	0.2	***0.2***	0.1	0.2	***0.2***
with all three conditions		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
State Urban	*n=*	**104**	**101**	***205***	**105**	**103**	***208***	**101**	**104**	***205***	**103**	**102**	***205***
Mean no. of teeth with enamel defects		1.5	1.2	***1.4***	1.4	1.2	***1.3***	1.1	0.9	***1.0***	0.5	0.3	***0.4***
with demarcated opacity		0.7	0.6	***0.7***	0.8	0.6	***0.7***	0.3	0.4	***0.4***	0.3	0.2	***0.3***
with diffuse opacity		0.5	0.2	***0.4***	0.4	0.3	***0.4***	0.3	0.3	***0.3***	0.2	0.0	***0.1***
with hypoplasia		0.2	0.3	***0.3***	0.2	0.3	***0.3***	0.4	0.2	***0.3***	0.0	0.0	***0.0***
with other defects		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
with combinations of opacities and hypoplasia		0.1	0.1	***0.1***	0.1	0.1	***0.1***	0.1	0.1	***0.1***	0.0	0.0	***0.0***
with all three conditions		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
State Total	*n=*	**315**	**315**	***630***	**317**	**314**	***631***	**315**	**313**	***628***	**316**	**313**	***629***
Mean no. of teeth with enamel defects		1.5	1.4	***1.5***	1.6	1.6	***1.6***	1.2	1.4	***1.3***	0.6	0.6	***0.6***
with demarcated opacity		0.7	0.6	***0.7***	0.6	0.7	***0.7***	0.5	0.4	***0.5***	0.2	0.2	***0.2***
with diffuse opacity		0.5	0.5	***0.5***	0.7	0.6	***0.7***	0.3	0.5	***0.4***	0.3	0.2	***0.3***
with hypoplasia		0.2	0.2	***0.2***	0.2	0.2	***0.2***	0.2	0.3	***0.3***	0.0	0.0	***0.0***
with other defects		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
with combinations of opacities and hypoplasia		0.2	0.1	***0.2***	0.2	0.1	***0.2***	0.1	0.2	***0.2***	0.1	0.1	***0.1***
with all three conditions		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***

6.6.4 Prosthetic status

The prosthetic status was recorded for subjects 15 yrs 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 the lower arch (mandibular teeth).

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

In 65-74 year old subjects, prostheses were present in 4.8% and 1% subjects in the upper and lower dental arches respectively. The corresponding percentages for 35-44 year old subjects were 1% each in upper and lower dental arches. The most prevalent prostheses in 65-74 year old subjects was full denture, followed by partial denture. In 35-44 year old subjects, partial dentures were more prevalent than full dentures. There were no major differentials between male and females, and between rural and urban areas. However, Region 2 had only 65-74 year old females wearing prostheses (0.5%) and these were all full dentures (upper arch)

The overall percent of subjects in 65-74 years who were wearing full mouth removable dentures was 3.9%. More females than males were wearing full mouth removable dentures. The urban residents had a significantly higher percentage of subjects wearing full mouth dentures (11.7%) compared to their rural counterparts (2.2%). There were no subjects in Region 2 with full dentures.

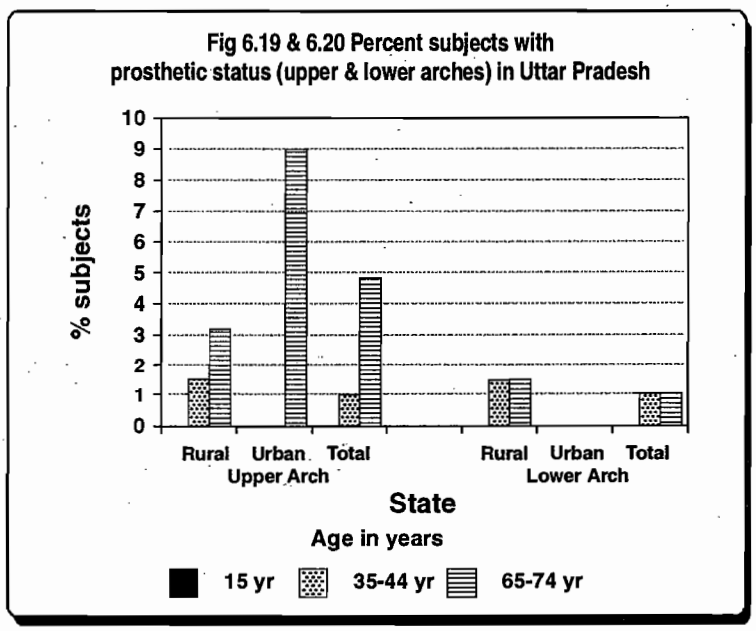


Table 6.19 Percent distribution of subjects with their prosthetic status (Upper arch) by age, sex, and geographical area. State : Uttar Pradesh

