National Oral Health Survey & Fluoride Mapping 2002-2003

ASSAM

Dental Council of India
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NATIONAL ORAL HEALTH SURVEY & FLUORIDE MAPPING

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ABBREVIATIONS & ACRONYMS

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

States & Union Territories

AP	Andhra Pradesh
ASM	Assam
GUJ	Gujarat
HR	Haryana
HP	Himachal Pradesh
JK	Jammu & Kashmir
KAR	Karnatka
KER	Kerala
MP	Madhya Pradesh
MAH	Maharashtra
ORI	Orissa
PB	Punjab
RAJ	Rajasthan
TN	Tamil Nadu
U P	Uttar Pradesh
CH	Chandigarh
DEL	Delhi
GOA	Goa
PY	Pondicherry

FOREWORD

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

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

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

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

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

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

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

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

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

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

Dr R. K. Bali

President, Dental Council of India.

July 2004.

PREFACE

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Dr. R. K. Bali

Dr. V. B. Mathur

Prof. P. P. Talwar

H.B. Chanana

July 2004.

ACKNOWLEDGEMENTS

I would like to offer my sincere regards to my principal, Dr. P. D. Borah, without whom this project would not have seen the light of the day. My love and sincere thanks to my team members whose constant energy and hard work were of utmost importance. My special thanks to Dr. Liza Pathak, the supervisor of the project. This thanks giving would be incomplete without mentioning the name of Mr. P.K.Dutta, Hon'ble Chief Secretary of Assam, Mr. B. K.Gohain, Hon'ble Home Secretary, Mr. A K. Absar Hazarika, Deputy Commissioner, Kamrup, Mr. Robi Kota, Deputy Commissioner, Jorhat, Mrs. Dipti Deuri Borah, Dy Secretary, Health & F.W Deptt., who provided us all the help & support we needed.

I would particularly like to acknowledge the cooperation and support of the Gauhati Municipal Corporation, City Police and the officers of the Census Board.

This magnanimous survey work would not have been possible without the active and massive initiative of each and every member of DCI. I gratefully acknowledge the valuable inputs, resources and professional responsibilities of DCI and dedicated selfless services of the members to this endeavour.

My sincere gratitude and thanks to Dr. R.K.Bali, Dr. V. B.Mathur, Prof. P. P. Talwar, and Mr. H. B. Chanana, who all transformed their own experiences into valuable suggestions and guided us throughout the project work. We are really proud of our humble contribution in this great project of DCI, which is a part of a global effort towards taking the benefits of the noble profession of dentistry to the masses.

Dr. Rubi Kataki

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CHAPTER 0
EXECUTIVE SUMMARY

1. GENESIS

Oral health is a very important component of the general health of the people. However, it is one segment about which very little is known and the implications of which are not so clearly understood. The high prevalence of dental diseases, like dental caries, periodontal diseases, various stages of malocclusion, and lack of access to needed services, leads to significant absenteeism and economic loss, apart from ill-affects on the health of the person afflicted. The adverse effects of poor oral health make it important to take preventive measures and create the needed 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 the formulation of oral health policies and implementation of appropriate programmes to improve the awareness and knowledge of people on the preventive aspects of oral health, create needed services and train necessary dental manpower to meet those needs.

The Dental Council of India has been greatly concerned about this gap in knowledge and the resultant lack of appropriate policies and programmes. A need has long been felt to conduct an epidemiological study on oral health problems, which will also include a study of the related oral health practices and a mapping of fluoride levels in drinking water from various sources in the country, to help such concerns and issues. Such a study may help bring about a balance between the oral health needs of the people and the services provided. It could help plan and organise need-based services so that the level of oral health of the people could improve. The present study is a community-based survey with the objectives of assessment of (1) awareness and knowledge of people on 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.

Keeping this in view, the Dental Council of India undertook a national-level epidemiological study, "National Oral Health Survey and Fluoride Mapping," to assess oral health problems of the people and practices they adopt in this regard. The survey was initiated in 2002; the aim was to know the ground situation and 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:

- Prevalence of oral health problems,
- Fluoride levels in drinking water,
- Eating habits affecting oral health,

- Dental cleaning practices,
- Awareness and knowledge of people on factors affecting oral health, and
- Treatment-seeking behaviour of people for their oral health problems.

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

3. DESIGN OF THE SURVEY

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

3.1 Sample size

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

3.2 Sample selection

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

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

In the case of the urban sample of 105 households from a homogeneous region, eight blocks/wards were randomly selected from the selected district. From these eight blocks, 15 wards or census enumeration blocks (CEBs) were randomly selected (each CEB has a population similar to that of a ward). In the next stage, 7 households were selected from each CEB. Again, examination was to be done for 105 subjects from each age group (5, 12, 15, 35-44 and 65-74), with half of them being males and half females.

4. STUDY TOOLS

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

5. DATA COLLECTION

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

The quality of data was given utmost consideration. Besides a state coordinator, supervisors were appointed to move with the teams when went for data collection. The supervisors, who were senior members of the dental colleges, were given total responsibility for scrutiny and checking of the data. The data was scrutinized at three levels, in the field, in the state coordinator's office and at the central level, before processing.

Water samples were taken from the selected households for testing fluoride levels. Such tests for all water samples were conducted in a laboratory in Mumbai.

6. CALIBRATION AND TRAINING WORKSHOPS

A three-day calibration and training workshop was organized where all the coordinators and supervisors were given training in field logistics, data collection and standardization of the assessment of oral health problems. The last was very important and a very thorough training was given for it, so that all field teams adopted uniform assessment methods to record dental problems. Another workshop on report writing was organized in Mumbai to standardize the format of each state report.

7. AREA COVERAGE IN SURVEY

The National Oral Health Survey, was designed to cover all the three Agro-Climatic Regions of the state. But due to disturbed conditions in one of the region, only two regions Lower & Upper Brahamputra could be covered.

8. FINDINGS (FOOD HABITS AND ORAL HEALTH PRACTICES)

8.1 Characteristics of households surveyed

- All the households were almost evenly distributed between Pucca, semi Pucca and Kuccha houses. Pucca houses were more in urban areas (73 per cent).
- A majority of the households in both the regions (Lower and Upper Brahmaputra) reported their monthly expenditure to be between Rs. 2,501 and Rs. 5,500. .
- About 90 per cent of the population comprised Hindus and 9 per cent Muslims. Scheduled Caste population was 22 per cent, followed OBCs at 15 per cent. These population groups were present in lesser numbers in the urban areas. More scheduled caste people lived in Lower Brahmaputra while the Upper Brahmaputra had more Scheduled Tribes and OBCs.
- The staple food was rice, with almost 97 per cent of the people being non-vegetarians.
- Almost 50 per cent of the subjects said their source of water supply was tubewells and handpumps.

8.2 Profile of population surveyed

- Literacy was very high in the younger population while in the 65-74 age group, only 46 per cent females, more in urban areas and more among males, were literate.
- About 18-25 per cent males read newspapers daily; this percentage was very high in urban areas –almost 80 per cent in the age group 35-44 years and 65 per cent in the 65-74 age group. It was also quite high among females in urban areas though this was less than that for males.
- The habit of listening to Radios on a daily basis was quite low – this was the highest among people in the 35-44 age group (18 per cent for males and 14 per cent for females). Against this, TV watched by a greater number – 20-30 per cent, though this was lower in the rural areas and higher in the urban areas.
- Few people went to the cinema halls.

8.3 Abnormal habits across age groups

- About 4 per cent children in 5-year age group across both sexes reported the habit of grinding and gritting teeth. No other age group reported any other abnormality, except about 1 per cent subjects in the 65-74 age group reported the same abnormality.

8.4 Eating habits across age groups

- About 13-14 per cent of the subjects, across all ages and sexes & more in urban area reported taking sugar once in the last one day. About 4-5 percent had taken sugar two or more times. More sugar in take was reported in Lower Brahamputra than in Upper Brahamputra region.

8.5 Oral hygiene practices across age groups

- The practice of cleaning teeth was universal.
- About 70 to 75 per cent age in all groups, except 58 percent in the age group 65-74 years, across both sexes and more in urban areas reported using toothbrush to clean their teeth. It was so in both the regions.
- About 70 to 75 per cent, across both sexes and more in rural areas cleaned their teeth once a day. More people reported cleaning them twice in urban areas.
- About 62 to 67 per cent, across ages and sexes, and more in the urban areas reported the use of toothpaste. Usage was more in Lower Brahmaputra than in Upper Brahmaputra.
- About 60 per cent, across all ages and both sexes, and more in rural areas reported the use of non-fluoridated toothpaste/powder. Lower Brahmaputra reported greater use of fluoridated toothpaste/powder than Upper Brahmaputra.
- About 20 per cent, across all ages, more males and more in urban areas changed tooth brush once in 1-3 months. The change was less frequent in rural areas – four to six months or even after six months. Change in toothbrush was less frequent in Lower Brahmaputra than in Upper Brahmaputra.
- About two-thirds of the respondents, across all ages and both sexes, and more in urban areas reported rinsing their mouth after every meal. This percentage was higher in Upper Brahmaputra than in Lower Brahmaputra.

8.6 Dental problems and treatment practices across age groups

- Around 45 per cent aged 15-year & below and about 55 per cent aged over 35-years reported suffered from oral health problems in the last one year. This was the case across both sexes and more in rural areas and was similar in both the Regions. Almost all who reported oral health problem said this was dental decay. The problem of gum disease was reported by about one-quarter of those affected aged 15-years & below and 60-80 per cent in higher age groups. Fifty per cent in higher age groups (35+) also reported problems of foul breath.
- Only 2-3 per cent subjects, across all ages, consulted trained dentist in the state as well as in both Regions. About one-third subjects, across all ages and both sexes, but more in rural areas reported the availability of governmental dental care facility. Against this, more urban respondents were aware of private facilities.
- 3. Respondents in urban areas reported less than half-an-hour to reach the private dental health facilities. In rural areas, more respondents reported half to one hour. About 20 per cent even reported more than one hour to reach the dental facility.

8.7 Awareness of dental health problems across age groups

- About 88 per cent subjects across all ages and both sexes, but more in urban areas were aware of oral health problems in the state as well as in each Region.

- About one-third of respondents were not aware of the factors that could cause oral health problems.
- About 65-70 per cent, across all ages and both sexes, but more in urban areas were aware of the factors that could cause oral health problems in the state as well in both the Regions. Most of them reported "not brushing regularly" (60-70 per cent), followed by "eating sweets/Ice cream" as two important factors (13-20 per cent). In the urban areas, a small percentage reported tobacco as a factor causing oral health problems.

8.8 Tobacco smoking and chewing habits across age groups

1. About 9 per cent, more males and more in rural areas, and across all ages, had the habit of smoking in the state. No differences were found between the two Regions. About one-third of them, more males and more in rural areas, smoked Bidis. This was followed by the Cigarette smokers and they were in the urban areas. Fortunately, almost all smokers, across both sexes and place of residence, smoked less than 10 times a day.
2. About 9-10 per cent, across all ages and place of residence, but more males said they chewed pan or pan masala with tobacco. About three-fourths of them, across all ages and both sexes and place of residence, said they had been taking it for more than five years.
3. About 7 per cent, across all ages, but more males and more in rural areas, said they drank alcohol in the state as well as in each Region.

9. FINDINGS (ORAL HEALTH ASSESSMENT)

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

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

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

9.1 Dental caries

- Overall, the mean number of teeth present in the mouth decreased as age advanced. In the 65-74 year age group, the mean number of teeth present was 14.1, a loss of more than half of the normally present 32 teeth in an average individual. About 14 per cent subjects across both sexes in the 65-74 age group (87 out of 616) were edentulous or without natural teeth.

- The prevalence of caries in children aged 5 years age group (primary teeth) was a high 68.9 per cent. The prevalence of caries in permanent teeth was 68.1 and 69.6 per cent in children aged 12 and 15 years respectively. It was 76 and 88 per cent in the 35-44 and 65-74 year age groups, respectively.

- In the 5-year olds, where only primary teeth are present, the mean dmft value was 1.3. The decayed teeth (dt) component contributed to the whole of dmft value in this age group. The mean DMFT appeared to rise steadily as age advanced and was the highest for the 65-74 age group (12.7 and 13.8 in male and female subjects, respectively). The decayed teeth (DT) component contributed the most to the DMFT in the 12, 15 and 35-44 year age groups. In the 65-74 age group, the missing teeth component (MT) contributed the most. The pattern of distribution of the components of DMFT was similar in rural and urban areas. There were no major gender stated differentials or between other regions.

- The SIC Index, which provides a measure of the mean DMFT of one-third of the subjects with the highest mean scores of DMFT, was consistently high across all age groups, being about two times more than DMFT value across age groups.

- The proportion of subjects with root caries was approximately 6 per cent and 10 per cent for the 35-44 and 65-74 age groups, respectively. There were no subjects with root fillings.

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

9.2 Treatment need

- Treatment was needed in 66.6 per cent (69.4 and 63.8 per cent of male and female subjects respectively) in children aged 5 years. This percentage was the highest for the 65-74 age group (87.5 per cent), in which 89 per cent males and 86 per cent females needed treatment. The mean number of teeth needing treatment was the highest (13.7) in the 65-74 age group (12.7 in males and 14.0 in females) and the lowest for subjects in the 12-year age group (2.6). The picture was similar for rural and urban areas and between regions.

- The most prevalent treatment need was for one or more surface fillings (ranging from 62 to 67 per cent subjects in the 5, 12, 15 and 35-44 year age groups) followed by the need for extractions, pulp care and crowns/veneers, in that order. In the 65-74 year age group, the greatest need was for extractions (about 32 per cent subjects), followed by one or more surface fillings (21 per cent). Besides, there was a high prevalence of other but unspecified need (about 67 per cent).

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

9.3 Periodontal status

- The periodontal status was assessed using the Community Periodontal Index (CPI), with its three indicators of gingival bleeding, calculus and periodontal pockets. In addition, the loss of attachment was also measured to indicate the status of periodontal health.
- The prevalence of periodontal disease was generally high: from about 68 per cent in the 15-year age group to about 88 per cent in the 35-44 age group.
- It appeared that bleeding was the most prevalent condition followed by calculus across all age groups, except in the 65-74 age group, where calculus was the most prevalent (38 per cent). The prevalence of shallow and deep pockets was extremely low (0.2 to 0.6 per cent).
- The prevalence of periodontal disease, in general, tended to be slightly higher in rural areas compared to the urban areas. But the pattern of distribution of periodontal disease conditions (bleeding, calculus and pockets) was similar in both rural and urban areas and between regions.
- Overall, the prevalence of loss of attachment in one or more sextants was the lowest in the 15-year group and the highest in 65-74 year group. Across age groups and place of residence, what was most prevalent was the least severe form of loss of attachment (4-5 mm), followed by the more severe form of 6-8 mm.

9.4 Malocclusion status

- The Dental Aesthetic Index (DAI) recommended by the WHO was used to analyse the severity of malocclusion in the surveyed population.
- Overall, malocclusion was not widely prevalent in Assam. In children aged 12 and 15 years, only 2.2 and 3.2 percent subjects had malocclusion. Of these definite or severe malocclusion was found to range from over 1 per cent in 12-year-old males to nearly 4 per cent in 15-year-old female subjects. It seemed to increase in the 35-44 age group. Both rural and urban female subjects had a higher prevalence of definite and severe forms of malocclusion as compared to the male subjects.

9.5 Oral cancer and oral mucosal lesions

Oral cancer was detected in only one (0.1 per cent) female subject, who was from the urban area and in the 65-74 age group. The lesion was located in the mouth on the vermillion border. The precancerous lesion, Leukoplakia, was detected in 3 males (0.7 per cent) in the 35-44 age group and 2 females (0.5 per cent) in the 65-74 age group. This was seen in the sulci and buccal mucosa. Leukoplakia was equally distributed in rural and urban areas. The other occasionally present conditions were Ulceration and Abscess appearing on the buccal mucosa, tongue and alveolar ridges/gingiva.

9.6 Dental fluorosis status

The prevalence of dental fluorosis, especially moderate and severe forms, was quite low. Mild and very mild form of fluorosis was prevalent in 1 per cent females aged 12 years. The severe form was seen in less than 1 per cent male subjects in the 35-44 age group from the rural areas of the state.

9.7 Other lesions

9.7.1 Extra oral lesions

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

9.7.2 T M Joint symptoms and signs

The prevalence of T M Joint symptoms recorded was very low in all age groups, except in the 65-74 age group in which it was reported among nearly 8 per cent male and 7 per cent female subjects. The main symptoms of TM Joint disorder were clicking, tenderness and reduced jaw mobility.

9.7.3 Enamel defects (opacities, hypoplasia)

Overall, there was a very low, though even, prevalence of enamel defects by age groups and sex. The most prevalent enamel defect was demarcated opacity followed by diffuse opacity across all age groups. There were no major rural and urban, or male and female differentials in the pattern of distribution of enamel defects by type.