Prosthetic Status (Upper)		15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T
Region 1	*n=*	**205**	**205**	***410***	**205**	**202**	***407***	**200**	**210**	***410***
With Prostheses present		0.0	0.0	***0.0***	2.5	0.5	***1.5***	6.6	7.0	***6.8***
Bridge or more than one bridge		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.5	0.0	***0.3***
Partial denture		0.0	0.0	***0.0***	1.5	0.5	***1.0***	1.4	0.4	***0.9***
Both Bridge and partial denture		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
Full removable denture		0.0	0.0	***0.0***	1.0	0.0	***0.5***	4.7	6.5	***5.6***
Region 2	*n=*	**112**	**109**	***221***	**110**	**111**	***221***	**116**	**103**	***219***
With Prostheses present		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	1.0	***0.5***
Bridge or more than one bridge		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
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***	0.0	0.0	***0.0***
Full removable denture		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	1.0	***0.5***
State Rural	*n=*	**212**	**211**	***423***	**214**	**209**	***423***	**213**	**211**	***424***
With Prostheses present		0.0	0.0	***0.0***	2.4	0.5	***1.5***	1.9	4.3	***3.1***
Bridge or more than one bridge		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
Partial denture		0.0	0.0	***0.0***	1.4	0.5	***1.0***	0.5	0.0	***0.3***
Both Bridge and partial denture		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
Full removable denture		0.0	0.0	***0.0***	1.0	0.0	***0.5***	1.4	4.3	***2.9***
State Urban	*n=*	**105**	**103**	***208***	**101**	**104**	***205***	**103**	**102**	***205***
With Prostheses present		0.0	0.0	***0.0***	0.0	0.0	***0.0***	10.5	7.4	***9.0***
Bridge or more than one bridge		0.0	0.0	***0.0***	0.0	0.0	***0.0***	1.1	0.0	***0.6***
Partial denture		0.0	0.0	***0.0***	0.0	0.0	***0.0***	2.1	1.1	***1.6***
Both Bridge and partial denture		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
Full removable denture		0.0	0.0	***0.0***	0.0	0.0	***0.0***	7.4	6.3	***6.9***
State Total	*n=*	**317**	**314**	***631***	**315**	**313**	***628***	**316**	**313**	***629***
With Prostheses present		0.0	0.0	***0.0***	1.7	0.3	***1.0***	4.4	5.2	***4.8***
Bridge or more than one bridge		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.3	0.0	***0.2***
Partial denture		0.0	0.0	***0.0***	1.0	0.3	***0.7***	1.0	0.3	***0.7***
Both Bridge and partial denture		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
Full removable denture		0.0	0.0	***0.0***	0.7	0.0	***0.4***	3.2	4.9	***4.1***

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

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

Prosthetic Status (Lower)		15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T
Region 1	n=	**205**	**205**	***410***	**205**	**202**	***407***	**205**	**202**	***407***
Prostheses present		0.0	0.0	***0.0***	1.5	1.5	***1.5***	1.5	1.5	***1.5***
Bridge or more than one bridge		0.0	0.0	***0.0***	0.0	0.5	***0.3***	0.0	0.5	***0.3***
Partial denture		0.0	0.0	***0.0***	0.5	1.0	***0.8***	0.5	1.0	***0.8***
Both Bridge and partial denture		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
Full removable denture		0.0	0.0	***0.0***	1.0	0.0	***0.5***	1.0	0.0	***0.5***
Region 2	n=	**112**	**109**	***221***	**110**	**111**	***221***	**110**	**111**	***221***
Prostheses present		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
Bridge or more than one bridge		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
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***	0.0	0.0	***0.0***
Full removable denture		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
State Rural	n=	**212**	**211**	***423***	**214**	**209**	***423***	**214**	**209**	***423***
Prostheses present		0.0	0.0	***0.0***	1.4	1.5	***1.5***	1.4	1.5	***1.5***
Bridge or more than one bridge		0.0	0.0	***0.0***	0.0	0.5	***0.3***	0.0	0.5	***0.3***
Partial denture		0.0	0.0	***0.0***	0.5	1.0	***0.8***	0.5	1.0	***0.8***
Both Bridge and partial denture		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
Full removable denture		0.0	0.0	***0.0***	1.0	0.0	***0.5***	1.0	0.0	***0.5***
State Urban	n=	**105**	**103**	***208***	**101**	**104**	***205***	**101**	**104**	***205***
Prostheses present		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
Bridge or more than one bridge		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
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***	0.0	0.0	***0.0***
Full removable denture		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
State Total	n=	**317**	**314**	***631***	**315**	**313**	***628***	**315**	**313**	***628***
Prostheses present		0.0	0.0	***0.0***	1.0	1.0	***1.0***	1.0	1.0	***1.0***
Bridge or more than one bridge		0.0	0.0	***0.0***	0.0	0.3	***0.2***	0.0	0.3	***0.2***
Partial denture		0.0	0.0	***0.0***	0.3	0.7	***0.5***	0.3	0.7	***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 removable denture		0.0	0.0	***0.0***	0.7	0.0	***0.4***	0.7	0.0	***0.4***

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

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

Prosthetic status of full denture (upper & lower arch)		35-44 years			65-74 years		
		M	F	T	M	F	T
Region 1	n=	202	200	*402*	200	209	*409*
Percent subjects with full mouth removable denture		1.0	0.0	*0.5*	3.8	6.1	*5.0*
Region 2	n=	58	59	*117*	60	55	*115*
Percent subjects with full mouth removable denture		0.0	0.0	*0.0*	0.0	0.0	*0.0*
State Rural	n=	211	207	*418*	210	211	*421*
Percent subjects with full mouth removable denture		1.0	0.0	*0.5*	1.0	3.4	*2.2*
State Urban	n=	49	52	*101*	50	53	*103*
Percent subjects with full mouth removable denture		0.0	0.0	*0.0*	12.0	11.3	*11.7*
State Total	n=	260	259	*519*	260	264	*524*
Percent subjects with full mouth removable denture		0.8	0.0	*0.4*	2.9	4.9	*3.9*

6.6.5 Prosthetic need

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.

Table 6.22 and Table 6.23 presents the percent subjects with prosthetic need of upper and lower dental arches by type of prostheses needed. Table 6.24 presents the percent subjects who needed full mouth removable dentures.

It appeared that the need for prostheses was high in the state for both upper and lower dental arches. Nearly 28 percent subjects needed full mouth removable dentures in the state. This was followed by the need for the combination of one and/or multi-unit prostheses for both upper and lower dental arches. The need for full mouth removable dentures appeared even in between rural and urban areas and between regions. There were no marked male and female differentials.

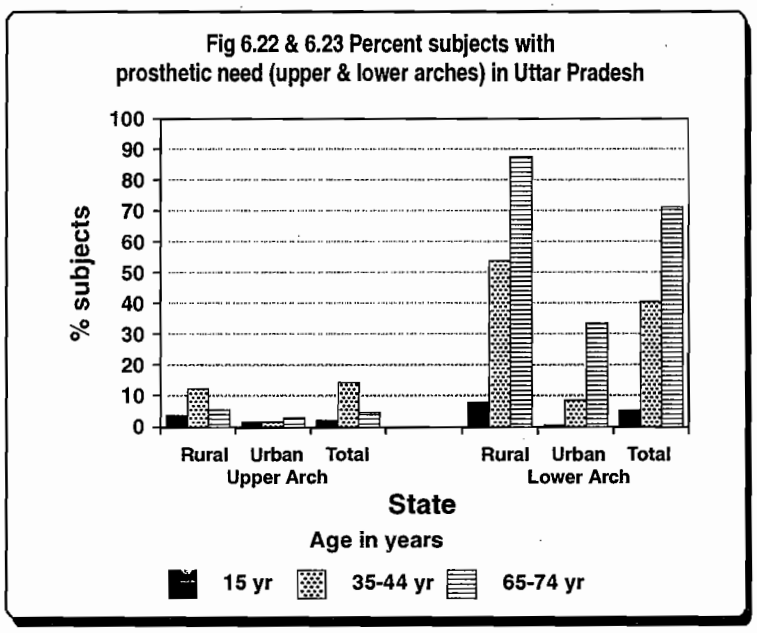


Table 6.22 Percent distribution of subjects with their prosthetic need status (upper arch) by age, sex, and geographical area. State : Uttar Pradesh