9.8 Prosthetic status and need

- The dental prosthetic status and the need for both upper and lower dental arches was recorded for subjects 15 years and older. The information was collected to assess the extent to which subjects were wearing or needing dental prostheses, including bridge, partial dentures and full dentures.
- There were no subjects wearing a prosthesis in the 15-year age group. The overall proportion of subjects wearing any type of prostheses in the upper arch was low though its need existed. The per cent subjects wearing prostheses increased as age advanced. But overall the need still remained low. About 10-11 per cent subjects in the 35-44 age group and 56 per cent in 65-74 age-group needed prostheses.
- Full denture prostheses were the most prevalent, followed by partial dentures in the 65-74 age group. In the 35-44 age group, partial denture was the most prevalent. The prevalence pattern of subjects wearing prostheses and their pattern of distribution by type of prostheses was similar in rural and urban areas and in regions.
- The most prevalent need seen in the 35-44 group was for one-unit prostheses followed by multi-unit prostheses. The most prevalent need in 65-74-year-old subjects was for multi-unit prostheses followed by full dentures. The need was similar for upper and lower arches, in rural and urban areas, between sexes and between regions.

9.9 Community need for immediate care and referrals

Overall, life threatening and painful or infective conditions were extremely low in the state: only 0.7 per cent of 5-year-old males, irrespective of area of residence, were reported with one or the other of these conditions. Pain or infection was recorded in about 35-40 per cent subjects in all age groups, except in the 65-74 group where the per cent was lower (29.5 per cent for males and 24.9 per cent for females). A higher proportion of rural subjects were affected. Referrals were made for almost all conditions recorded.

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

	Findings	Age in years				
		5	12	15	35-44	65-74
1.	**Oral disease conditions**					
1.1	Dental Caries					
	% Prevalence	68.9	68.1	69.6	78.1	90.3
	Mean DMFT	3.7	2.6	3.1	5.5	13.3
	SiC Index	7.1	5.1	6.0	10.2	25.8
1.2	Periodontal disease					
	Bleeding, calculus or pockets					
	% Prevalence	0.0	76.5	67.8	88.2	86.5
	Mean no of Sextants affected	0.0	2.1	3.9	4.9	3.7
1.3	Loss of attachment					
	% Prevalence	NA	NA	0.9	11.2	70.8
	Mean no of Sextants affected	NA	NA	0.1	0.4	2.8
1.4	Malocclusion (%)	0.4	2.2	3.2	5.9	NA
1.5	Dental Fluorosis (%)	0.0	1.0	0.3	0.3	0.1
1.6	Oral mucosal conditions	1	2	1	12	14
1.7	Oral Cancer	0	0	0	0	1
1.8	Edentulousness (%)	NA	NA	0.0	0.0	16.7
2	**Oral Health Practices**					
2.1	Sugar Intake in last 24 hours					
	Once	15.0	13.6	13.3	10.3	9.6
	Two & more times	4.1	4.9	4.3	2.3	0.8
2.2	Clean teeth with					
	Tooth Brush	72.4	74.7	75.1	74.5	58.1
	Fingers	26.1	23.3	23.6	23.8	38.5
2.3	Rinsing mouth					
	Always	61.4	63.7	62.6	68.1	68.2
	Sometimes	34.4	33.4	34.8	30.3	31.2
2.4	Tobacco smoking	NA	NA	NA	9.5	9.7
2.5	Frequency of tobacco smoking					
	Less than 10 times	NA	NA	NA	98.5	97.1
	10 or more times	NA	NA	NA	1.5	2.9

CHAPTER I

INTRODUCTION

1.1 BACKGROUND OF THE STATE

1.1.1 Geographical location

Assam is located in the heart of the country's north-eastern region (known as "the land of seven sisters") with a total land area of 78,438 sq. km. About 2.7 per cent of the country's total population resides in the state's 23 districts. Its capital is Dispur (Guwahati).

1.1.2 Population and demographic profile

In the 2001 Census, Assam had a population of 26.6 million, up from 14.6 million in the 1971 Census, 18.0 million in the 1981 and 22.4 million in the 1991 Census. The decadal growth rates have been fluctuating, though the overall trend has been one of decline – it was 35 per cent during 1961-71, 23 per cent in 1971-81 and increasing to 24 per cent in 1981-91. In 1991-2001, however, it declined to 19 per cent (an annual exponential growth rate of 1.73 per cent). This was lower than the 21 per cent recorded for India as a whole in 1991-2001 (an annual exponential growth rate of 1.93 per cent). In 2001, the population density in the state was 340 persons per sq. km compared to 324 in India.

The process of urbanisation in Assam has been slow - 9 per cent of its population was living in urban areas in 1971, increasing to 11 per cent in 1991 and to 12 per cent in 2001. This was much lower than the 28 per cent figure for the country.

The level of infant mortality rate in the state was 75 in 2000 (Sample Registration System); higher than 68 recorded for India. The sex ratio (females per 1000 males) in 2001 was 932 almost equal to 933 in India. Thirty-six per cent of its population is below the age of 15 years.

The level of crude birth rate in Assam was 26.9 in 2000; down from a high of 39 in 1971. This current level is slightly higher than 25.8 for the country. The level of crude death rate in the state was also higher – 9.6 in 2000 compared to 8.5 for India. Life expectancy during the 1996-2001 in the state was projected to be 57.3 years for males and 58.8 years for females. This is lower than that for India at 62.4 years for males and 63.4 years for females.

The level of couple protection rate (defined as percentage of eligible couples effectively protected against pregnancy by various methods of contraception) was also much lower in Assam (18 per cent) than India (45 per cent) in 1998. The increase in this has been slow over the years – 5 per cent in 1971, 28 per cent in 1991 and declining to 18 per cent in 1998.

1.1.3 Composition of population

Hindus formed 67 per cent of the total population of the state in 1991, Muslims 28 per cent and Christians only 3 per cent. Other religious group formed 2 per cent. This distribution in India is 82, 12, 2 and 4, respectively. Scheduled Caste population in the state was 7 per cent in 1991 and Scheduled Tribe 13 per cent. In contrast, these percentages at the national level are 16 and 8, respectively.

1.1.4 Socio-economic characteristics

In terms of educational levels, Assam is near the average for India, though females were more literate. According to the 2001 Census, the literacy rate among the population of age 7 years and above was 64 per cent, (76 per cent among males and 56 per cent females); in the case of India, this was 65 per cent (76 per cent males and 54 per cent females).

Assam is predominantly an agricultural state. The importance of various economic sectors in the economy has been changing. The contribution of the agricultural sector to the state domestic product declined from 44 per cent in 1980-81 to 35 in 1996-97. During the same period, the share of the manufacturing sector decreased from 7 to 6 per cent, with the contribution of the other sectors increasing from 49 to 59 per cent. At the time of the 1991

Census, the agricultural sector provided livelihood to 63 per cent of the labour force. The major agricultural crops include rice, sugarcane, wheat, jute, mustard and pulses.

Industry in Assam is not well developed. Major industries include paper, cement, and fertilizer, as well as some oil refining. The tea industry in Assam contributes 51 per cent of India's tea production. Assam's per capita income is lower than the national average; in recent years, this gap has widened. In 1998-99, Assam's per capita income was Rs. 8,393 compared to India's Rs. 14,682.

1.2 NEED FOR ORAL HEALTH SURVEY

1.2.1 Oral health problems

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

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

Oral diseases also have an adverse effect on other vital organs of the body. Pus oozing pockets in advanced periodontal disease in adults act as a focus of infection for other vital organs of body like the kidney, heart, lungs, brain, etc. Limited information available from micro-level studies suggests that 35-40 per cent of all body cancers are oral cancers. That is, incidence of simple oral morbidity becomes chronic and ultimately life threatening. One needs not only to take preventive

measures, but early curative steps as well. It is unfortunate that oral health has received much less attention perhaps because of its lower life threatening risk. Its role in quality of life has now been recognised and thus all efforts should be undertaken to improve the oral health of the people.

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

1.2.2 Lack of data for policies and manpower development

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

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

In conclusion, it was felt that two types of studies were needed. One, on the incidence/ prevalence of oral health problems and the knowledge and behavioural practices of people for the prevention/ treatment of such problems. Second, an assessment the existing facilities and infrastructure for their cost effectiveness and utilisation patterns. Such studies and their analysis, it was felt, would ultimately help in bringing about a balance between the needs and the services required to meet such needs.

1.3 INITIATIVE OF THE DENTAL COUNCIL OF INDIA

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

1.4 NATIONAL ORAL HEALTH SURVEY

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

1.4.1 Support of Government of India

The proposal to conduct a National Oral Health Survey was submitted to Ministry of Health & Family Welfare, Government of India for (i) seeking their formal approval, and (ii) grant of financial assistance and necessary logistical support. While the Government recognised the need and importance for national survey after several meetings between the President of the Dental Council of India and officials of the Ministry of Health & Family Welfare, it, however, could not provide financial assistance for the survey in view of its other more pressing commitments. However, the Ministry of Heath & Family Welfare agreed to support the Council's efforts to seek financial and technical support from other agencies.

1.4.2 Support from colgate India/International

The President of the Dental Council of India, Dr. R K Bali, subsequently approached Colgate India and Colgate International for funding this survey. After a series of meetings in New Delhi, Mumbai and in the US, the company management agreed to grant a major financial assistance for this national survey.

1.4.3 Support of individuals and dental colleges in India

The Dental Council of India did not have the manpower to manage such a large survey by itself and thus decided to undertake it in collaboration with dental colleges in India and the Indian Association of Public Health Dentistry (IAPHD). A bare minimum technical unit was set up for this purpose. It consisted of Dr. R.K. Bali as Chairman and Project Coordinator, Dr. V.B. Mathur

as Project Officer and Mr. H.B. Chanana as Statistician. Professor P.P.Talwar, an eminent expert in statistics and demography, was appointed as the consultant for survey methodology. **Annexure-1** Collectively, they formed the Central Survey Team for the National Oral Health Survey & Fluoride Mapping and were located in the office of the Dental Council of India in New Delhi. It was also decided that the Central Survey Team would involve Principals/ Deans/ Heads of Dental Colleges at Regional/ State levels and a few members of the IAPHD for technical development of the survey, data collection in their states and subsequently for report writing. This model was thought to be the best for inducing a sense of ownership and commitment among the dental colleges. Accordingly, the President of the Dental Council of India sent a copy of the proposal/ protocol of the National Oral Health Survey to these colleges, seeking their active support and participation. On their part, the colleges enthusiastically took part in the survey and generated, shared and pooled local level resources to supplement the grant for the survey. In fact, almost all resource persons and Deans/ Principals of the dental colleges agreed with his request and expressed willingness to participate in this national endeavour.

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

1.5 SCOPE OF THE SURVEY

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

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

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

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

- Prevalence of important oral health problems
- Fluoride mapping
- Dental cleaning practices

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

The survey also explored the association between oral health and its related practices.

1.6 OBJECTIVES

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

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

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

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

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

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

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

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

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

1.7 CHAPTERIZATION PLAN

The report for each state comprise of the following main chapters:

0 Executive Summary

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

CHAPTER II

METHODOLOGY AND DATA COLLECTION

2.1 BASIC CONSIDERATIONS IN SURVEY DESIGN

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

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

2.2 SAMPLE DESIGN

2.2.1 Sample size

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

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

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

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

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

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

As indicated above, though it was expected that 315 households from each region would yield a sample of 315 individuals each in the 5, 12, 15, 35-44 and 65-74 age groups. Instructions were, however, issued to the field teams that they should visit more households if there was shortfall in any category in the 315 selected households.

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

2.2.2 Selection of sample

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

2.2.2.1 Rural sample

In order to get a sample of rural households in a stratum (region), the three-stage sampling method was adopted. The first stage saw the selection of one district from the group of districts in that particular region; the second stage, involved selection of 15 villages from this selected district and the third, selection of 14 households from the villages so selected. The district was selected randomly. For the selection of 14 sample villages, all villages in the selected district were arranged in an array according to their size, so as to get a cumulative total of their population. This cumulative total array was then divided into three sections, each having equal population size. Five villages with probability proportional to the population size (pps) of the village were then selected from each of three sections. The list of villages were taken from the sampling frame developed for the Rapid Household Survey, a district-wise survey conducted by the Government of India and

coordinated by the International Institute for Population Sciences, Mumbai; the list was based on the 1991 Census. In the third stage, 14 or more households were selected randomly from a village (by dividing it into two equal parts) to get a sample of 14 respondents/ examinees from each of the five age groups – 5, 12, 15, 35-44 and 65-74, half of them being males. Thus, a sample of 210 or more households was selected to interview 14 members (half male and half female) in each of the five age groups of 5,12, 15, 35-44 and 65-74 years.

2.2.2.2 Urban sample

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

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

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

Table 2.1. Sample of rural/urban households by states and regions.

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 Assam

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

Code	Region	Districts	Sampled District	*Coverage as per design No. of Households*			*Actual Coverage No. of Households*		
				Rural	Urban	Total	Rural	Urban	Total
1	NE Hills	i) Karbi Anglong, ii) N Cachar	Karbi Anglong	210	105	315	Not Covered		
2	Lower Brahmaputra	i) Barpeta , ii) Bangaon iii) Dhubri, iv) Nowgong v) Darrang, vi) Kamrup vii) Golpara, viii) Kokrajar ix) Sonitpur, x) Nalgari xi) Mangaon	Kamrup	210	105	315	210	105	315
3	Upper Brahmaputra	i) Lakhimpur , ii) Sibsagar iii) Hailakanor, iv) Cachar v) Dibrugadh, vi) Jorhat viii) Karimganj, viii) Dhemaji ix) Tinankia, x) Gholaghat	Jorhat	210	105	315	210	105	315
Total	**3**	**23**	**3**	**630**	**315**	**945**	**420**	**210**	**630**

2.3 STUDY TOOLS

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

2.3.1 Oral health assessment form

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

2.3.2 Questionnaire on food habits and oral health practices

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

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

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

2.4 DATA COLLECTION

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

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

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

This Central Survey Unit worked out the fieldwork logistics to get maximum output at minimum cost. Based on the pre-test and the experience of the WHO Assessment Form, it was found that two field teams, each comprising two dentists and one worker having a social science background, could complete field work in one village – i.e. cover 14 or more households, involving interviews/ examinations of 14 individuals in each of the five age groups — in one day. The two dentists in the team had an inter-changeable role of examining the mouths of the respondents and completing the WHO Assessment Form, in order to reduce the fatigue factor. The worker with the social science background, the third member of the team, was to complete the questionnaire related to awareness and practices of the respondents related to dental health.

The quality of data was given utmost consideration. It was decided that supervisors would continuously move with the field teams to guide data collection work. They were to help the team select the households (as per the study design) whose members were to be interviewed/ examined, and also scrutinise the completed forms before

sending them to the state headquarters. In view of the limited resources available, it was decided that there would be one supervisor for every four field teams. This would enable them to accompany the teams alternately (as stated earlier, two teams were to travel together to collect data).

After working out logistics of the fieldwork, it was necessary to identify the teams in each state that would be involved in the survey. Three types of persons were needed from each state, a Coordinator, a Supervisor and dentists for the field teams. The former was to coordinate all survey activities at the state-level and liase with the Central Survey Unit. The Supervisor was to supervise and guide fieldwork activities, working under the overall direction of the Coordinator. The Coordinators were expected to be senior, experienced professionals having an inclination for research – principals, deans or professors of the Departments of Community Dentistry in various dental colleges. The Coordinators were selected by the Technical Committee for the survey, which then asked them to select their field team Supervisors — senior dental surgeons from dental colleges. **Annexure – 5**

These Coordinators and Supervisors were to identify the field teams. The number of field teams was to be equal to the number of homogeneous zones/ regions in the state so that each team could complete fieldwork in a district within two months. Again, the two-dentists/ dental surgeons/ interns for each team were to be from dental colleges in the state. This was not only to reduce costs but was also meant to give them 9 dentists with experience in oral examinations under the guidance of Supervisors.

2.5 CALIBRATION AND TRAINING

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

2.6 CLINICAL ASSESSMENT AND CONSIDERATIONS

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

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

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

1. Mouth mirrors, tweezers, curved double-ended probes and WHO CPI ball-ended probes.
2. Supplies of cotton rolls, masks and gloves, cold sterilizing solution, alcohol or spirit, instrument trays and chittle forceps. The cold sterilising solution was used in field conditions for the instruments, although these were previously boiled for 20-30 minutes.

3. Lightweight folding chair for clinical dental examination of subjects.

4. Torches and batteries.

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

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

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

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

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

1. Summary of Findings

2. Dental Caries Status and Treatment Need

3. Periodontal Disease Status

4. Malocclusion Status

5. Oral Cancers and other Oral Mucosal Lesions

6. Status of Dental Fluorosis

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

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

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

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

The status of malocclusion as presented is based on the Dental Aesthetic Index (DAI) scores for the 12, 15 and 35-44 year age groups, computed as per the WHO's instructions.

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

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

2.7 FLUORIDE ESTIMATION IN DRINKING WATER SAMPLES

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

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

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

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

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

The following modules were used to assemble the fluoride analyser:

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

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

2.8 FIELDWORK EXPERIENCES

2.8.1 Pre-fieldwork activity

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

It may be noted that Assam has been divided into three regions and the three districts selected, one from each. These were:

Region	Selected district
North Eastern Hills	Karbi Anglong
Lower Brahmaputra	Kamrup
Upper Brahmaputra	Jorhat

Field teams were formed to collect data from rural and urban areas of these districts. It was unfortunate that data could not be collected from the Karbi Anglong district due to terrorist activities in the region. This district could not be substituted by another from the same region due to the same reason. Thus, the results presented here do not cover North Eastern Hills of Assam. Since this region has only 3.6 per cent of the population of Assam, the results presented in this report are representative of 96.4 per cent population of Assam. While Lower Brahmaputra has been denoted as Region 1 in the tables, Upper Brahmaputra has been denoted as Region 2. **Annexure - 6**

2.8.2 Identification and training field teams

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

In the month of July, extensive training was given to the field teams. They were explained the questionnaire and logistics of the fieldwork. In order to make sure that these dentists followed the standardised methods of assessing and recording problems as decided in the Manipal training, the dentists were taken to the OPD of the Regional Dental College where they were given a thorough training on clinical examinations and on assessment of dental problems.