Prosthetic Need (Upper)		15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T
Region 1	**n=**	**205**	**205**	***410***	**205**	**202**	***407***	**200**	**210**	***410***
With Prosthetic need		3.9	5.4	***4.7***	28.9	35.0	***32.0***	78.8	75.6	***77.2***
Need for one unit prosthesis		3.4	4.4	***3.9***	8.9	11.1	***10.0***	6.9	5.3	***6.1***
Need for multi unit prosthesis		0.0	1.0	***0.5***	10.0	7.5	***8.8***	9.7	8.9	***9.3***
Need for combination of one and/or MUP		0.5	0.0	***0.3***	10.0	14.8	***12.4***	31.2	28.8	***30.0***
Need for full prosthesis		0.0	0.0	***0.0***	0.0	1.5	***0.8***	31.0	32.5	***31.8***
Region 2	**n=**	**112**	**109**	***221***	**110**	**111**	***221***	**116**	**103**	***219***
With Prosthetic need		4.8	4.9	***4.9***	40.0	41.6	***40.8***	49.9	56.3	***53.1***
Need for one unit prosthesis		1.9	3.0	***2.5***	8.8	6.8	***7.8***	0.9	2.1	***1.5***
Need for multi unit prosthesis		1.0	0.0	***0.5***	6.8	9.7	***8.3***	4.6	5.2	***4.9***
Need for combination of one and/or MUP		1.9	2.0	***2.0***	22.5	24.2	***23.4***	28.7	31.3	***30.0***
Need for full prosthesis		0.0	0.0	***0.0***	2.0	1.0	***1.5***	15.7	17.7	***16.7***
State Rural	**n=**	**212**	**211**	**423**	**214**	**209**	**423**	**213**	**211**	**424**
With Prosthetic need		5.1	6.6	***5.8***	44.3	51.2	***47.8***	86.4	83.6	***85.0***
Need for one unit prosthesis		3.3	4.7	***4.0***	11.6	12.9	***12.3***	4.8	5.2	***5.0***
Need for multi unit prosthesis		0.4	1.0	***0.7***	12.6	10.9	***11.8***	10.4	8.0	***9.2***
Need for combination of one and/or MUP		1.4	0.9	***1.2***	19.2	25.5	***22.4***	41.1	37.1	***39.1***
Need for full prosthesis		0.0	0.0	***0.0***	0.9	1.9	***1.4***	30.1	33.2	***31.7***
State Urban	**n=**	**105**	**103**	**208**	**101**	**104**	**205**	**103**	**102**	**205**
With Prosthetic need		2.1	2.1	***2.1***	3.2	4.1	***3.7***	27.3	36.9	***32.1***
Need for one unit prosthesis		2.1	2.1	***2.1***	2.1	2.1	***2.1***	5.3	2.1	***3.7***
Need for multi unit prosthesis		0.0	0.0	***0.0***	0.0	2.1	***1.1***	2.1	7.4	***4.8***
Need for combination of one and/or MUP		0.0	0.0	***0.0***	1.1	0.0	***0.6***	4.2	11.6	***7.9***
Need for full prosthesis		0.0	0.0	***0.0***	0.0	0.0	***0.0***	15.8	15.8	***15.8***
State Total	**n=**	**317**	**314**	**631**	**315**	**313**	**628**	**316**	**313**	629
With Prosthetic need		4.2	5.3	***4.8***	32.7	37.4	***35***	69.4	70.2	***69.8***
Need for one unit prosthesis		2.9	4.0	***3.5***	8.9	9.7	***9.3***	4.9	4.3	***4.6***
Need for multi unit prosthesis		0.3	0.7	***0.5***	9.1	8.3	***8.7***	8.0	7.9	***8.0***
Need for combination of one and/or MUP		1.0	0.6	***0.8***	14.1	18.0	***16.1***	30.5	29.8	***30.2***
Need for full prosthesis		0.0	0.0	***0.0***	0.6	1.4	***1.0***	26.0	28.2	***27.1***