2.8.3 Fieldwork

After the classroom and dental college training, the teams were taken to the field to make sure that they had understood the method of selection of the households, interview the individuals, fill the questionnaires and undertake clinical examination of the dental problems. Once it was found that the teams had understood all the issues and were in a position to work independently, they were sent to the field.

Despite the extensive training, both in the class and in the field, the teams faced several initial problems. The Supervisors, who were accompanying the teams, helped them overcome these problems, acquire confidence and ensure smooth field operations.

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

In order to get cooperation from the respondents, the teams carried free samples of medicines and vitamins. These were distributed to the respondents to build the necessary equation with them. It was found that people in rural areas were more cooperative than those in the urban areas.

2.9 SCRUTINY OF DATA

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

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

2.10 DATA ANALYSIS

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

2.11 REPORT WRITING

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

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

CHAPTER III

BACKGROUND CHARACTERISTICS OF THE SURVEYED POPULATION

3.1 CHARACTERISTICS OF HOUSEHOLDS

As stated earlier, data could be collected from only two of the three regions of Assam that is Lower Brahmaputra and Upper Brahmaputra. The third region, where 3.6 per cent of the state's

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

	Household Charactersties		REGIONS		STATE		
			1	2	R	U	T
1	**Type of household**	n=	**502**	**403**	**577**	**328**	**905**
	Kuccha		34.5	31.7	38.8	1.2	33.6
	Semi Pucca		35.4	40.9	39.1	26.0	37.2
	Pucca		30.1	27.4	22.1	72.8	29.1
2	**Monthly expenditure (in Rs.)**						
	<= 2500		15.4	14.6	17.6	0.0	15.2
	2,501 - 5,500		54.7	55.6	60.8	19.7	55.0
	5,501 - 10,000		29.4	29.2	21.3	78.8	29.3
	10,000 +		0.5	0.5	0.3	1.6	0.5
3	**Religon**						
	Hindus		89.9	91.5	90.6	89.5	90.4
	Muslims		9.4	8.5	9.0	9.7	9.1
	Sikhs		0.1	0.0	0.0	0.4	0.1
	Christians		0.6	0.0	0.4	0.4	0.4
4	**Caste**						
	Scheduled Caste		25.5	15.9	24.8	7.2	22.4
	Scheduled Tribe		7.5	10.9	9.6	3.1	8.6
	Other Backward Classes		6.9	30.4	15.5	9.5	14.6
	Others		60.1	42.7	50.1	80.2	54.3
5	**Sources of drinking water**						
	Pipe/tap		11.7	41.0	11.3	83.5	21.1
	Tubewell/handpump		55.0	41.7	57.0	10.7	50.7
	Others		33.3	17.4	31.6	5.8	28.1
6	**Staple food**						
	Wheat		3.3	1.3	2.3	5.3	2.7
	Rice		93.9	98.7	97.7	94.7	97.3
7	**Nature of food**						
	Vegetarian		2.9	3.4	1.4	13.5	3.1
	Non-vegetarian		97.1	96.6	98.6	86.5	96.9

population resided, could not be covered because of terrorist activities. All tables and text in this report, therefore, represent the situation of the two regions; Region 1 Lower Brahmaputra and Region 2 Upper Brahmaputra and the state.

The household characteristics are shown in Table 3.1. It may be noted that only about 29 per cent households live in Pucca houses –22 per cent in rural areas and 73 per cent in urban areas. Almost one-third of the population lives in Kuccha houses in the state. No large differences were seen in the type of houses in Lower and Upper Brahmaputra.

Most of the respondents (about 55 per cent) had a monthly expenditure (proxy for household income) in the range of Rs. 2,501 to Rs. 5,000. This was more among the rural respondents. In the case of urban areas, almost 79 per cent respondents reported their monthly expenditure in the range of Rs. 5,001–10,000. No large differences were noticed between two regions (Lower and Upper Brahmaputra)

About 90 per cent population of the state was Hindu, followed by 9 per cent Muslim. Christians and Sikhs constituted only 0.4 and 0.1 per cent, respectively. Both the regions had similar distribution.

Almost 46 per cent population belonged to Scheduled Castes (SC), Scheduled Tribes (ST) and Other Backward Castes (OBCs) categories – SCs 22 per cent, STs 9 per cent and OBCs 15 per cent. While percentage of STs was similar in both the regions. But that of SCs was much higher in the Lower Brahmaputra Region and that of OBCs in Upper Brahmaputra.

While one-half of the population was using tubewell or handpump as their main source of drinking water, only 21 per cent had piped or tap water supply. A high 28 per cent of the households were dependent on other sources of water like open well, canal, river or pond. The supply of piped water was much lower in Lower Brahmaputra compared to in Upper Brahmaputra. But this was partly compensated by the greater use of tubewells and handpumps in Lower Brahmaputra.

Rice was the staple food of the people in both the regions. Almost 97 per cent of the households reported that they were non-vegetarians.

Characteristics of Households Surveyed

- All the households were almost evenly distributed between Pucca, semi Pucca and Kuccha houses. Pucca houses were more in urban areas (73 per cent).
- A majority of the households in both the regions (Lower and Upper Brahmaputra) reported their monthly expenditure to be between Rs. 2,501 and Rs. 5,500.
- About 90 per cent of the population comprised Hindus and 9 per cent Muslims. Scheduled Caste population was 22 per cent, followed OBCs at 15 per cent. These population groups were present in lesser numbers in the urban areas. More scheduled caste people lived in Lower Brahmaputra while the Upper Brahmaputra had more Scheduled Tribes and OBCs.
- The staple food was rice, with almost 97 per cent of the people being non-vegetarians.
- Almost 50 per cent of the subjects said their source of water supply was tubewells and handpumps.

3.2 PROFILE OF POPULATION

3.2.2 12 year olds

3.2.2.1 Educational levels

Almost all respondents in this age across both sexes & places of residence were literate. Almost 93 percent acroos both sexes & more in rural had education upto middle. The rest, across both sexes & more in urban were high school & above.

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

AGE: 12 yrs **STATE : Assam**

	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=	159	152	203	108	311	159	147	204	102	306	617
	Illiterate		1.9	0.0	1.2	1.2	1.2	0.8	1.8	1.4	0.0	1.3	1.25
	Upto middle		88.9	95.2	92.9	81.0	92.4	91.1	95.3	93.3	88.1	93.1	92.8
	High school & above		9.2	4.8	5.9	17.8	6.4	8.1	2.9	5.3	11.9	5.6	6.0
2	**Newspaper reading habits**					NOT ASKED							
3	**Radio listening habits**					NOT ASKED							
4	**TV watching habits**					NOT ASKED							
	Daily												
	Sometimes												
	Not at all												
5	**Cinema watching habits**					NOT ASKED							
	Once in 3 months												
	Less often												
	Not at all												

3.2.3 15 year olds

3.2.3.1 Educational levels

The literacy level in this age group was almost 98 per cent. About 52 per cent of the respondents had education up to the middle level and 47per cent reported education up to high school and above (Table 3.2.3). The picture was similar in both the regions and for males and females. As expected, there were rural and urban differentials - while about 46 per cent of the rural respondents against 42 percent in urban areas had education up to high school and above.

3.2.3.2 Exposure to media

About 19 per cent respondents in the 15-year age group reported reading newspapers daily but this percentage in the urban areas was a high 56, and was more for males than females. Against this, only 18 per cent rural respondents reported reading newspapers daily. Also, the urban/rural differential in percentages of subjects not reading newspapers at all was very large – more than

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

AGE: 15 yrs **STATE : Assam**

	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=	161	152	204	109	313	156	149	203	102	305	618
	Illiterate		0.8	0.0	0.6	0.0	0.6	1.9	1.8	2.0	1.3	1.9	1.25
	Upto middle		52.1	50.4	53.1	41.5	52.7	47.5	55.2	52.5	35.9	51.9	52.3
	High school & above		47.1	49.6	46.3	58.5	46.8	50.6	43.1	45.5	62.8	46.2	46.5
2	**Newspaper reading habits**												
	Daily		23.4	18.5	15.8	59.3	17.6	29.3	13.3	19.2	52.1	20.5	19.1
	Sometimes		22.6	29.3	23.8	34.0	24.2	16.9	25.5	17.9	35.7	18.6	21.4
	Not at all		54.0	52.2	60.4	6.6	58.2	53.8	61.2	62.9	12.2	61.0	59.6
3	**Radio listening habits**												
	Daily		15.7	10.0	10.2	36.3	11.2	20.0	7.0	12.1	36.7	13.0	12.1
	Sometimes		25.0	25.0	26.6	14.2	26.1	22.8	23.8	24.4	14.3	24.1	25.1
	Not at all		59.3	65.0	63.2	49.5	62.7	57.2	69.1	63.5	48.9	62.9	62.8
4	**TV watching habits**												
	Daily		35.0	29.8	24.7	88.4	27.3	42.4	22.1	27.0	90.1	29.5	28.4
	Sometimes		10.4	11.9	11.0	10.4	11.0	7.2	15.8	10.9	6.6	10.7	10.9
	Not at all		54.7	58.2	64.2	1.2	61.7	50.4	62.1	62.1	3.2	59.8	60.8
5	**Cinema watching habits**												
	Once in 3 months		8.7	8.9	5.5	30.0	6.5	10.1	6.9	6.3	26.0	7.1	6.8
	Less often		33.2	12.6	21.4	54.3	22.7	34.1	10.2	21.0	54.7	22.3	22.5
	Not at all		58.1	78.4	73.2	15.7	70.8	55.9	82.9	72.7	19.3	70.6	70.7

60 per cent of males and females in the rural areas compared to only 7 and 12 per cent among males and females, respectively, in the urban areas.

Exposure to radio was limited in the state about than 63 per cent reported no exposure to radio. While almost 61 per cent of the respondents reported no exposure to TV, this number was substantially less in the urban areas at only 3 per cent. The exposure to cinema, at least once in three months or less often, was only 30 per cent.

Thus, while there was high viewership of TV, particularly in the urban areas, the exposure to other media was limited — to the extent of 50 per cent, more in urban areas and less in rural areas. Lower Brahmaputra seemed to have relatively greater exposure to radio and newspapers than in Upper Brahmaputra.

3.2.4 35-44 year olds

3.2.4.1 Educational levels

About 10 per cent population in this age group was illiterate; more in the rural areas and more in Lower Brahmaputra (Table 3.2.4). More males in this age group had achieved educational level of high school and above than the females though the level of illiteracy was quite similar in both groups.

3.2.4.2 Exposure to media

About 22 per cent of respondents in this age group read newspapers daily (19 per cent females and 25 per cent males). Urban areas had much greater exposure than rural areas. A similar trend was seen with regard to exposure to radio, though there were variances in the percentages.

Surprisingly, TV viewership in this population grouping was low in the rural areas. Not many differences were observed between regions and between males and females. Also, not much exposure was found to cinema, with about 6 per cent viewing cinema once in three months. Such percentage was higher in the urban areas.

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

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

	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=	174	159	212	121	333	158	147	204	101	305	638
	Illiterate		12.4	3.5	10.5	2.2	10.1	11.9	4.4	10.2	1.3	9.9	**10.0**
	Upto middle		29.9	32.6	35.0	5.0	33.7	39.7	51.4	48.5	13.4	47.1	**40.4**
	High school & above		57.6	63.8	54.6	92.8	56.2	48.4	44.2	41.3	85.3	43.0	**49.6**
2	**Newspaper reading habits**												
	Daily		31.2	28.8	22.5	79.6	24.9	21.7	24.4	16.8	63.1	18.6	**21.8**
	Sometimes		20.2	22.2	22.2	13.3	21.8	23.1	23.6	23.6	21.6	23.5	**22.7**
	Not at all		48.6	49.0	55.3	7.1	53.3	55.2	52.0	59.6	15.3	57.9	**55.6**
3	**Radio listening habits**												
	Daily		20.9	20.6	17.2	43.1	18.4	19.1	11.8	13.5	36.1	14.4	**16.4**
	Sometimes		25.6	23.6	25.6	21.1	25.4	22.5	26.8	25.0	18.0	24.7	**25.1**
	Not at all		53.5	55.7	57.2	35.7	56.3	58.4	61.4	61.5	45.9	60.9	**58.6**
4	**TV watching habits**												
	Daily		33.1	39.8	26.6	91.6	29.4	33.2	29.7	24.5	83.4	26.8	**28.1**
	Sometimes		13.6	13.2	14.3	8.4	14.0	11.9	11.6	11.1	16.6	11.3	**12.7**
	Not at all		53.3	47.0	59.1	0.0	56.6	54.9	58.7	64.4	0.0	61.9	**59.3**
5	**Cinema watching habits**												
	Once in 3 months		9.0	9.2	6.5	24.9	7.3	6.8	3.5	4.5	12.5	4.9	**6.1**
	Less often		35.5	20.0	25.0	62.5	26.6	24.8	25.3	18.9	67.1	20.8	**23.7**
	Not at all		55.5	70.8	68.5	12.7	66.1	68.4	71.2	76.5	20.4	74.3	**70.2**

3.2.5 65-74 year olds

3.2.5.1 Educational levels

In this age group, 47 per cent of the respondents were illiterate (56 per cent females and 38 per cent males) (Table 3.2.4). As expected, literacy level was higher in the urban areas. Among regions, Upper Brahmaputra had higher literacy rates than Lower Brahmaputra.

3.2.5.2 Exposure to media

Educational levels clearly affect the reading habits of a population. Only 12 per cent of the respondents in this age group read newspaper daily with more males (17 per cent) than females (8 per cent) doing so. Again, readership was higher in the urban areas than in the rural areas though similar readership trends were seen in both regions.

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

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

	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=	164	149	205	108	313	153	152	203	102	305	618
	Illiterate		39.5	27.3	39.4	6.0	38.1	55.9	47.1	57.9	14.9	56.3	**47.2**
	Upto middle		32.6	46.7	39.7	23.9	39.1	31.8	37.8	32.8	43.3	33.2	**36.2**
	High school & above		27.9	26.0	20.8	70.0	22.8	12.3	15.1	9.2	41.7	10.5	**16.7**
2	**Newspaper reading habits**												
	Daily		20.7	21.8	14.5	65.2	16.5	11.1	10.9	6.5	42.2	7.9	**12.2**
	Sometimes		15.3	20.6	16.7	20.8	16.9	14.1	11.2	12.2	18.6	12.4	**14.7**
	Not at all		64.0	57.6	68.8	14.0	66.6	74.8	77.9	81.3	39.2	79.7	**73.2**
3	**Radio listening habits**												
	Daily		18.9	11.7	13.2	37.1	14.2	11.7	6.2	6.7	29.9	7.6	**10.9**
	Sometimes		18.8	19.7	19.2	18.4	19.2	14.6	15.4	13.7	23.2	14.1	**16.7**
	Not at all		62.3	68.6	67.6	44.5	66.6	73.7	78.3	79.5	46.9	78.3	**72.5**
4	**TV watching habits**												
	Daily		24.3	28.9	18.9	73.2	21.1	26.3	23.0	18.5	71.2	20.5	**20.8**
	Sometimes		13.2	11.0	11.8	17.1	12.0	8.8	5.8	6.7	14.5	7.0	**9.5**
	Not at all		62.5	60.1	69.4	9.7	67.0	64.9	71.2	74.8	14.3	72.5	**69.8**
5	**Cinema watching habits**												
	Once in 3 months		2.6	2.4	1.8	7.6	2.0	5.8	2.4	3.6	10.8	3.9	**3.0**
	Less often		10.9	11.7	10.6	15.4	10.8	10.1	4.8	6.5	19.2	7.0	**8.9**
	Not at all		86.5	85.9	87.7	77.0	87.2	84.1	92.9	89.9	70.1	89.1	**88.2**

Exposure to radio and TV was very low in the rural areas, where only 22 per cent females as against 33 per cent males reported listening to radio either daily or sometimes. Similarly, 28 per cent females and 30 per cent males said they watched TV daily or sometimes. In urban areas, overall exposure was quite high: 55 per cent to the radio and about 90 per cent to TV. Not much differential was found between the regions.

Exposure to cinema was very low, only about 12 per cent respondents watched cinema once in 3 months and less often, with their number being more among males and more in urban areas.

PROFILE OF POPULATION SURVEYED ACROSS AGE GROUPS (SUMMING UP)

- Literacy was very high in the younger population while in the 65-74 age group, only 46 per cent females, more in urban areas and more among males, were literate.
- About 18-25 per cent males read newspapers daily; this percentage was very high in urban areas –almost 80 per cent in the age group 35-44 years and 65 per cent in the 65-74 age group. It was also quite high among females in urban areas though this was less than that for males.
- The habit of listening to Radios on a daily basis was quite low – this was the highest among people in the 35-44 age group (18 per cent for males and 14 per cent for females). Against this, TV watched by a greater number – 20-30 per cent, though this was lower in the rural areas and higher in the urban areas.
- Few people went to the cinema halls.

CHAPTER IV

MAPPING OF FLUORIDE LEVELS

4.1 INTRODUCTION

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

4.2 COLLECTION OF WATER SAMPLES

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

1. Each team would carry along with it a set of sterilised plastic bottles. These bottles had been specially ordered for the purpose of the survey from a Hyderabad-based manufacturer and had the following characteristics:

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

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

   (3) They were sterilised to ensure that collected samples did not get contaminated, and

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

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

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

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

4.3 ANALYSIS OF WATER SAMPLES

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

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

4.4 FINDINGS

The levels of fluoride, in two regions, Lower Brahmaputra and Upper Brahmaputra and both in rural and urban areas of the state of Assam are shown in Table 4.1, and Fig. 4.1.

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

Level of fluoride (ppm)	Regions		Total State		
	Lower Brahmaputra (n = 485)	Upper Brahmaputra (n = 389)	Rural (n = 566)	Urban (n = 308)	Total (n = 874)
0.0 – 0.5	85.3	95.1	90.7	77.1	88.5
0.51 – 1.00	13.0	4.9	8.9	18.5	10.3
1.01 – 1.50	0.7	0.0	0.3	0.0	0.3
1.51 – 2.00	1.0	0.0	0.0	4.4	0.8
2.01 +	0.0	0.0	0.0	0.0	0.0

It may be noted that most of the drinking water sources in both the Regions in Assam had fluoride levels below 1.0 ppm, though these were slightly higher (0.51 – 1.00 ppm) in households in Lower Brahmaputra. It was found that in one source of water in one urban area in Lower Brahmaputra, the fluoride level was as high as 1.64 ppm. In comparison, all areas in Upper Brahmaputra had fluoride levels below 1.0 ppm.

Fig. 4.1 Drinking water levels of fluoride in Assam

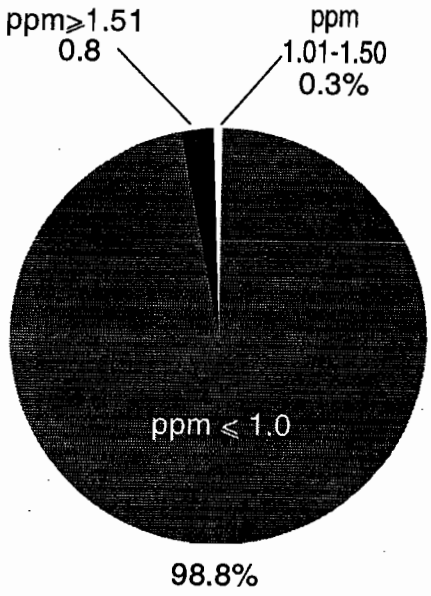
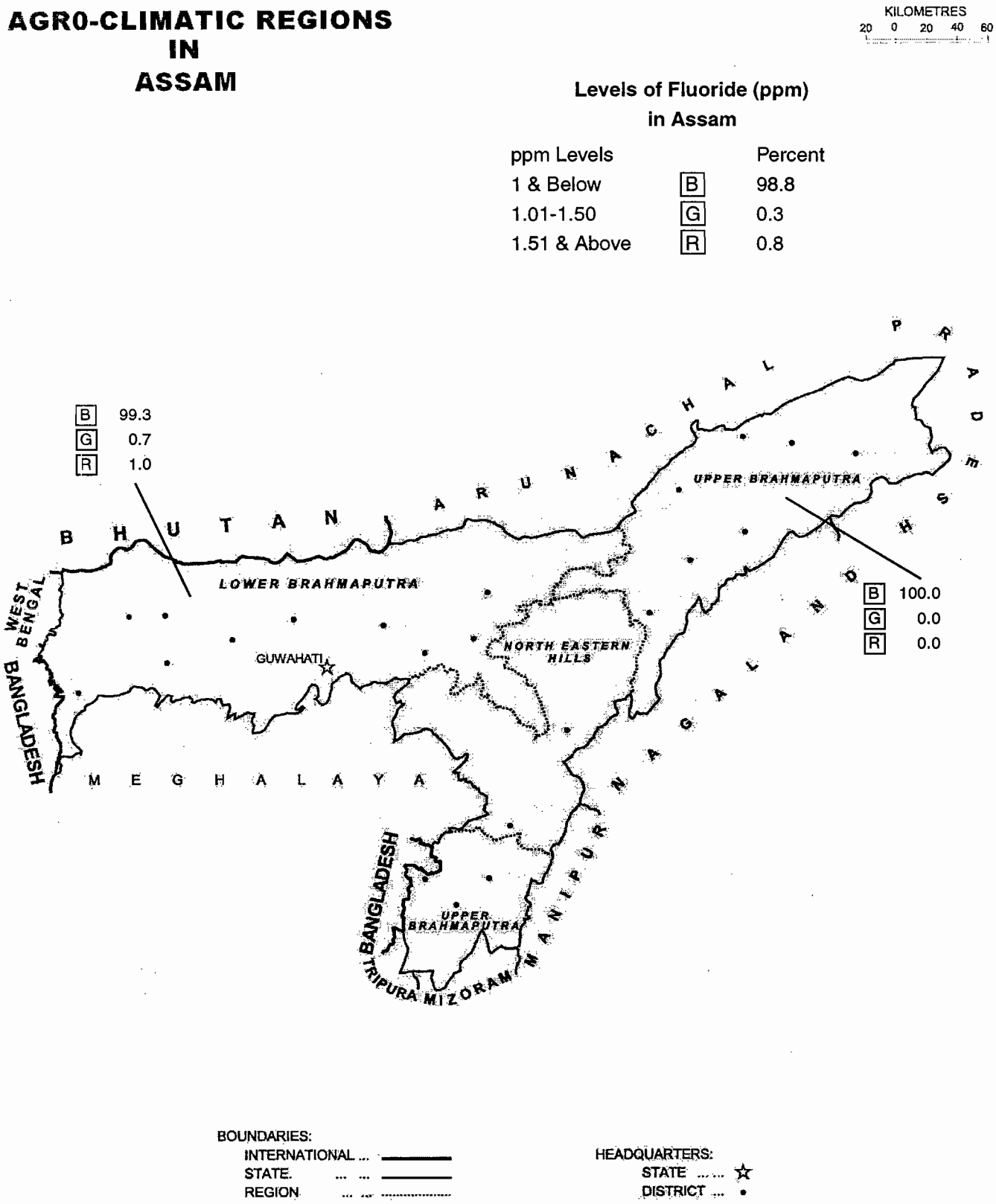


Fig. 4.2 Drinking water levels of Fluoride (ppm) in Assam, INDIA



CHAPTER V

FOOD HABITS & ORAL HEALTH PRACTICES

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

5.1 ABNORMAL ORAL HABITS

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

It may be seen that prevalence of these practices, except slightly higher for "grinding/gritting of teeth" were generally very low. "Grinding/gritting teeth" was more prevalent in rural areas. The habits of "breathing from mouth", "sucking fingers/thumb" and "biting nails/lips/pencils though low were prevalent in children aged 5 years in urban areas. No such habits were reported in the rural areas. Region 1 reports higher percentages such abnormal habits against zero in Region 2.This pattern might suggest some possibility of interviewer bias.

ABNORMAL ORAL HABITS ACROSS AGE GROUPS (SUMMING UP)

About 4 per cent children aged 5 years across both sex reported the habit of "grinding and gritting teeth". No other age group reported any other abnormality, except about 1 per cent that reported the same abnormality in the age group 65-74 years

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

AGE: 5 yrs — STATE : Assam

	Habits affecting Oral Health		MALE					FEMALE					STATE TOTAL
			REGIONS		STATE			REGIONS		STATE			
			1	2	R	U	T	1	2	R	U	T	
		n=	159	150	205	104	309	159	149	202	106	308	617
1	Breathing from mouth		0.7	0.0	0.0	3.8	0.1	0.2	0.0	0.0	1.2	0.0	0.1
2	Sucking or biting fingers/thumb		0.7	0.0	0.0	3.8	0.1	0.2	0.0	0.0	1.2	0.0	0.1
3	Thrusting tongue on teeth		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	Biting nails/lips/objects like pencil		1.5	0.0	0.0	7.5	0.3	0.2	0.0	0.0	1.2	0.0	0.2
5	Grinding / gritting teeth		6.0	0.0	4.1	1.3	4.0	5.8	0.9	4.6	0.0	4.4	4.2

AGE: 12 yrs — STATE : Assam

	Habits affecting Oral Health		MALE					FEMALE					STATE TOTAL
			REGIONS		STATE			REGIONS		STATE			
			1	2	R	U	T	1	2	R	U	T	
		n=	159	152	203	108	311	159	147	204	102	306	617
1	Breathing from mouth		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	Sucking or biting fingers/thumb		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	Thrusting tongue on teeth		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	Biting nails/lips/objects like pencil		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	Grinding / gritting teeth		0.8	0.0	0.6	0.0	0.6	0.0	0.2	0.0	0.7	0.0	0.3

AGE: 15 yrs — STATE : Assam

	Habits affecting Oral Health		MALE					FEMALE					STATE TOTAL
			REGIONS		STATE			REGIONS		STATE			
			1	2	R	U	T	1	2	R	U	T	
		n=	161	152	204	109	313	156	149	203	102	305	618
1	Breathing from mouth		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	Sucking or biting fingers/thumb		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	Thrusting tongue on teeth		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	Biting nails/lips/objects like pencil		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	Grinding / gritting teeth		0.0	0.2	0.0	0.6	0.0	0.8	0.0	0.6	0.0	0.6	0.3

AGE: 35-44 yrs — STATE : Assam

	Habits affecting Oral Health		MALE					FEMALE					STATE TOTAL
			REGIONS		STATE			REGIONS		STATE			
			1	2	R	U	T	1	2	R	U	T	
		n=	174	159	212	121	333	158	147	204	101	305	638
1	Breathing from mouth		0.2	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	Sucking or biting fingers/thumb		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	Thrusting tongue on teeth		0.8	0.0	0.6	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.3
4	Biting nails/lips/objects like pencil		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	Grinding / gritting teeth		2.3	0.0	1.7	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.8

AGE: 65-74 yrs — STATE : Assam

	Habits affecting Oral Health		MALE					FEMALE					STATE TOTAL
			REGIONS		STATE			REGIONS		STATE			
			1	2	R	U	T	1	2	R	U	T	
		n=	164	148	205	107	312	153	152	203	102	305	617
1	Breathing from mouth		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	Sucking or biting fingers/thumb		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	Thrusting tongue on teeth		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	Biting nails/lips/objects like pencil		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	Grinding / gritting teeth		1.0	0.0	0.6	1.2	0.6	1.9	0.0	1.2	1.3	1.2	0.9

5.2 SUGAR-TAKING HABITS

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

(1) More than 80 per cent respondents in rural areas (50-70) percent in urban areas across age groups did not take sugar or sweets at all in the last 24 hours. Most of those who had sugar had taken only once; though a small percentage reported having taken it two or more times.

(2) There was no difference in sugar taking habits of males and females.

(3) More respondents from Upper Brahmaputra (Region 2) than in Lower Brahmaputra (Region 1) had taken sugar in last 24 hours.

EATING HABITS ACROSS AGE GROUPS (SUMMING UP)

About 13-14 per cent, across ages and sexes, and more in urban areas reported taken sugar once in the last one day. About 4-5 per cent had taken sugar two or more times. More sugar intake was reported in Lower Brahmaputra than in Upper Brahmaputra Region.

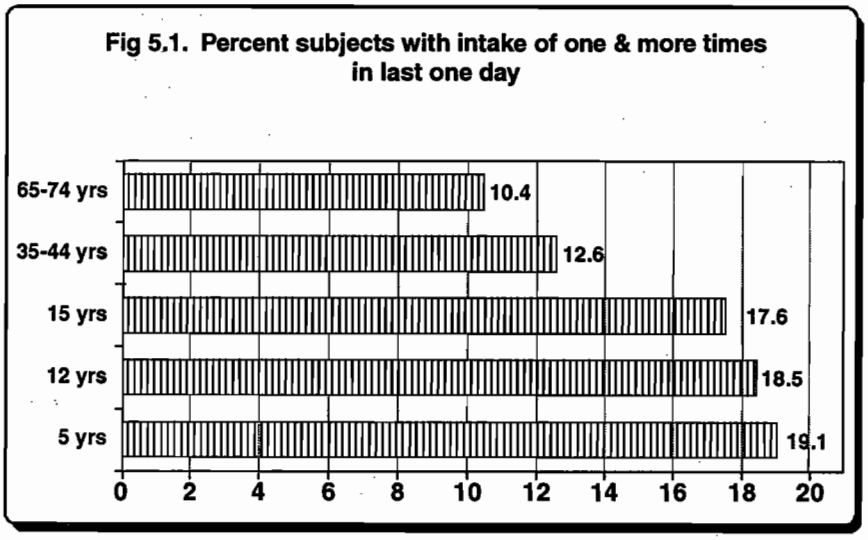


Table : 5.2 Percent respondents by pattern of sugar in take, age, sex & geographical area.

AGE: 5 yrs — STATE : Assam

	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=	159	150	205	104	309	159	149	202	106	308	617
1	Not taken		71.8	89.5	82.0	53.0	80.9	73.6	87.4	82.1	56.0	81.1	**81.0**
2	Taken one time		23.2	5.8	14.3	33.9	15.1	20.2	9.5	14.3	29.4	14.9	**15.0**
3	Taken two times		3.8	3.0	2.7	8.5	3.0	6.2	2.4	3.6	12.6	4.0	**3.5**
4	Taken 2+ times		1.3	1.6	1.0	4.5	1.1	0.0	0.7	0.0	2.0	0.1	**0.6**

AGE: 12 yrs — STATE : Assam

	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=	159	152	203	108	311	159	147	204	102	306	617
1	Not taken		71.8	90.6	83.4	47.9	82.0	74.5	87.0	81.9	59.7	81.1	**81.6**
2	Taken one time		20.7	4.9	11.5	37.6	12.5	19.8	9.7	14.1	29.8	14.7	**13.6**
3	Taken two times		7.3	3.8	5.1	11.4	5.4	4.8	3.1	3.3	9.8	3.6	**4.5**
4	Taken 2+ times		0.2	0.7	0.0	3.2	0.1	0.8	0.2	0.6	0.7	0.6	**0.4**

AGE: 15 yrs — STATE : Assam

	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=	161	152	204	109	313	156	149	203	102	305	618
1	Not taken		75.6	88.9	83.3	61.7	82.4	73.7	90.6	84.0	52.8	82.7	**82.6**
2	Taken one time		18.8	8.1	12.7	29.0	13.4	19.9	8.6	11.9	42.6	13.1	**13.3**
3	Taken two times		4.8	2.1	3.3	6.8	3.5	6.3	0.7	4.2	4.6	4.2	**3.9**
4	Taken 2+ times		0.8	1.0	0.6	2.6	0.7	0.0	0.0	0.0	0.0	0.0	**0.4**

AGE: 35-44 yrs — STATE : Assam

	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=	174	159	212	121	333	158	147	204	101	305	638
1	Not taken		80.5	93.8	87.6	69.4	86.9	82.2	91.5	89.0	63.1	87.9	**87.4**
2	Taken one time		17.1	4.8	11.2	22.7	11.7	12.9	6.6	8.1	27.7	8.8	**10.3**
3	Taken two times		2.4	1.2	1.1	7.3	1.4	3.2	0.9	1.8	6.5	2.0	**1.7**
4	Taken 2+ times		0.0	0.2	0.0	0.6	0.0	1.7	0.9	1.2	2.7	1.2	**0.6**

AGE: 65-74 yrs — STATE : Assam

	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=	164	148	205	107	312	153	152	203	102	305	617
1	Not taken		82.4	93.6	88.9	69.8	88.1	88.0	92.1	91.7	74.3	91.1	**89.6**
2	Taken one time		16.9	5.4	11.1	24.0	11.6	10.0	7.0	7.1	21.7	7.6	**9.6**
3	Taken two times		0.7	0.7	0.0	5.6	0.2	0.3	0.5	0.0	2.7	0.1	**0.2**
4	Taken 2+ times		0.0	0.2	0.0	0.6	0.0	1.7	0.5	1.2	1.4	1.2	**0.6**

5.3 ORAL HYGIENE PRACTICES

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

5.3.1 5 year olds

About 72 per cent children in this age group reported the use of toothbrush to clean teeth in the state (about 70 per cent in rural areas and almost all in urban areas) (Table 5.3.1). This was so in case of males and females and in Regions 1 and 2. While more respondents in urban areas reported change of their toothbrushes once in 1-3 months. While in the rural areas, such change took place mostly once in 3-6 months.