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

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

Prosthetic Need (Lower)		15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T
Region 1	**n=**	**205**	**205**	***410***	**205**	**202**	***407***	**200**	**210**	***410***
With Prosthetic need		6.5	6.5	***6.5***	39.6	44.0	***41.8***	81.7	79.1	***80.4***
Need for one unit prosthesis		4.5	5.5	***5.0***	13.8	10.6	***12.2***	5.8	4.1	***5.0***
Need for multi unit prosthesis		0.5	0.5	***0.5***	11.4	15.0	***13.2***	12.7	10.6	***11.7***
Need for combination of one and/or MUP		1.5	0.5	***1.0***	14.5	15.8	***15.2***	30.1	33.8	***32.0***
Need for full prosthesis		0.0	0.0	***0.0***	0.0	2.6	***1.3***	33.0	30.6	***31.8***
Region 2	**n=**	**112**	**109**	***221***	**110**	**111**	***221***	**116**	**103**	***219***
With Prosthetic need		3.8	4.9	***4.4***	36.1	36.7	***36.4***	46.2	56.3	***51.3***
Need for one unit prosthesis		1.9	3.0	***2.5***	6.8	3.9	***5.4***	0.9	1.0	***1.0***
Need for multi unit prosthesis		1.0	1.0	***1.0***	9.8	9.7	***9.8***	3.7	4.2	***4.0***
Need for combination of one and/or MUP		1.0	1.0	***1.0***	16.6	22.2	***19.4***	25.9	30.2	***28.1***
Need for full prosthesis		0.0	0.0	***0.0***	2.9	1.0	***2.0***	15.7	20.9	***18.3***
State Rural	**n=**	**212**	**211**	***423***	**214**	**209**	***423***	**213**	**211**	***424***
With Prosthetic need		8.0	8.0	***8.0***	50.2	56.3	***53.3***	86.1	87.9	***87.0***
Need for one unit prosthesis		5.2	6.2	***5.7***	14.1	11.1	***12.6***	3.3	2.4	***2.9***
Need for multi unit prosthesis		0.9	0.9	***0.9***	14.0	16.7	***15.4***	12.8	10.5	***11.7***
Need for combination of one and/or MUP		1.9	0.9	***1.4***	20.9	25.6	***23.3***	38.4	42.4	***40.4***
Need for full prosthesis		0.0	0.0	***0.0***	1.3	2.9	***2.1***	31.6	32.6	***32.1***
State Urban	**n=**	**105**	**103**	***208***	**101**	**104**	***205***	**103**	**102**	***205***
With Prosthetic need		0.0	1.0	***0.5***	9.6	7.3	***8.5***	30.5	34.8	***32.7***
Need for one unit prosthesis		0.0	1.0	***0.5***	5.4	2.1	***3.8***	6.3	5.3	***5.8***
Need for multi unit prosthesis		0.0	0.0	***0.0***	3.2	5.2	***4.2***	2.1	4.2	***3.2***
Need for combination of one and/or MUP		0.0	0.0	***0.0***	1.1	0.0	***0.6***	5.3	9.5	***7.4***
Need for full prosthesis		0.0	0.0	***0.0***	0.0	0.0	***0.0***	16.8	15.8	***16.3***
State Total	**n=**	**317**	**314**	***631***	**315**	**313**	***628***	**316**	**313**	***629***
With Prosthetic need		5.7	6.0	***5.9***	38.7	41.9	***40.3***	70.1	72.6	***71.4***
Need for one unit prosthesis		3.7	4.7	***4.2***	11.6	8.4	***10.0***	4.2	3.2	***3.7***
Need for multi unit prosthesis		0.7	0.7	***0.7***	10.9	13.3	***12.1***	9.7	8.7	***9.2***
Need for combination of one and/or MUP		1.3	0.7	***1.0***	15.3	18.0	***16.7***	28.8	32.9	***30.9***
Need for full prosthesis		0.0	0.0	***0.0***	1.0	2.0	***1.5***	27.3	27.8	***27.6***

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

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

Prosthetic need for full denture (upper & lower arch)		35-44 years			65-74 years		
		M	F	T	M	F	T
Region 1	**n=**	**201**	**198**	***399***	**197**	**209**	***406***
Percent subjects needing full mouth removable denture		0.0	1.6	***0.8***	27.4	28.7	***28.1***
Region 2	**n=**	**58**	**59**	***117***	**60**	**55**	***115***
Percent subjects needing full mouth removable denture		3.5	0.0	***1.8***	23.3	30.9	***27.1***
State Rural	**n=**	**211**	**207**	***418***	**209**	**211**	***420***
Percent subjects needing full mouth removable denture		0.9	1.5	***1.2***	25.9	29.4	***27.7***
State Urban	**n=**	**48**	**50**	***98***	**48**	**53**	***101***
Percent subjects needing full mouth removable denture		0.0	0.0	***0.0***	29.2	28.3	***28.8***
State Total	**n=**	**259**	**257**	***516***	**257**	**264**	***521***
Percent subjects needing full mouth removable denture		0.7	1.2	***1.0***	26.5	29.2	***27.9***

6.6.6 Community need for immediate care and referrals

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

Overall, life threatening conditions were not prevalent in the state and appeared only in 0.5%, 0.6% and 0.6% of subjects aged 5 years, 35-44 years and 65-74 years respectively. The condition 'pain or infection' was reported in 0.7% (12 year old subjects) to a maximum of 2% (65-74 year old subjects). Other conditions (unspecified) were reported in 0.2 to 0.5 percent subjects in various age groups. Referrals were made for almost all of the conditions recorded.