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

AGE: 5 yrs **STATE : Assam**

	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=	**159**	**150**	**205**	**104**	**309**	**159**	**149**	**202**	**106**	**308**	**617**
	finger		24.5	18.8	25.6	0.0	24.6	24.8	25.5	28.7	0.7	27.5	**26.1**
	brush		72.3	80.3	71.7	100.0	72.8	74.4	74.5	70.7	99.3	71.9	**72.4**
	datun		2.4	0.0	1.8	0.0	1.7	0.8	0.0	0.6	0.0	0.6	**1.2**
	others		0.8	0.9	1.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	**0.5**
2	**Frequency of cleaning teeth**	n=	**155**	**149**	**200**	**104**	**304**	**158**	**149**	**201**	**106**	**307**	**611**
	Once a day		70.5	79.0	79.1	36.4	77.4	65.2	73.8	73.3	35.0	71.7	**74.6**
	Twice a day		29.2	21.0	20.9	62.3	22.6	34.8	26.2	26.7	65.0	28.3	**25.5**
	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		73.6	66.4	66.9	98.1	68.1	70.1	65.7	64.3	96.3	65.6	**66.9**
	Tooth powder		12.9	14.7	15.3	1.9	14.8	14.9	11.7	15.2	3.7	14.8	**14.8**
4	**Type of toothpaste / powder**	n=	**139**	**128**	**163**	**104**	**267**	**140**	**124**	**158**	**106**	**264**	**531**
	Flouridated		13.9	14.8	9.7	39.7	11.1	11.9	12.6	9.0	28.9	10.0	**10.6**
	Non flouridated		43.0	72.1	59.0	23.4	57.2	44.1	75.8	59.0	35.7	57.8	**57.5**
5	**Change of toothbrush once in**	n=	**125**	**128**	**149**	**104**	**253**	**128**	**120**	**143**	**105**	**248**	**501**
	1-3 months		31.4	23.9	23.3	54.0	24.9	29.3	16.5	19.0	50.9	20.8	**22.9**
	4-6 months		42.8	71.6	56.5	42.2	55.8	53.0	75.2	64.2	47.1	63.2	**59.5**
	6 + months		25.9	4.5	20.2	3.8	19.3	17.8	8.2	16.8	2.0	16.0	**17.7**
6	**Rinse mouth after eating**	n=	**159**	**150**	**205**	**104**	**309**	**159**	**149**	**202**	**106**	**308**	**617**
	Sometimes		41.0	28.6	36.5	36.4	36.5	34.2	29.1	32.3	32.5	32.3	**34.4**
	Always		51.6	69.6	59.2	51.1	58.9	58.4	70.7	64.1	54.6	63.8	**61.4**

It was very encouraging to note that almost everybody reported cleaning their teeth daily—about 75 per cent once a day and about 26 per cent twice a day. In the rural areas, about 70 per cent respondents cleaned their teeth only in the mornings while 24 per cent said they did this both in the mornings and the evenings. In urban areas, more people cleaned their teeth twice a day. Region-wise little difference was seen.

Most of the children were using toothpaste (about 67 per cent) but some reported the use of the powder also (15 per cent). The situation was the same across both sexes and in both the Regions. More subjects in urban areas used toothpaste (90 per cent) than in the rural areas (64-67 per cent).

Fluoridated toothpaste/powder was used by only 9-10 per cent subjects in the rural areas and by about 29-40 per cent in the urban areas. The other respondents were not aware whether their toothpaste/powder was fluoridated or non-fluoridated.

On rinsing practices, about 60 per cent reported doing so after every meal – more in the rural areas than in the urban and were more females than males. The remaining either rinsed their mouth "sometimes' or not at all. However, those not rinsing at all were in a minority. Also, the practice of rinsing one's mouth was less prevalent in Lower Brahmaputra Region than in Upper Brahmaputra Region.

5.3.2 12 and 15 year olds

About 70 per cent children in the 12 and 15-year age groups in rural areas and almost 97 per cent in the urban areas had used toothbrush for cleaning their teeth (Tables 5.3.2 and 5.3.3). In the rural areas. They reported change of toothbrushes mostly once in four to six months while this period in the urban areas was more often — about 50 per cent once in the first three months and another 35-45 per cent once in 4– 6 months.

Toothpaste or tooth powder was mostly used to clean the teeth – about 80 per cent in rural areas and almost 100 per cent in urban areas reported using. The use of toothpaste was more specially in the urban areas. Use of fluoridated toothpaste/tooth powder was quite low in the rural areas and slightly higher in the urban areas, where only about one-third of the respondents reported its use.

In the rural areas, more than 75 per cent reported cleaning their teeth once a day while the urban respondents said they did so in the mornings and evenings — twice a day.

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

AGE: 12 yrs **STATE : Assam**

	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=	**159**	**152**	**203**	**108**	**311**	**159**	**147**	**204**	**102**	**306**	**617**
	finger		24.0	18.8	25.2	1.2	24.3	19.1	22.8	23.1	1.9	22.3	**23.3**
	brush		73.5	81.2	73.0	98.8	74.0	77.3	77.2	74.5	96.8	75.4	**74.7**
	datun		1.6	0.0	1.2	0.0	1.1	2.7	0.0	1.8	1.3	1.8	**1.5**
	others		0.8	0.0	0.6	0.0	0.6	0.8	0.0	0.6	0.0	0.6	**0.6**
2	**Frequency of cleaning teeth**	n=	**156**	**152**	**200**	**108**	**308**	**154**	**147**	**200**	**101**	**301**	**609**
	Once a day		67.1	75.7	74.9	40.1	73.5	67.8	77.4	77.1	32.0	75.3	**74.4**
	Twice a day		32.9	24.1	25.1	59.2	26.5	32.2	22.6	22.9	68.0	24.7	**25.6**
	After every meal		0.0	0.2	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
3	**Material used for cleaning teeth**												
	Tooth paste		70.6	67.7	65.4	96.4	66.7	71.4	60.1	62.9	96.8	64.2	**65.5**
	Tooth powder		11.7	15.2	14.5	3.6	14.0	15.6	16.5	17.9	2.0	17.3	**15.7**
4	**Type of toothpaste / powder**	n=	**135**	**133**	**160**	**108**	**268**	**138**	**121**	**159**	**100**	**259**	**527**
	Flouridated		16.7	14.7	11.7	38.0	13.1	13.5	12.4	9.2	35.3	10.4	**11.8**
	Non flouridated		44.2	75.2	60.6	32.0	59.1	45.9	75.7	60.6	32.2	59.3	**59.2**
5	**Change of toothbrush once in**	n=	**126**	**131**	**150**	**107**	**257**	**130**	**121**	**152**	**99**	**251**	**508**
	1-3 months		35.0	19.4	22.9	58.0	24.8	21.0	17.3	14.1	49.3	15.9	**20.4**
	4-6 months		42.7	73.1	58.5	36.3	57.3	49.7	76.2	61.9	46.7	61.1	**59.2**
	6 + months		21.1	7.5	17.8	5.7	17.1	29.3	6.5	24.0	4.0	23.0	**20.1**
6	**Rinse mouth after eating**	n=	**159**	**152**	**203**	**108**	**311**	**159**	**147**	**204**	**102**	**306**	**617**
	Sometimes		34.9	23.5	31.0	28.6	30.9	42.7	25.9	35.6	43.6	35.9	**33.4**
	Always		58.3	75.6	65.7	58.0	65.4	54.1	73.2	62.3	52.6	61.9	**63.7**

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

AGE: 15 yrs STATE : Assam

	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=	**161**	**152**	**204**	**109**	**313**	**156**	**149**	**203**	**102**	**305**	**618**
	finger		23.6	19.7	25.5	0.0	24.4	21.0	20.6	23.7	1.3	22.8	**23.6**
	brush		73.2	80.3	72.2	100	73.3	78.7	78.5	75.9	97.4	76.8	**75.1**
	datun		1.6	0.0	1.2	0.0	1.1	0.2	0.9	0.4	1.3	0.4	**0.8**
	others		1.6	0.0	1.2	0.0	1.1	0.0	0.0	0.0	0.0	0.0	**0.6**
2	**Frequency of cleaning teeth**	n=	**157**	**152**	**200**	**109**	**309**	**155**	**148**	**202**	**101**	**303**	**612**
	Once a day		64.9	77.1	74.7	34.9	73.0	67.2	73.5	73.7	39.7	72.4	**72.7**
	Twice a day		35.1	22.9	25.3	65.1	27.0	32.0	26.5	25.7	60.3	27.1	**27.1**
	After every meal		0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.6	0.0	0.6	**0.3**
3	**Material used for cleaning teeth**												
	Tooth paste		69.5	65.7	63.5	98.2	64.9	71.2	67.4	66.5	93.5	67.5	**66.2**
	Tooth powder		13.4	13.7	15.5	0.6	14.9	13.5	12.7	14.3	5.2	14.0	**14.5**
4	**Type of toothpaste / powder**	n=	**136**	**129**	**157**	**108**	**265**	**136**	**126**	**162**	**100**	**262**	**527**
	Flouridated		12.3	11.7	8.1	32.5	9.4	18.1	12.2	12.0	39.0	13.3	**11.4**
	Non flouridated		43.4	77.2	59.5	36.4	58.3	50.5	81.0	66.3	33.4	64.8	**61.6**
5	**Change of toothbrush once in**	n=	**128**	**130**	**149**	**109**	**258**	**129**	**125**	**154**	**100**	**254**	**512**
	1-3 months		35.2	24.1	26.0	54.2	27.5	28.9	11.9	16.4	56.3	18.4	**23.0**
	4-6 months		44.6	67.5	56.4	39.7	55.5	48.3	77.5	62.6	40.3	61.5	**58.5**
	6 + months		20.2	8.4	17.6	6.1	17.0	22.8	10.6	21.0	3.3	20.1	**18.6**
6	**Rinse mouth after eating**	n=	**161**	**152**	**204**	**109**	**313**	**156**	**149**	**203**	**102**	**305**	**618**
	Sometimes		40.3	29.6	36.4	36.0	36.4	38.2	24.8	33.0	35.1	33.1	**34.8**
	Always		55.3	69.6	60.8	58.0	60.7	57.4	75.2	64.6	59.7	64.4	**62.6**

A majority of the respondents reported rinsing their mouth after every meal, both in the urban and rural areas. However, more rural subjects reported to be doing so than the urban respondents (62-66 per cent in rural areas and 53-58 per cent in urban). The practice was more common in the Upper Brahmaputra Region than in Lower Brahmaputra.

5.3.3 35-44 year olds

About 77 per cent of the respondents in the 35-44 age group reported the use of toothbrush to clean their teeth about 74 per cent in rural areas and more than 96 per cent in urban areas (Table 5.3.4). A large per centage of the users in the rural areas replaced their toothbrushes once in four to six months, or after six months. In urban areas, replacement was mostly done in one to three months while 40-46 per cent of them did so in four to six months. There was no difference between males and females and between the two Regions.

In the rural areas, 74 per cent of the respondents cleaned their teeth once a day, while a majority of urban subjects did so twice a day — in the morning and at night. Region-wise, more people in Lower Brahmaputra cleaned their teeth twice a day than in Upper Brahmaputra. Not much difference was noticed between males and females in this regard.

The use of toothpaste was reported by about 65 per cent people in the rural areas against 96 per cent in the urban areas. The others reported using tooth powder. No differences were noticed between the genders or between the two regions in this regard. The use of fluoridated toothpaste or tooth powder was quite low – about 10 per cent in rural areas and 42 per cent in urban areas. Again, gender differences were not found.

More than two-thirds of the population reported rinsing their mouth after every meal; this percentage was higher in Upper Brahmaputra than in Lower Brahmaputra Region. Male-female and urban-rural differential were not found to be large in this regard.

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

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

	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=	**174**	**159**	**212**	**121**	**333**	**158**	**147**	**204**	**101**	**305**	**638**
	finger		24.0	20.4	26.3	0.0	25.2	22.1	18.0	23.1	3.2	22.3	**23.8**
	brush		74.5	77.8	71.8	100	73.0	75.4	81.7	75.1	96.1	75.9	**74.5**
	datun		1.5	1.8	1.8	0.0	1.8	0.8	0.0	0.6	0.0	0.6	**1.2**
	others		0.0	0.0	0.0	0.0	0.0	1.7	0.2	1.2	0.7	1.2	**0.6**
2	**Frequency of cleaning teeth**	n=	**172**	**157**	**208**	**121**	**329**	**155**	**146**	**201**	**100**	**301**	**630**
	Once a day		65.7	79.3	76.3	33.5	74.5	63.0	74.4	73.1	26.6	71.3	**72.9**
	Twice a day		33.5	20.7	23.1	66.5	25.0	37.0	25.4	26.9	72.7	28.7	**26.9**
	After every meal		0.8	0.0	0.6	0.0	0.5	0.0	0.2	0.0	0.7	0.0	**0.3**
3	**Material used for cleaning teeth**												
	Tooth paste		66.9	66.6	62.3	94.5	63.7	69.0	67.7	64.2	98.0	65.6	**64.7**
	Tooth powder		15.4	10.8	15.3	4.4	14.8	16.2	15.4	18.1	0.7	17.4	**16.1**
4	**Type of toothpaste / powder**	n=	**148**	**132**	**160**	**120**	**280**	**137**	**127**	**165**	**99**	**264**	**544**
	Flouridated		12.9	19.0	9.2	42.7	11.1	17.0	13.0	10.9	41.6	12.4	**11.8**
	Non flouridated		45.1	71.1	57.8	35.2	56.6	48.1	77.9	63.9	32.7	62.4	**59.5**
5	**Change of toothbrush once in**	n=	**140**	**134**	**153**	**121**	**274**	**127**	**125**	**155**	**97**	**252**	**526**
	1-3 months		27.2	23.8	19.9	53.3	21.9	24.8	19.5	17.5	51.1	19.1	**20.5**
	4-6 months		44.4	51.6	48.3	41.1	47.9	49.4	49.2	50.1	45.5	49.9	**48.9**
	6 + months		26.4	23.4	29.7	5.5	28.3	24.6	31.3	31.6	3.4	30.2	**29.3**
6	**Rinse mouth after eating**	n=	**174**	**159**	**212**	**121**	**333**	**158**	**147**	**204**	**101**	**305**	**638**
	Sometimes		36.1	14.8	28.2	32.0	28.3	37.0	22.3	32.6	24.4	32.2	**30.3**
	Always		63.1	82.6	70.2	68.0	70.1	60.8	76.8	65.9	73.1	66.1	**68.1**

5.3.4 65-74 year olds

The use of toothbrush. in this age group was relatively low. About 58 per cent across both sexes & more in urban, had used toothbrushes to clean their teeth — about 57 per cent people in rural areas and about 80 per cent in urban areas (Table 5.3.5). While people in the rural areas changed their toothbrushes mostly once in four to six months or after six months, in urban areas a majority did so once in one to three months and four to six months. There was no difference between males and females in this regard. People in Upper Brahmaputra tended to change their toothbrushes less often than those in Lower Brahmaputra.

In the rural areas more people cleaned their teeth once a day while in the urban areas most people did so both in the morning and at night. The picture in Region 2 was surprisingly different than that in Region 1– more people cleaned their teeth only once in Upper Brahmaputra.

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

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

	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=	164	148	205	107	312	153	152	203	102	305	617
	finger		31.5	41.9	37.8	18.2	37.0	33.3	46.2	40.8	20.1	40.0	**38.5**
	brush		62.9	55.8	57.3	80.6	58.3	64.2	52.9	57.0	79.9	57.9	**58.1**
	datun		4.8	2.1	4.3	0.6	4.1	1.7	0.9	1.6	0.0	1.5	**2.8**
	others		0.8	0.2	0.6	0.6	0.6	0.8	0.0	0.6	0.0	0.6	**0.6**
2	**Frequency of cleaning teeth**	n=	157	144	196	105	301	150	151	199	102	301	602
	Once a day		67.2	80.7	77.3	38.2	75.6	69.6	83.0	79.3	42.9	77.8	**76.7**
	Twice a day		31.7	19.3	22.1	60.6	23.7	30.1	16.8	20.7	55.2	22.1	**22.9**
	After every meal		1.1	0.0	0.6	1.2	0.6	0.3	0.2	0.0	2.0	0.1	**0.4**
3	**Material used for cleaning teeth**												
	Tooth paste		67.5	61.5	61.0	93.2	62.3	65.2	64.1	60.5	94.1	61.9	**62.1**
	Tooth powder		16.2	12.4	16.2	5.6	15.8	18.1	12.7	17.7	4.6	17.2	**16.5**
4	**Type of toothpaste / powder**	n=	137	116	149	104	253	130	125	154	101	255	508
	Flouridated		8.9	14.0	5.7	35.0	7.3	17.2	13.1	11.3	40.0	12.7	**10.0**
	Non flouridated		49.7	75.2	64.0	30.0	62.2	45.0	71.2	59.7	27.1	58.1	**60.2**
5	**Change of toothbrush once in**	n=	107	98	115	90	205	100	98	112	86	198	403
	1-3 months		24.2	21.1	18.3	46.3	19.8	24.5	21.3	19.4	43.1	20.7	**20.3**
	4-6 months		47.1	36.8	44.9	37.8	44.5	41.3	32.6	38.3	39.0	38.4	**41.5**
	6 + months		28.7	40.5	36.2	15.9	35.1	31.5	41.0	38.1	18.0	37.0	**36.1**
6	**Rinse mouth after eating**	n=	164	148	205	107	312	153	152	203	102	305	617
	Sometimes		38.0	17.2	32.8	15.4	32.1	39.4	14.5	30.4	26.9	30.3	**31.2**
	Always		61.5	82.6	67.2	81.5	67.8	58.6	85.5	68.4	71.8	68.5	**68.2**

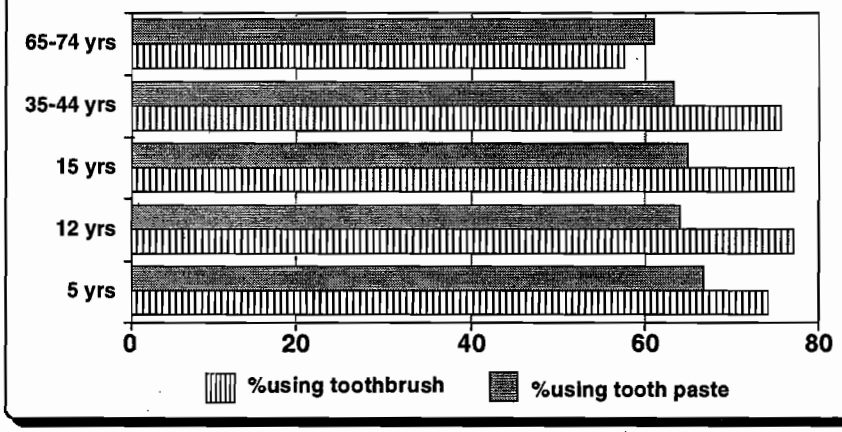
In the rural areas, 77 per cent people reported the use of toothpaste or tooth powder for cleaning teeth while 98 per cent did so in the urban areas. The use of toothpaste was greater than that of tooth powder. The use of fluoridated toothpaste/tooth powder was much less in the rural areas (19 per cent) than in the urban areas (38 per cent). A large per cent of respondents were unaware whether they were using fluoridated or non-fluoridated toothpaste/powder.