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 : Uttar Pradesh

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=**	**209**	**195**	***404***	**204**	**201**	***405***	**204**	**203**	***407***	**204**	**201**	***405***	**198**	**207**	***405***
Life threatening condition		0.5	1.1	***0.8***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.4	0.0	***0.2***	0.5	0.5	***0.5***
Pain or infection		0.5	0.5	***0.5***	0.0	0.5	***0.3***	0.5	0.5	***0.5***	0.5	0.0	***0.3***	1.0	1.5	***1.3***
Other condition		0.5	1.1	***0.8***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
Referral		0.5	0.5	***0.5***	0.0	0.5	***0.3***	0.5	0.5	***0.5***	1.0	0.0	***0.5***	1.0	0.5	***0.8***
Region 2	**n=**	**115**	**105**	***220***	**108**	**110**	***218***	**112**	**107**	***219***	**110**	**111**	***221***	**113**	**101**	***214***
Life threatening condition		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	2.0	1.0	***1.5***	1.8	0.0	***0.9***
Pain or infection		1.7	1.0	***1.4***	0.8	2.0	***1.4***	4.5	2.9	***3.7***	6.5	3.7	***5.1***	3.7	3.2	***3.5***
Other condition		0.0	0.0	***0.0***	0.0	1.0	***0.5***	0.0	0.0	***0.0***	0.0	1.0	***0.5***	0.0	0.0	***0.0***
Referral		1.7	1.0	***1.4***	0.8	2.0	***1.4***	1.6	1.9	***1.8***	4.7	3.7	***4.2***	2.7	3.2	***3.0***
State Rural	**n=**	**220**	**200**	***420***	**211**	**210**	***421***	**211**	**210**	***421***	**214**	**208**	***422***	**210**	**207**	***417***
Life threatening condition		0.5	1.0	***0.8***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.9	0.5	***0.7***	0.4	0.5	***0.5***
Pain or infection		0.9	1.0	***1.0***	0.0	1.4	***0.7***	1.8	1.4	***1.6***	2.7	1.4	***2.1***	2.3	2.8	***2.6***
Other condition		0.5	1.0	***0.8***	0.0	0.4	***0.2***	0.0	0.0	***0.0***	0.0	0.5	***0.3***	0.0	0.0	***0.0***
Referral		0.9	1.0	***1.0***	0.0	1.4	***0.7***	0.5	0.9	***0.7***	2.2	1.4	***1.8***	1.4	1.9	***1.7***
State Urban	**n=**	**104**	**100**	***204***	**101**	**101**	***202***	**105**	**100**	***205***	**100**	**104**	***204***	**101**	**101**	***202***
Life threatening condition		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	1.1	0.0	***0.6***	2.0	0.0	***1.0***
Pain or infection		0.9	0.0	***0.5***	0.9	0.0	***0.5***	1.8	0.9	***1.4***	1.8	0.9	***1.4***	0.9	0.0	***0.5***
Other condition		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
Referral		0.9	0.0	***0.5***	0.9	0.0	***0.5***	1.8	0.9	***1.4***	2.0	0.9	***1.5***	2.0	0.0	***1.0***
State Total	**n=**	**324**	**300**	***624***	**312**	**311**	***623***	**316**	**310**	***626***	**314**	**312**	***626***	**311**	**308**	***619***
Life threatening condition		0.3	0.7	***0.5***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.9	0.3	***0.6***	0.9	0.3	***0.6***
Pain or infection		0.9	0.7	***0.8***	0.3	1.0	***0.7***	1.8	1.3	***1.6***	2.4	1.2	***1.8***	1.9	2.0	***2.0***
Other condition		0.3	0.7	***0.5***	0.0	0.3	***0.2***	0.0	0.0	***0.0***	0.0	0.3	***0.2***	0.0	0.0	***0.0***
Referral		0.9	0.7	***0.8***	0.3	1.0	***0.7***	0.9	0.9	***0.9***	2.2	1.2	***1.7***	1.6	1.3	***1.5***

NATIONAL
ORAL
HEALTH
SURVEY

DENTAL COUNCIL OF
INDIA

2004

ANNEXURES

DENTAL COUNCIL OF INDIA

EXECUTIVE COMMITTEE

Dr. R K Bali
President
New Delhi

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

Dr. Anil Kohli
New Delhi

Dr. Ravindra Ratolikar,
Hyderabad

Dr. S. G. Damle
Mumbai

Dr. B. H. Sripathi Rao
Mangalore.

Dr. J. R. Sabharwal
New Delhi

Dr. S. P. Agarwal,
New Delhi

OUTGOING MEMBERS

Dr. Mahesh Verma, New Delhi.

Dr. V. Surindra Shetty, Mangalore.

Dr. B. Suresh Chandra, Mangalore.