Rinsing after meals was quite common in both the Regions and among males and females. Almost all the respondents reported rinsing mouth either "always" or "sometimes" after the meals—one-third reported rinsing "sometimes".

ORAL HYGIENE PRACTICES ACROSS AGE GROUPS (SUMMING UP)

1. The practice of cleaning teeth was universal.
2. About 70 to 75 per cent age in all groups, except 58 percent in the age group 65-74 years, across both sexes and more in urban areas reported using toothbrush to clean their teeth. It was so in both the regions.
3. About 70 to 75 per cent, across both sexes and more in rural areas cleaned their teeth once a day. More people reported cleaning them twice in urban areas.
4. About 62 to 67 per cent, across ages and sexes, and more in the urban areas reported the use of toothpaste. Usage was more in Lower Brahmaputra than in Upper Brahmaputra.
5. About 60 per cent, across all ages and both sexes, and more in rural areas reported the use of non-fluoridated toothpaste/powder. Lower Brahmaputra reported greater use of fluoridated toothpaste/powder than Upper Brahmaputra.
6. About 20 per cent, across all ages, more males and more in urban areas changed tooth brush once in 1-3 months. The change was less frequent in rural areas – four to six months or even after six months. Change in toothbrush was less frequent in Lower Brahmaputra than in Upper Brahmaputra.
7. About two-thirds of the respondents, across all ages and both sexes, and more in urban areas reported rinsing their mouth after every meal. This percentage was higher in Upper Brahmaputra than in Lower Brahmaputra.

Fig 5.2. Percent subjects using toothbrush and toothpaste in Assam



5.4 DENTAL PROBLEMS AND TREATMENT PRACTICES

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

5.4.1 5 year olds

It was surprising that nearly 46 per cent of the respondents in this age group had faced oral health problems in the last one year. While 45 per cent of such respondents were from the rural areas, 35 per cent were from the urban areas. This was across both gender and regions. The problems mostly reported were dental decay (about 95 per cent) and gum disease (about 21 per cent). **(Table 5.4.1)**

The practice of consultation, as expected was much less in the rural areas where almost 80 per cent of the respondents with a problem did not consult anybody. This percentage in urban areas was nil. However, they could have consulted somebody other than a trained dentist.

5.4.2 12 year olds

About 47 per cent of the respondents in this age group, across both sexes reported oral health problems in the last one year — about 46 per cent in rural areas and around 35 per cent in urban areas. No differences were noticed between the two regions i.e. Lower Brahmaputra and Upper Brahmaputra. Most of those who had problem, reported dental decay other about 20 per cent reported gum disease also. A very high percentage of respondents in the urban areas who had faced problems, did not consult anybody. **Table 5.4.2**

Table 5.4.1 Percent 5 year olds by reported nature of dental problems and treatment related aspects, sex & geographical area.

AGE: 5 yrs STATE : Assam

	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=	**159**	**150**	**205**	**104**	**309**	**159**	**149**	**202**	**106**	**308**	**617**
	problems in last one year		40.4	45.7	43.5	34.2	43.1	44.4	46.1	46.6	34.6	46.1	**44.6**
2	**Type of oral health problems**	n=	**60**	**68**	**90**	**38**	**128**	**65**	**68**	**94**	**39**	**133**	**261**
	Dental decay		96.0	94.0	95.6	92.2	95.5	95.7	93.6	95.0	94.6	94.9	**95.2**
	Gum disease		36.2	6.2	23.0	34.4	23.4	28.3	8.7	18.8	38.6	19.4	**21.4**
	Foul breath		2.0	2.1	1.4	7.8	1.6	0.6	3.1	0.0	14.8	0.5	**1.1**
	Bleeding gums		0.0	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	**0.0**
3	**Consulted (out of those suffered)**												
	None		68.5	87.2	82.0	22.7	80.2	66.2	86.2	80.4	14.6	78.4	**79.3**
	Trained dentist		2.0	0.0	1.4	0.0	1.3	0.0	0.0	0.0	0.0	0.0	**0.7**
4	**Availaibility of dental facility**	n=	**159**	**150**	**205**	**104**	**309**	**159**	**149**	**202**	**106**	**308**	**617**
	None		25.8	30.4	31.1	2.5	30.0	17.0	37.9	28.1	2.5	27.0	**28.5**
	Govt. facility		29.0	44.7	37.1	18.8	36.4	32.5	41.5	38.0	22.1	37.3	**36.9**
	Pvt. facility		26.2	20.5	18.6	62.7	20.3	31.2	16.0	19.6	65.6	21.5	**20.9**
	Do not know		21.3	6.1	14.5	23.5	14.9	22.2	4.6	15.6	16.0	15.6	**15.3**
5	**Time taken to reach the facility**	n=	**95**	**93**	**115**	**73**	**188**	**108**	**88**	**114**	**82**	**196**	**384**
	Less than 1/2 hr.		17.6	7.0	10.4	27.1	11.3	28.9	6.7	19.1	29.3	19.7	**15.5**
	1/2 - 1 hr.		61.3	64.3	64.5	53.1	63.9	42.6	72.0	53.6	50.9	53.5	**58.7**
	> 1 hr.		13.4	28.3	19.7	18.9	19.6	18.6	19.7	19.8	15.1	19.6	**19.6**
	Cannot say		7.7	0.4	5.4	0.9	5.2	9.9	1.7	7.4	4.7	7.3	**6.3**
6	**Ever suffered from**	n=	**159**	**150**	**205**	**104**	**309**	**159**	**149**	**202**	**106**	**308**	**617**
	Hypertension		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
	Diabetes		0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.6	0.0	0.6	**0.3**
	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	0.0	0.0	0.0	0.0	**0.0**
	Asthma		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**

Table 5.4.2 Percent 12 year olds by reported nature of dental problems and treatment related aspects, sex & geographical area.

AGE: 12 yrs STATE : Assam

	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=	159	152	203	108	311	159	147	204	102	306	617
	problems in last one year		45.9	46.1	47.7	33.9	47.1	44.6	46.2	46.5	36.2	46.1	**46.6**
2	**Type of oral health problems**	n=	65	72	96	41	137	67	66	95	38	133	270
	Dental decay		92.3	92.6	92.6	90.7	92.6	94.7	99.0	97.5	85.8	97.1	**94.9**
	Gum disease		30.2	8.3	20.0	41.3	20.6	30.3	6.2	19.1	39.7	19.7	**20.2**
	Foul breath		7.2	3.1	5.0	11.4	5.2	0.0	2.1	0.0	7.4	0.2	**2.7**
	Bleeding gums		0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	3.5	0.1	**0.1**
	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		73.9	87.1	86.3	9.3	84.0	66.8	91.3	82.6	16.5	80.6	**82.3**
	Trained dentist		3.6	0.0	2.5	0.0	2.4	1.8	0.0	1.3	0.0	1.2	**1.8**
4	**Availaibility of dental facility**	n=	159	152	203	108	311	159	147	204	102	306	617
	None		22.1	33.1	29.6	3.6	28.5	31.4	34.5	36.3	5.7	35.2	**31.9**
	Govt. facility		28.2	43.9	35.9	21.9	35.3	28.3	44.1	36.4	19.0	35.7	**35.5**
	Pvt. facility		33.4	22.2	21.8	78.4	24.1	28.8	20.9	18.8	75.0	21.0	**22.6**
	Do not know		18.8	1.7	13.1	8.2	12.9	16.0	1.4	10.7	10.4	10.7	**11.8**
5	**Time taken to reach the facility**	n=	105	108	118	95	213	95	102	111	86	197	410
	Less than 1/2 hr.		25.5	11.7	16.6	34.5	17.7	30.2	10.0	19.7	30.5	20.4	**19.1**
	1/2 - 1 hr.		47.3	63.5	55.5	46.0	54.9	51.2	62.5	58.4	45.1	57.6	**56.3**
	> 1 hr.		15.3	24.1	19.6	15.3	19.3	14.9	26.4	19.6	20.5	19.7	**19.5**
	Cannot say		11.9	0.7	8.3	4.2	8.0	3.6	1.1	2.2	3.9	2.3	**5.2**
6	**Ever suffered from**	n=	159	152	203	108	311	159	147	204	102	306	617
	Hypertension		0.2	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
	Diabetes		0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.6	0.0	0.6	**0.3**
	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	0.0	0.0	0.0	0.0	**0.0**
	Asthma		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**

5.4.3 15 year olds

In this age group, 48 per cent of the respondents, more males and more in rural areas, reported that they had oral health problems. While about 48 per cent respondents reporting such problems were from rural areas, about 41 per cent were from urban areas (Table 5.4.3). Most of them reported problems of dental decay (94 per cent), followed by gum disease (22 per cent). There was little difference in the prevalence of the problems between males and females, and between regions. More than 80 per cent respondents in rural areas and 10 per cent in urban areas did not consult any dentist for their problems. In urban areas, though dentists were consulted, many of them consulted untrained dentists.

About one-third of the respondents in rural areas reported no dental facility compared to only 3 per cent in the urban areas. Access to government facilities were reported more in the rural areas compared to private facilities by urban respondents. Majority of the respondents reported half-an-hour to one hour as the time to reach these facilities.

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

AGE: 15 yrs STATE : Assam

	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=	**161**	**152**	**204**	**109**	**313**	**156**	**149**	**203**	**102**	**305**	**618**
	problems in last one year		50.9	48.6	51.1	42.6	50.8	42.5	48.6	45.4	40.1	45.2	**48.0**
2	**Type of oral health problems**	n=	**76**	**77**	**103**	**50**	**153**	**63**	**74**	**93**	**44**	**137**	**290**
	Dental decay		91.1	94.8	92.7	89.9	92.6	95.5	95.3	95.7	93.4	95.6	**94.1**
	Gum disease		32.1	13.5	22.3	49.7	23.2	34.8	7.4	21.0	44.6	21.8	**22.5**
	Foul breath		1.6	7.1	2.6	10.5	2.9	4.5	12.2	6.8	13.4	7.1	**5.0**
	Bleeding gums		1.6	0.0	1.2	0.0	1.1	0.6	0.0	0.0	3.2	0.1	**0.6**
	Others		0.0	0.0	0.0	0.0	0.0	2.0	0.0	1.3	0.0	1.3	**0.7**
3	**Consulted (out of those suffered)**												
	None		67.0	85.4	81.9	7.5	79.4	65.2	89.2	82.9	11.7	80.5	**80.0**
	Trained dentist		3.2	0.0	2.3	0.0	2.2	3.9	0.0	2.6	0.0	2.5	**2.4**
4	**Availaibility of dental facility**	n=	**161**	**152**	**204**	**109**	**313**	**156**	**149**	**203**	**102**	**305**	**618**
	None		27.6	35.2	34.9	0.6	33.5	23.4	33.2	30.2	5.1	29.2	**31.4**
	Govt. facility		33.3	43.0	38.9	24.0	38.3	35.6	41.5	40.2	21.2	39.5	**38.9**
	Pvt. facility		29.0	22.7	18.7	78.8	21.2	32.7	23.7	22.0	80.6	24.3	**22.8**
	Do not know		14.5	1.0	10.1	6.2	9.9	12.6	1.6	8.7	7.2	8.7	**9.3**
5	**Time taken to reach the facility**	n=	**107**	**108**	**114**	**101**	**215**	**107**	**108**	**124**	**91**	**215**	**430**
	Less than 1/2 hr.		23.6	11.9	16.1	29.7	17.0	31.7	12.0	22.1	34.2	22.8	**19.9**
	1/2 - 1 hr.		53.3	61.0	58.6	47.6	57.9	46.9	65.6	54.8	50.3	54.6	**56.3**
	> 1 hr.		14.3	26.7	18.8	20.8	19.0	17.4	22.1	20.1	14.8	19.8	**19.4**
	Cannot say		8.8	0.4	6.4	2.0	6.1	3.9	0.4	2.9	0.8	2.8	**4.5**
6	**Ever suffered from**	n=	**161**	**152**	**204**	**109**	**313**	**156**	**149**	**203**	**102**	**305**	**618**
	Hypertension		1.1	0.0	0.6	1.2	0.6	0.0	0.0	0.0	0.0	0.0	**0.3**
	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		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
	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 and 65-74 year olds

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

About 57 per cent males and 50 per cent females reported dental problems in the last year. (For the age group 65-74 years, such percentages were 57 and 58, respectively). Reporting was slightly higher among those in urban areas than in rural areas. Not much difference was found between the Regions. Most of the respondents reported problems of dental decay, gum disease and foul breath. While the problems of dental decay and gum disease were reported by large percent of 12, 15, 35-44 & 65-74 age groups; Beside this large percentage of the respondents in the 35-44 and 65-74 age groups also reported the problem of foul breath.

The problem of foul breath was reported by more people (70 percent) in Upper Brahmaputra compared to 23 per cent in Lower Brahmaputra. The practice of consultation was more or less similar to earlier ages — more people in urban areas went for consultation (above 90 per cent) and less in rural areas (20-25 per cent).

The reporting on availability of dental facilities was also similar to that reported by respondents in the earlier age groups—more people in urban areas reported access to private facilities, with a reach time of half-an-hour to one hour to such places. Against this, almost one-third of the rural people reported non-accessibility, saying that whatever accessibility they had was of Government facilities.

The problem of hypertension and, to some extent, epilepsy was reported by respondents of these age groups. Around 8 per cent respondents in the 65-74 age group also reported diabetes – more in urban areas (15-25 per cent) than in rural areas (8-9 per cent). Even asthma was reported by about 3 per cent respondents in this age group. Reporting of all these diseases was higher in the Upper Brahmaputra Region, except for asthma which was higher in Lower Brahmaputra.

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

1. Around 45 per cent aged 15-year & below and about 55 per cent aged over 35-years reported suffered from oral health problems in the last one year. This was the case across both sexes and more in rural areas and was similar in both the Regions. Almost all who reported oral health problem said this was dental decay. The problem of gum disease was reported by about one-quarter of those affected aged 15-years & below and 60-80 per cent in higher age groups. Fifty per cent in higher age groups (35+) also reported problems of foul breath.

2. Only 2-3 per cent subjects, across all ages, consulted trained dentist in the state as well as in both Regions. About one-third subjects, across all ages and both sexes, but more in rural areas reported the availability of governmental dental care facility. Against this, more urban respondents were aware of private facilities.

3. Respondents in urban areas reported less than half-an-hour to reach the private dental health facilities. In rural areas, more respondents reported half to one hour. About 20 per cent even reported more than one hour to reach the dental facility.

Table 5.4.4 Percent 35-44 year olds by reported nature of dental problems and treatment related aspects, sex & geographical area.