SUPPORT STAFF

Mr. A. L. Miglani, Secretary (Retd.)
Mr. S.S. Arora, Secretary I/c.
Mr. C.L. Bhatia
Mr. K. V. Abraham
Mr. P. K. De

Mr. Shiv Kumar
Mr. Praveen Kumar
Mr. S. S. Kanyal
Mr. Puneet Bansal
Mr. Anil Kumar

NOHS SECRETARIAT

Mrs. Sarita Verma

ANNEXURE - 1

CENTRAL SURVEY TEAM

Dr. R. K. Bali

Dr. V. B. Mathur

Prof. P. P. Talwar

Mr. H. B. Chanana

ANNEXURE - 2

TECHNICAL WORKING GROUP

Dr. R. K. Bali, President, DCI

Dr. V.B. Mathur

Dr. Shankar Aradhya

Dr. K.V.V. Prasad

Dr. M.B. Aswathnarayana

Prof. P.P. Talwar

Dr. Amrit Tiwari

LIST OF STATES, REGIONS WITHIN STATES AND SELECTED DISTRICTS

ANNEXURE - 3

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

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

ANNEXURE - 4

LIST OF PARTICIPATING DENTAL COLLEGES

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

ANNEXURE - 5

REGIONAL COORDINATORS

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

ANNEXURE - 6

TEAM MEMBERS (UTTAR PRADESH)

S. No.	Name	Designation
1.	Dr. R.K. Pandey	Regional Coordinator
2.	Dr. Nishi Gupta	Supervisor
3.	Mr. Mohammad Mustehsah	Hygienist

ANNEXURE - 7

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

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

DATE / तिथि | | | | | 0 | 2 | (DAY) (MONTH) (YEAR)

FORM NO. फार्म संख्या | 1 | 0 | (1-2)

STATE / राज्य | | | (6-7)

TEAM NO. दल संख्या (टीम) | | | | (3-5)

ZONE / क्षेत्र (ज़ोन) | | | (8-9)

DISTRICT / जिला | | (10)

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

VILLAGE CODE **R / U** / आर/यू | **R = 1** **U = 2** | 1 | 2 | (13)
R U

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

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

NAME OF SPOUSE _____
पत्नी का नाम

ADDRESS OF THE HOUSEHOLD _____
घर का पता

_____

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

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

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

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

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

FORM NO. फार्म संख्या | 1 | 1 |

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

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

B. FOOD HABITS / खाद्य सम्बन्धी आदतें

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

FORM NO. फार्म संख्या | 1 | 2 |

S. No./ क्रम सं.	Question / प्रश्न	Response / उत्तर	Code/कोड		Interviewee's Age / साक्षात्कार देने वाले की आयु					
					5 Yrs. / 5 वर्ष	12 Yrs. / 12 वर्ष	15 Yrs. / 15 वर्ष	35-44 Yrs./ 35–44 वर्ष	65-74 Yrs./ 65–74 वर्ष	
A. 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			A S K E D	A S K E D				(70-74)
25.	How often do you read a Newspaper? / आप समाचार–पत्र कब पढ़ते है?	Daily ..... 1 प्रतिदिन Sometime ..... 2 कभी–कभी Not at all ..... 3 कभी नहीं			B E	B E				(75-79)
26.	How often do you listen to Radio? / आप रेडियो कब सुनते हैं?	Daily ..... 1 प्रतिदिन Sometime ..... 2 कभी–कभी Not at all ..... 3 कभी नहीं			O	O				(80-84)
27.	How often do you watch to TV? / आप टी वी कब देखते हैं?	Daily ..... 1 प्रतिदिन Sometime ..... 2 कभी–कभी Not at all ..... 3 कभी नहीं			T T T	T T T				(85-89)
28.	How often do you watch Cinema in a Hall? / आप सिनेमा हाल में कब देखते हैं? (Tick One)	Once in 3 months ..... 1 3 माह में एक बार Less often ..... 2 बहुत कम Not at all ..... 3 कभी नहीं			N O	N O				(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 In Between Meals ..... भोजन के समय के बीच During & In Between Meals ..... भोजन के समय व बीच में N.A. / लागू नहीं होता	1 2 3 4							(125-129)

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

S. No./ क्रम सं.	Question / प्रश्न	Response / उत्तर	Code/कोड		5 Yrs. / 5 वर्ष	12 Yrs. / 12 वर्ष	15 Yrs. / 15 वर्ष	35-44 Yrs./ 35–44 वर्ष	65-74 Yrs./ 65–74 वर्ष	
40.	***Check tooth paste/powder used and record whether it is fluoridated or non-fluoridated?*** प्रयुक्त किये गए टूथ पेस्ट/पाउडर को चैक करें व लिखें वह फ्लोराइड–युक्त है या फ्लोराइड रहित?	***Fluoridated*** ..... फ्लोराइड–युक्त ***Non-Fluoridated*** ..... फ्लोराइड–रहित ***Can't Say*** ..... कह नहीं सकता ***None***	***1*** ***2*** ***3*** ***4***							(150-154)
41.	***(Ask only if code in Q. 36 was 2.)*** ***How often do you change your toothbrush?*** आप अपना टूथ ब्रश कितने समय बाद बदलते हैं?	***1-3 months/*** 1–3 माह ..... ***4-6 months/*** 4–6 माह ..... ***6 + months/*** ..... 6 से अधिक ***NA (Not using/ Brush)***	***1*** ***2*** ***3*** ***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*** ..... कभी नहीं ***Sometimes*** ..... कभी–कभी ***Always*** ..... सर्वदा	***1*** ***2*** ***3***							(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*** ..... डेन्टल फ्लॉश ***Interdental Brush*** ..... इन्टरडेन्टल ब्रुश ***Toothpicks*** ..... टूथ पिक्स ***Fluoride Mouthrinse*** ..... फ्लोराइड माउथरिन्स ***Other*** ..... ***Mouthwash/Rinse (Specify)*** अन्य माउथवाश/रिन्स लिखें ***None/*** कोई नहीं	***1*** ***2*** ***3*** ***4*** ***5*** ***6***							(165-184)

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

E. Pattern of Practices for Dental Treatment

द. दंत–चिकित्सा के तरीके

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

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

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

F. Awareness and Knowledge of Dental Health Problems

एफ. दंत–स्वास्थ्य समस्याओं की जानकारी व जागरूकता

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

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

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

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

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

DENTAL COUNCIL OF INDIA, NEW DELHI

NATIONAL ORAL HEALTH SURVEY & FLUORIDE MAPPING

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

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

FORM NO. 2 0 (1-2)

STATE (6-7)

ZONE (8-9)

TEAM NO. (3-5)

DISTRICT (10)

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

CODE

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

SERIAL NO. OF HOUSEHOLD VISITED (14-16)

NAME OF HEAD OF HOUSEHOLD Mr. / Mrs. _____

NAME OF SPOUSE _____

ADDRESS OF THE HOUSEHOLD _____

_____

EXAMINER _____ (NAME) (SIGN)

RECORDER _____ (NAME) (SIGN)

NAME OF INTERVIEWER _____ (NAME) (SIGN)

FIELD CHECKED BY _____ (NAME) (SIGN)

SCRUTINISED BY _____ (NAME) (SIGN)

CHECKED BY _____ (NAME) (SIGN)

WHO ORAL HEALTH ASSESSMENT FORM (1997)

GENERAL INFORMATION

Name .....

Date of birth (17) Year Month (20)

Age in years (21) (22)

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

Ethnic group (24)

Occupation (25)

Geographical location (26) (27)

Location type : (28)

1 = Urban
2 = Periurban
3 = Rural

OTHER DATA (specify and provide codes)

..... (29)

..... (30)

CONTRAINDICATION TO EXAMINATION

Reason..... (31)

..... 0 = No 1 = yes

CLINICAL ASSESSMENT

(32)

EXTRA-ORAL EXAMINATION

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

TEMPOROMANDIBULAR JOINT ASSESSSMENT

SYMPTOMS
0 = NO
1 = Yes
9 = Not recorded

(33)

SIGNS
0 = No
1 = Yes
9 = Not recorded

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

ORAL MUCOSA

CONDITION

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

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

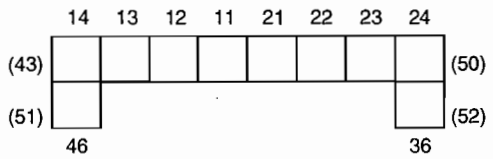
LOCATION

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

ENAMEL OPACITIES/HYPOPLASIA

Permanent teeth

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



LOSS OF ATTACHMENT*

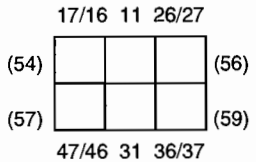
0 = Normal
1 = Questionable
2 = Very mild
3 = Mild
4 = Moderate
5 = Severe
8 = Excluded
9 = Not recorded

(53)

COMMUNITY PERIODONTAL INDEX (CPI)

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

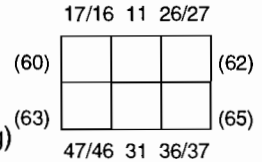
*Not recorded under 15 years of age



LOSS OF ATTACHMENT*

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

*Not recorded under 15 years of age



DENTITION STATUS AND TREATMENT NEED

Identification Number

		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

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

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

PROSTHETIC NEED

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

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

DENTOFACIAL ANOMALIES

DENTITION

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

SPACE

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

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

[ ] (170)
Diastema in mm

[ ] (171)
Largest anterior maxillary irregulaity in mm

[ ] (172)
Largest anterior mandibular irregularity in mm

OCCLUSION

[ ] (173)
Anterior maxillary overjet in mm

[ ] (174)
Anterior mandibular overjet in mm

[ ] (175)
Vertical anterior openbite in mm

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

NEED FOR IMMEDIATE CARE AND REFERRAL

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

0 = Absent
1 = Present
2 = Not recorded

Referral
0 = No
1 = Yes
9 = Not recorded
[ ] (180)

NOTES