AGE: 35-44 yrs STATE : Assam

	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=	**174**	**159**	**212**	**121**	**333**	**158**	**147**	**204**	**101**	**305**	**638**
	problems in last one year		58.8	54.1	56.8	59.1	56.9	50.8	48.9	49.5	54.4	49.6	**53.3**
2	**Type of oral health problems**	n=	**98**	**97**	**118**	**77**	**195**	**80**	**77**	**100**	**57**	**157**	**352**
	Dental decay		90.8	96.6	93.4	88.7	93.2	92.5	99.5	95.2	94.1	95.1	**94.2**
	Gum disease		71.9	38.5	60.2	64.8	60.4	81.5	37.8	66.5	59.5	66.2	**63.3**
	Foul breath		27.9	72.4	46.9	17.4	45.6	28.5	70.6	47.3	22.3	46.3	**46.0**
	Bleeding gums		1.3	0.9	1.0	2.0	1.0	2.1	0.0	1.2	2.3	1.3	**1.2**
	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		61.6	80.1	77.5	8.7	74.5	62.2	86.1	81.2	6.2	78.0	**76.3**
	Trained dentist		1.3	0.0	1.0	0.0	0.9	4.9	0.0	3.6	0.0	3.5	**2.2**
4	**Availaibility of dental facility**	n=	**174**	**159**	**212**	**121**	**333**	**158**	**147**	**204**	**101**	**305**	**638**
	None		26.9	30.2	32.0	3.3	30.8	23.0	36.7	31.7	3.2	30.6	**30.7**
	Govt. facility		31.8	41.0	37.4	20.3	36.7	32.5	44.4	39.3	21.5	38.6	**37.7**
	Pvt. facility		33.6	29.7	23.6	86.3	26.3	34.4	19.8	19.9	91.7	22.7	**24.5**
	Do not know		11.3	0.0	8.5	0.0	8.1	14.2	0.0	10.1	0.0	9.7	**8.9**
5	**Time taken to reach the facility**	n=	**121**	**125**	**128**	**118**	**246**	**112**	**105**	**119**	**98**	**217**	**463**
	Less than 1/2 hr.		33.1	16.8	23.3	40.1	24.4	34.1	10.8	21.5	41.1	22.7	**23.6**
	1/2 - 1 hr.		43.6	53.9	49.2	41.7	48.7	45.5	68.4	56.1	46.4	55.4	**52.1**
	> 1 hr.		16.8	27.7	22.2	16.5	21.8	16.4	20.8	19.4	12.6	19.0	**20.4**
	Cannot say		6.4	1.6	5.3	1.7	5.1	4.0	0.0	3.1	0.0	2.9	**4.0**
6	**Ever suffered from**	n=	**174**	**159**	**212**	**121**	**333**	**158**	**147**	**204**	**101**	**305**	**638**
	Hypertension		2.3	2.5	1.3	9.4	1.6	3.4	0.9	1.2	11.6	1.6	**1.6**
	Diabetes		1.9	0.2	1.1	2.8	1.2	0.0	0.0	0.0	0.0	0.0	**0.6**
	Epilepsy		0.8	2.7	1.6	0.0	1.6	1.7	2.7	2.3	0.0	2.2	**1.9**
	Jaundice		1.7	0.0	1.1	1.1	1.1	0.8	0.0	0.6	0.0	0.6	**0.9**
	Asthma		0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	2.5	0.1	**0.1**

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 : Assam

	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=	**164**	**148**	**205**	**107**	**312**	**153**	**152**	**203**	**102**	**305**	**617**
	problems in last one year		56.2	59.4	56.9	59.8	57.0	61.2	54.8	58.2	62.3	58.3	**57.7**
2	**Type of oral health problems**	n=	**88**	**99**	**116**	**71**	**187**	**88**	**98**	**115**	**71**	**186**	**373**
	Dental decay		87.5	91.9	89.5	86.8	89.4	93.7	95.4	95.2	88.1	94.9	**92.2**
	Gum disease		80.7	76.4	80.6	70.2	80.2	75.6	85.3	82.6	55.8	81.5	**80.9**
	Foul breath		34.8	68.0	52.1	15.5	50.6	33.2	76.0	52.2	23.4	51.0	**50.8**
	Bleeding gums		3.3	0.4	2.1	3.1	2.1	5.0	0.4	3.1	5.3	3.2	**2.7**
	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		63.9	74.5	77.5	6.4	74.5	67.9	82.0	82.5	9.8	79.6	**77.1**
	Trained dentist		2.8	1.9	2.7	1.1	2.7	1.4	0.0	1.0	0.0	1.0	**1.9**
4	**Availaibility of dental facility**	n=	**164**	**148**	**205**	**107**	**312**	**153**	**152**	**203**	**102**	**305**	**617**
	None		26.2	31.0	31.5	3.6	30.4	20.5	34.5	29.3	1.3	28.2	**29.3**
	Govt. facility		34.3	43.9	39.7	24.8	39.1	31.3	42.7	37.5	22.7	36.9	**38.0**
	Pvt. facility		31.3	25.8	21.5	81.8	23.9	35.0	22.6	21.9	89.6	24.5	**24.2**
	Do not know		12.0	0.2	8.8	0.6	8.5	16.3	1.1	11.7	2.0	11.4	**10.0**
5	**Time taken to reach the facility**	n=	**114**	**113**	**124**	**103**	**227**	**109**	**111**	**120**	**100**	**220**	**447**
	Less than 1/2 hr.		29.5	10.9	18.7	37.3	19.9	27.1	12.4	18.2	34.5	19.2	**19.6**
	1/2 - 1 hr.		49.5	57.2	54.1	46.1	53.6	50.0	64.5	57.2	48.9	56.7	**55.2**
	> 1 hr.		13.3	29.2	20.1	16.6	19.9	21.2	22.7	23.5	14.6	23.0	**21.5**
	Cannot say		7.7	2.6	7.2	0.0	6.7	1.7	0.4	1.0	2.0	1.1	**3.9**
6	**Ever suffered from**	n=	**164**	**148**	**205**	**107**	**312**	**153**	**152**	**203**	**102**	**305**	**617**
	Hypertension		23.2	28.7	24.2	31.5	24.5	16.8	26.6	19.1	29.9	19.5	**22.0**
	Diabetes		8.6	12.0	7.7	24.5	8.3	5.3	16.2	8.7	14.9	8.9	**8.6**
	Epilepsy		0.2	3.6	1.5	1.2	1.5	0.8	1.8	1.4	0.0	1.3	**1.4**
	Jaundice		1.6	0.0	1.2	0.0	1.1	0.8	0.0	0.6	0.0	0.6	**0.9**
	Asthma		4.0	1.2	2.9	3.2	2.9	3.6	1.1	2.8	2.0	2.7	**2.8**

5.5 AWARENESS OF DENTAL HEALTH PROBLEMS

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

5.5.2 12 year olds

It is encouraging to note that almost 86 per cent people in this age group of 12 years, both males and females, reported knowledge of dental health problems (Table 5.5.2). Most of them knew about dental decay (84 per cent), gum disease (36 per cent) and a small percentage knew of problems like bad smell (about 4 per cent).

There was little difference in the knowledge of males and females and even the rural-urban differential was not large. The people in Upper Brahmaputra had greater awareness of oral health problems as compared to those in Lower Brahmaputra Region.

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 : Assam**

	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=	159	152	203	108	311	158	147	203	102	305	616
	No knowledge		16.2	8.0	13.0	14.4	13.0	17.0	9.1	15.0	7.9	14.7	**13.9**
	Tooth decay		80.5	87.5	82.7	85.6	82.8	81.6	89.7	84.0	88.9	84.2	**83.5**
	Gum disease		39.9	31.9	34.8	51.4	35.5	42.7	31.6	36.5	53.3	37.1	**36.3**
	Bad smell		5.9	2.8	3.9	10.0	4.2	5.4	4.1	2.9	19.2	3.6	**3.9**
	Stained teeth		0.5	0.0	0.0	2.4	0.1	0.5	0.0	0.0	2.5	0.1	**0.1**
	Others		0.2	0.0	0.0	1.2	0.0	0.2	0.0	0.0	1.3	0.0	**0.0**
2	**Factors that cause Oral Health Problems**												
	Eating sweets/ice cream		19.3	7.9	10.7	44.6	12.0	28.0	5.3	15.4	50.4	16.7	**14.4**
	Not brushing regularly		56.7	71.0	61.2	67.6	61.4	58.0	70.1	60.8	74.2	61.3	**61.4**
	Not rinsing		3.2	4.0	2.2	12.0	2.6	5.2	1.9	2.4	15.5	2.9	**2.8**
	Consuming tobacco		0.0	0.2	0.0	0.6	0.0	0.7	0.0	0.0	3.8	0.1	**0.1**
	Do not know		38.6	26.2	36.1	19.9	35.4	35.7	28.5	35.9	13.0	35.0	**35.2**
3	**Reported Preventive Measures**												
	Not consuming Tobacco		12.2	3.6	8.3	13.3	8.5	8.9	2.9	5.9	11.9	6.2	**7.4**
	Cleaning teeth regularly		53.7	68.5	55.3	85.1	56.5	60.1	64.3	59.3	78.1	60.0	**58.3**
	Visiting dentist regularly		2.6	3.3	1.2	13.9	1.7	4.8	2.4	3.0	10.5	3.3	**2.5**
	Using flouride paste / powder		0.2	0.5	0.0	2.5	0.1	0.5	0.0	0.0	2.5	0.1	**0.1**
	Avoid sweet items		3.7	0.5	1.8	7.4	2.0	7.1	0.0	3.6	11.4	3.9	**3.0**
	Do not know		39.2	29.9	39.6	10.5	38.4	36.1	34.8	38.3	16.7	37.5	**38.0**

Almost one-third of the respondents, both males and females, reported no knowledge about the factors that can cause such problems. Awareness was less in Lower Brahmaputra compared to in Upper Brahmaputra. Urban people were more aware. The most-often cited factors causing dental problems were "not brushing regularly" (more than 61 per cent), and "eating sweets/ice cream/ chocolates' (14 per cent). The other cause cited by about 3 per cent respondents was "not rinsing".

When asked about the preventive measures, about one-third of the respondents reported no knowledge. The percentages were much higher in rural areas (39 per cent) and much less in urban areas (14 per cent). Almost 60 per cent cited regular brushing of teeth as a preventive measure. Other preventive measures reported were "not consuming tobacco" (7 per cent), "regular visit to dentist" (3 per cent) and "avoid sweet items" (3 per cent).

5.5.3 15 year olds

About 87 per cent of the respondents in this age group, more males and more in urban areas, reported knowledge of oral health problems (Table 5.5.3). Awareness was relatively more in urban areas and Region 2 (Upper Brahmaputra) though subjects in rural areas and Lower Brahmaputra Region were also aware of such. Most of them knew about dental decay (more than 86 per cent), gum disease (more than 44 per cent) and bad smell (7 per cent).

Like the 12-year age group, almost one-third of the respondents aged 15 years did not know about the factors affecting oral health— this was more in rural areas (almost 34 per cent) than in urban area (10 per cent) and more in Region 1 than in Region 2. The most-often reported factor causing oral health problems was "not brushing regularly" (about two-thirds), "eating sweets/ ice cream/ chocolates" (12 per cent), not rinsing (3 per cent) and "consuming tobacco" (less than 1 per cent).

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 : Assam

	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=	161	152	204	109	313	156	149	203	102	305	618
	No knowledge		14.0	5.0	11.4	6.1	11.1	16.8	7.6	14.4	6.5	14.1	**12.6**
	Tooth decay		83.4	92.8	86.1	91.4	86.3	82.7	87.0	83.3	91.0	83.6	**85.0**
	Gum disease		49.3	39.8	43.6	61.1	44.3	42.9	30.6	35.7	56.6	36.5	**40.4**
	Bad smell		8.7	6.9	6.6	17.2	7.1	12.4	2.6	6.9	21.4	7.5	**7.3**
	Stained teeth		1.8	0.0	0.6	4.8	0.8	0.5	0.0	0.0	2.6	0.1	**0.5**
	Others		0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	1.3	0.0	**0.0**
2	**Factors that cause Oral Health Problems**												
	Eating sweets/ice cream		23.0	8.8	13.1	48.7	14.6	17.6	3.1	8.3	39.6	9.6	**12.1**
	Not brushing regularly		58.1	79.8	63.7	81.7	64.4	61.8	71.4	62.9	82.4	63.7	**64.1**
	Not rinsing		6.6	3.1	3.5	16.7	4.1	4.1	2.1	1.2	18.9	1.9	**3.0**
	Consuming tobacco		0.8	0.0	0.6	0.0	0.6	1.3	0.5	0.6	3.9	0.7	**0.7**
	Do not know		37.1	19.3	33.4	12.1	32.5	34.8	27.8	35.3	10.4	34.3	**33.4**
3	**Reported Preventive Measures**												
	Not consuming Tobacco		8.9	3.6	5.9	13.2	6.2	10.4	3.3	6.6	15.9	6.9	**6.6**
	Cleaning teeth regularly		59.9	70.4	60.4	85.4	61.5	64.2	63.6	60.7	87.0	61.7	**61.6**
	Visiting dentist regularly		7.0	4.2	4.5	14.9	5.0	4.8	4.0	2.8	16.5	3.3	**4.2**
	Using flouride paste / powder		0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	1.3	0.0	**0.0**
	Avoid sweet items		7.4	1.4	3.9	13.3	4.3	2.3	1.8	1.0	10.4	1.3	**2.8**
	Do not know		36.8	28.9	37.2	12.7	36.2	33.7	34.5	37.8	7.8	36.6	**36.4**

Again, more than one-third of the respondents in this age group reported no knowledge of preventive measures. Such subjects were more in rural areas and less in urban. The four main preventive measures reported were "regular cleaning of teeth" (63 per cent), "not consuming tobacco" (about 7 per cent), "visiting dentist regularly" (4 per cent) and "avoiding sweets" (3 per cent).

5.5.4 35-44 and 65-74 year olds

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

About 82 per cent respondents of these two age groups reported awareness of oral health problems. This percentage was slightly more in urban areas than in the rural areas of the state. Most of them reported problems such as dental decay (almost 90 per cent), gum disease (almost two-thirds in the 35-44 age group and more than three-fourths in 65-74 age group), bad smell (32-36 per cent) and strained teeth (2-4 per cent). Awareness was high and similar in both the Regions.

About 29 per cent respondents in these age groups reported no knowledge of factors that can cause oral health problems. This was more in rural areas than in urban. The factors most reported as causing problems were "not brushing regularly" (65-68 per cent in both age groups), "eating sweets/ice cream/chocolates" (20 per cent in 35-44 age group and 15 per cent in 65-74 age group), "not rinsing" (4-6 per cent) and "consuming tobacco products" (2-4 per cent).

About preventive measures in regard to oral health problems, more than 36 per cent reported no knowledge. Their percentage was more in rural areas as compared to urban areas. Of those with knowledge of preventive measures, about two-thirds said "regular cleaning of teeth" was one such measure. Other three measures, reported by less than 10 per cent respondents, were "not consuming tobacco", "visiting dentist regularly" and "avoid sweets".

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 : Assam**

	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=	174	159	212	121	333	158	147	204	101	305	638
	No knowledge		6.1	6.2	6.5	4.4	6.4	9.7	7.1	9.6	2.5	9.3	**7.9**
	Tooth decay		91.4	91.1	90.8	94.5	90.9	88.4	90.2	88.1	96.2	88.4	**89.7**
	Gum disease		73.1	49.5	62.8	77.1	63.5	71.0	58.5	64.0	83.0	64.7	**64.1**
	Bad smell		32.1	43.7	35.6	40.0	35.8	23.7	36.8	27.4	37.7	27.8	**31.8**
	Stained teeth		6.1	2.7	4.1	10.0	4.4	3.7	2.1	2.2	9.7	2.5	**3.5**
	Others		0.7	0.0	0.0	3.3	0.1	0.5	0.0	0.0	2.5	0.1	**0.1**
2	**Factors that cause Oral Health Problems**												
	Eating sweets/ice cream		32.7	16.1	20.6	67.0	22.5	25.6	12.7	15.3	59.0	17.0	**19.8**
	Not brushing regularly		69.0	71.3	67.4	85.1	68.2	64.2	79.1	67.4	86.0	68.2	**68.2**
	Not rinsing		12.6	6.3	7.1	30.9	8.1	9.9	1.9	3.0	34.5	4.2	**6.2**
	Consuming tobacco		7.3	1.4	4.3	11.0	4.6	5.0	1.8	2.2	15.4	2.7	**3.7**
	Do not know		26.1	27.5	29.8	6.6	28.8	31.7	20.7	30.2	9.5	29.4	**29.1**
3	**Reported Preventive Measures**												
	Not consuming Tobacco		19.0	6.3	12.8	25.4	13.3	13.2	1.7	7.1	21.2	7.7	**10.5**
	Cleaning teeth regularly		67.4	67.8	63.7	91.6	64.9	63.0	71.3	62.8	89.2	63.8	**64.4**
	Visiting dentist regularly		12.6	6.8	6.8	34.3	7.9	8.6	3.7	3.4	30.9	4.4	**6.2**
	Using flouride paste / powder		0.2	0.2	0.0	1.7	0.1	1.0	0.0	0.0	5.1	0.2	**0.2**
	Avoid sweet items		13.9	10.0	9.3	33.3	10.3	6.0	8.2	4.1	25.8	4.9	**7.6**
	Do not know		29.6	31.9	34.4	5.5	33.2	35.0	27.6	35.6	8.9	34.6	**33.9**

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 : Assam**

	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=	164	149	205	108	313	153	152	203	102	305	618
	No knowledge		5.5	5.5	5.8	3.6	5.7	6.9	7.1	7.2	5.2	7.2	**6.5**
	Tooth decay		91.4	90.4	91.0	91.5	91.0	88.9	85.4	86.7	93.4	87.0	**89.0**
	Gum disease		76.3	81.8	78.2	79.6	78.2	74.0	76.0	74.7	74.9	74.7	**76.5**
	Bad smell		29.5	47.5	36.2	34.3	36.1	27.3	46.8	35.3	30.9	35.1	**35.6**
	Stained teeth		4.9	1.7	2.3	12.9	2.8	1.5	1.8	0.4	10.5	0.8	**1.8**
	Others		2.1	0.0	1.2	2.4	1.2	0.3	0.0	0.0	1.3	0.0	**0.6**
2	**Factors that cause Oral Health Problems**												
	Eating sweets/ice cream		23.0	16.0	15.3	55.7	16.9	19.7	12.8	11.6	55.6	13.3	**15.1**
	Not brushing regularly		62.9	74.3	65.2	78.8	65.8	59.6	73.4	62.6	80.4	63.3	**64.6**
	Not rinsing		9.2	3.6	5.1	21.5	5.7	5.8	3.1	1.8	25.8	2.7	**4.2**
	Consuming tobacco		4.9	2.8	1.5	21.9	2.4	5.0	0.7	1.8	15.0	2.3	**2.4**
	Do not know		32.2	25.0	32.4	10.9	31.6	36.6	26.1	35.6	11.7	34.7	**33.2**
3	**Reported Preventive Measures**												
	Not consuming Tobacco		12.5	3.8	6.2	30.5	7.2	12.4	2.8	7.2	19.9	7.7	**7.5**
	Cleaning teeth regularly		65.6	66.3	62.4	89.0	63.5	59.6	67.7	59.3	85.7	60.4	**62.0**
	Visiting dentist regularly		8.7	5.3	4.1	29.7	5.1	6.8	4.2	3.6	21.5	4.3	**4.7**
	Using flouride paste / powder		1.0	0.0	0.6	1.2	0.6	0.5	0.0	0.0	2.6	0.1	**0.4**
	Avoid sweet items		10.4	8.6	6.9	28.7	7.8	4.7	10.1	4.3	24.5	5.0	**6.4**
	Do not know		32.8	32.0	36.0	9.1	34.9	38.3	31.2	39.1	11.1	38.0	**36.5**

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

1. About 88 per cent subjects across all ages and both sexes, but more in urban areas were aware of oral health problems in the state as well as in each Region.

2. About one-third of respondents were not aware of the factors that could cause oral health problems.

3. About 65-70 per cent, across all ages and both sexes, but more in urban areas were aware of the factors that could caused oral health problems in the state as well in both the Regions. Most of them reported "not brushing regularly" (60-70 per cent), followed by "eating sweets/ Ice cream" as two important factors (13-20 per cent). In the urban areas, a small percentage reported tobacco as a factor causing oral health problems.

5.6 TOBACCO SMOKING AND CHEWING HABITS

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

5.6.4 35-44 year olds

About 10 per cent of respondents had the habit of smoking tobacco in the state. Seventeen per cent males and 1 per cent females reported smoking tobacco. There were more smokers in the rural areas than in the urban areas (Table 5.6.4). No differences were noticed between the two Regions. In the urban areas, almost all smokers smoked cigarettes while in the rural areas, mostly smoked Bidis and (two-thirds) and cigarettes (about 31 per cent) and hookah (about 3 per cent). When asked about frequency of smoking, almost everybody (more than 90 per cent) reported smoking less than 10 times a day.

The practice of chewing pan masala or pan masala with tobacco was very low. Only about 13 per cent males and only 2 per cent females reported this habit. This practice was higher in the rural areas. Not much difference was noticed between Lower and Upper Brahmaputra Regions. A majority of those who chewed tobacco or pan masala with tobacco said they had been using it for the last 5-10 years.

About 83 per cent of them reported chewing tobacco at least 10 times a day. Also, 12 per cent males and 2 per cent females reported taking alcohol. Most of them said they were consuming it occasionally.

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 : Assam

	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=	174	159	212	121	333	158	147	204	101	305	638
	Subjects smoking tobacco		17.1	17.2	18.0	11.8	17.7	1.9	0.2	1.2	1.9	1.2	9.5
2	**Nature of Smoking**	n=	27	26	38	15	53	3	1	2	2	4	57
	Chillum		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Hookah		4.4	0.0	3.1	0.0	3.0	0.0	0.0	0.0	0.0	0.0	1.5
	Cigars		0.0	5.2	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	1.0
	Cigarettes		34.2	43.3	30.9	100.0	32.8	100.0	100.0	100.0	100.0	100.0	66.4
	Bidis		61.4	51.6	64.0	0.0	62.2	0.0	0.0	0.0	0.0	0.0	31.1
3	**Number of times Smoking in a day**												
	< 10 times		95.6	100.0	96.9	100.0	97.0	100.0	100.0	100.0	100.0	100.0	98.5
	10-20 times		4.4	0.0	3.1	0.0	3.0	0.0	0.0	0.0	0.0	0.0	1.5
	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=	174	159	212	121	333	158	147	204	101	305	638
	Chew pan or pan masala with tobacco		11.1	14.9	13.1	8.3	12.9	2.4	2.9	2.3	4.5	2.4	7.7
5	**Number of years of chewing pan or**												
	pan masala with Tobacco	n=	19	19	29	9	38	5	4	5	4	9	47
	Less than 5 years		17.6	38.9	25.1	40.3	25.6	44.8	0.0	25.5	28.3	25.7	26
	5 - 10 years		39.9	49.2	43.5	46.5	43.6	10.3	61.2	32.7	28.3	32.4	38.0
	> 10 years		42.6	11.9	31.3	13.2	30.8	44.8	38.8	41.8	43.4	41.9	36.4
6	**Number of times of chewing tobacco in a day**												
	Less than 5 times		39.9	38.9	38.0	53.5	38.5	34.5	38.8	41.8	15.0	39.9	39.2
	5 - 10 times		37.8	47.6	43.5	26.3	43.1	65.5	30.6	41.8	85.0	44.9	44.0
	> 10 times		22.3	13.5	18.4	20.2	18.5	0.0	30.6	16.3	0.0	15.2	16.9
7	**Alcohol consumption habits**	n=	174	159	212	121	333	158	147	204	101	305	638
	Consuming alcohol		9.8	15.0	12.4	6.4	12.1	2.5	0.9	2.2	0.0	2.1	7.1
8	**Frequency of alcohol consumption**	n=	13	25	27	11	38	3	1	4	0	4	42
	Daily		15.4	17.7	17.9	0.0	17.5	33.3	0.0	27.5	0.0	27.5	23
	3 times a week		0.0	1.6	0.0	9.1	0.2	33.3	0.0	27.5	0.0	27.5	13.9
	Occasionally		84.6	80.7	82.1	90.9	82.3	33.3	100.0	45.1	0.0	45.1	63.7

Table 5.6.5 Percent 65-74 year olds by reported smoking, chewing pan & pan masala and alcohol taking habits, sex & geographical area.

AGE: 35-44 yrs STATE : Assam

	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=	**164**	**148**	**205**	**107**	**312**	**153**	**152**	**203**	**102**	**305**	**617**
	Subjects smoking tobacco		17.5	20.1	19.8	8.8	19.4	0.3	0.0	0.0	1.3	0.0	**9.7**
2	**Nature of Smoking**	n=	**24**	**28**	**41**	**11**	**52**	**1**	**0**	**0**	**1**	**1**	**53**
	Chillum		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
	Hookah		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
	Cigars		0.0	4.5	1.9	0.0	1.9	0.0	0.0	0.0	0.0	0.0	**1.0**
	Cigarettes		11.9	31.0	15.4	78.9	16.5	100.0	0.0	0.0	100.0	100.0	**58.3**
	Bidis		88.1	64.5	82.7	21.1	81.6	0.0	0.0	0.0	0.0	0.0	**40.8**
3	**Number of times Smoking in a day**												
	< 10 times		90.9	100.0	94.1	100.0	94.2	100.0	0.0	0.0	100.0	100.0	**97.1**
	10-20 times		9.1	0.0	5.9	0.0	5.8	0.0	0.0	0.0	0.0	0.0	**2.9**
	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=	**164**	**148**	**205**	**107**	**312**	**153**	**152**	**203**	**102**	**305**	**617**
	Chew pan or pan masala with tobacco		13.7	20.6	17.3	8.7	16.9	0.8	1.1	0.4	4.6	0.5	**8.7**
5	**Number of years of chewing pan or**												
	pan masala with Tobacco	n=	**20**	**27**	**37**	**10**	**47**	**3**	**2**	**1**	**4**	**5**	**52**
	Less than 5 years		1.7	21.2	8.7	36.1	9.3	33.3	0.0	0.0	28.3	9.1	**9.2**
	5 - 10 years		55.8	64.3	61.0	42.6	60.6	66.7	100.0	100.0	71.7	90.9	**75.8**
	> 10 years		42.4	14.5	30.3	21.3	30.1	0.0	0.0	0.0	0.0	0.0	**15.1**
6	**Number of times of chewing tobacco**												
	in a day												
	Less than 5 times		25.0	32.4	26.6	50.9	27.1	66.7	0.0	0.0	56.6	18.3	**22.7**
	5 - 10 times		48.3	62.0	57.6	13.9	56.7	0.0	79.0	100.0	0.0	67.7	**62.2**
	> 10 times		26.7	5.6	15.8	35.2	16.2	33.3	21.0	0.0	43.4	14.0	**15.1**
7	**Alcohol consumption habits**	n=	**164**	**148**	**205**	**107**	**312**	**153**	**152**	**203**	**102**	**305**	**617**
	Consuming alcohol		9.6	13.2	12.3	1.3	11.9	0.3	0.0	0.0	1.3	0.0	**6.0**
8	**Frequency of alcohol consumption**	n=	**12**	**16**	**26**	**2**	**28**	**1**	**0**	**0**	**1**	**1**	**29**
	Daily		8.3	0.0	4.8	0.0	4.7	0.0	0.0	0.0	0.0	0.0	**2.4**
	3 times a week		8.3	0.0	4.8	0.0	4.7	0.0	0.0	0.0	0.0	0.0	**2.4**
	Occasionally		83.3	100.0	90.5	100.0	90.5	100.0	0.0	0.0	100.0	100.0	**95.3**

5.6.5 65-74 year olds

About 10 per cent in this age group (19 per cent males and a negligible percent of females) reported the habit of smoking – more in rural areas and less in urban areas (Table 5.6.5). Bidi smoking was mostly reported in rural areas and cigarettes in urban areas. The frequency of smoking Bidis and cigarettes were less than 10 times a day. There were no differences between Regions.

About 9 per cent (17 per cent males and less than 1 per cent females) in this age group reported chewing pan masala with tobacco. Their percentage was more in rural males (17 per cent) than in urban areas (9 per cent). About 80 per cent of them said they were chewing it less than 10 times a day. More than 80 per cent males said they had had this habit for less than 10 years.

About 12 per cent (nearly all males) reported taking alcohol. Most of them reported taking alcohol occasionally and their number was more in the rural areas. More people with this habit were reported from Lower Brahmaputra than from Upper Brahmaputra.

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

1. About 9 per cent, more males and more in rural areas, and across all ages, had the habit of smoking in the state. No differences were found between the two Regions. About one-third of them, more males and more in rural areas, smoked Bidis. This was followed by the Cigarette smokers and they were in the urban areas. Fortunately, almost all smokers, across both sexes and place of residence, smoked less than 10 times a day.
2. About 9-10 per cent, across all ages and place of residence, but more males said they chewed pan or pan masala with tobacco. About three-fourths of them, across all ages and both sexes and place of residence, said they had been taking it for more than five years.
3. About 7 per cent, across all ages, but more males and more in rural areas, said they drank alcohol in the state as well as in each Region.

CHAPTER VI
ORAL HEALTH STATUS

6.0 CLINICAL FINDINGS

The clinical findings are presented under the following broad heads:

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

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

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

6.1 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

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

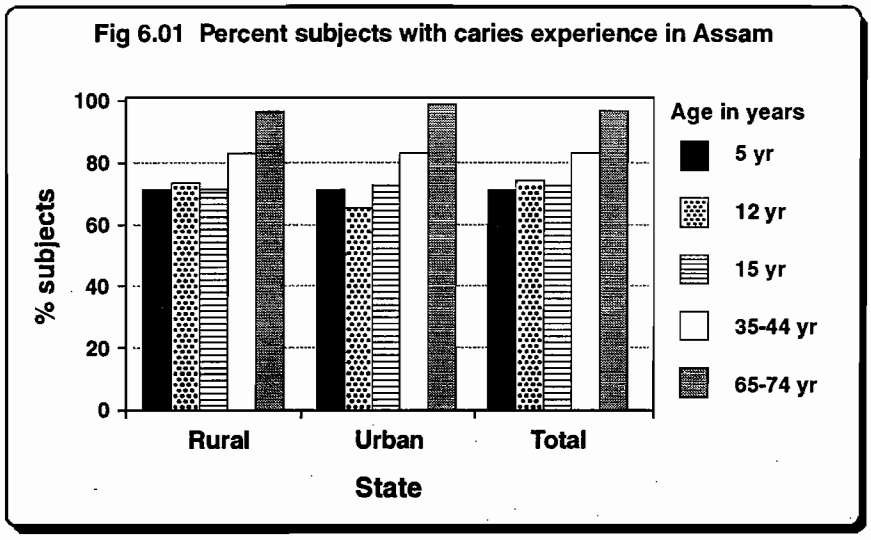
Table 6.01. Percent subjects with caries experience and with dmft/ DMFT values by age, sex and geographical area.
STATE: Assam

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=**	**159**	**159**	***318***	**State Rural**	**n=**	**159**	**159**	***318***	**161**	**156**	***317***	**174**	**158**	***332***	**164**	**153**	***317***
With caries experience		71.1	71.1	***71.1***	With caries experience		66.7	66.7	***66.7***	67.1	67.9	***67.5***	71.3	77.2	***74.3***	88.4	85.6	***87.0***
dmft value 1-3		17.6	20.8	***19.2***	DMFT value 1-3		32.7	32.7	***32.7***	26.1	25.6	***25.9***	20.1	13.9	***17.0***	7.9	3.9	***5.9***
dmft value 4-5		20.1	24.5	***22.3***	DMFT value 4-7; 4-8		32.7	27.0	***29.9***	34.2	38.5	***36.4***	37.9	43.7	***40.8***	25.6	26.8	***26.2***
dmft value 6-10		30.8	25.2	***28.0***	DMFT value 8-14; 9-16		1.3	6.9	***4.1***	6.8	3.8	***5.3***	13.2	17.7	***15.5***	34.1	26.8	***30.5***
dmft value 11-15		1.9	0.6	***1.3***	DMFT value 15-21; 17-24		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	1.9	***1.0***	7.3	8.5	***7.9***
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***	0.0	0.0	***0.0***	0.0	1.3	***0.7***
					DMFT value 29 or more		0.0	0.0	NA	0.0	0.0	NA	0.0	0.0	***0.0***	13.4	18.3	***15.9***
Region 2	**n=**	**150**	**149**	***299***	**State Urban**	**n=**	**152**	**147**	***299***	**152**	**149**	***301***	**159**	**147**	***306***	**149**	**152**	***301***
With caries experience		69.3	63.8	***66.6***	With caries experience		65.8	73.5	***69.7***	72.4	71.1	***71.8***	83.6	81.0	***82.3***	96.0	91.4	***93.7***
dmft value 1-3		21.3	16.8	***19.1***	DMFT value 1-3		28.9	30.6	***29.8***	25.7	18.1	***21.9***	13.8	15.6	***14.7***	4.0	4.6	***4.3***
dmft value 4-5		24.7	15.4	***20.1***	DMFT value 4-7; 4-8		35.5	42.9	***39.2***	42.1	45.6	***43.9***	41.5	34.0	***37.8***	20.1	13.8	***17.0***
dmft value 6-10		23.3	29.5	***26.4***	DMFT value 8-14; 9-16		1.3	0.0	***0.7***	4.6	6.7	***5.7***	26.4	27.9	***27.2***	46.3	40.8	***43.6***
dmft value 11-15		0.0	2.0	***1.0***	DMFT value 15-21; 17-24		0.0	0.0	***0.0***	0.0	0.7	***0.4***	1.9	3.4	***2.7***	4.7	9.2	***7.0***
dmft value 16 or more		0.0	0.0	***0.0***	DMFT value 22-28; 25-28		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.7	***0.4***
					DMFT value 29 or more		0.0	0.0	***0.0***	0.0	0.0	NA	0.0	0.0	***0.0***	20.8	22.4	***21.6***
State Rural	**n=**	**205**	**202**	***407***	**State Rural**	**n=**	**203**	**204**	***407***	**204**	**203**	***407***	**212**	**204**	***416***	**205**	**203**	***408***
With caries experience		71.7	65.3	***68.5***	With caries experience		67.5	74.0	***70.8***	71.6	67.0	***69.3***	75.9	80.4	***78.2***	90.7	86.2	***88.5***
dmft value 1-3		13.2	13.4	***13.3***	DMFT value 1-3		27.1	29.4	***28.3***	24.5	14.3	***19.4***	12.3	11.3	***11.8***	6.8	3.4	***5.1***
dmft value 4-5		23.4	19.3	***21.4***	DMFT value 4-7; 4-8		39.4	39.7	***39.6***	40.2	46.3	***43.3***	34.0	35.8	***34.9***	20.5	20.2	***20.4***
dmft value 6-10		33.7	31.2	***32.5***	DMFT value 8-14; 9-16		1.0	4.9	***3.0***	6.9	5.9	***6.4***	28.3	29.9	***29.1***	38.0	28.6	***33.3***
dmft value 11-15		1.0	1.5	***1.3***	DMFT value 15-21; 17-24		0.0	0.0	***0.0***	0.0	0.5	***0.3***	1.4	3.4	***2.4***	6.3	9.9	***8.1***
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***	0.0	0.5	***0.3***
					DMFT value 29 or more		0.0	0.0	NA	0.0	0.0	NA	0.0	0.0	***0.0***	19.0	23.6	***21.3***
State Urban	**n=**	**104**	**106**	***210***	**State Urban**	**n=**	**108**	**102**	***210***	**109**	**102**	***211***	**121**	**101**	***222***	**108**	**102**	***210***
With caries experience		67.3	71.7	***69.5***	With caries experience		63.9	61.8	***62.9***	66.1	74.5	***70.3***	79.3	76.2	***77.8***	94.4	93.1	***93.8***
dmft value 1-3		31.7	29.2	***30.5***	DMFT value 1-3		38.0	36.3	***37.2***	28.4	37.3	***32.9***	25.6	21.8	***23.7***	4.6	5.9	***5.3***
dmft value 4-5		20.2	21.7	***21.0***	DMFT value 4-7; 4-8		24.1	24.5	***24.3***	33.9	33.3	***33.6***	49.6	45.5	***47.6***	27.8	20.6	***24.2***
dmft value 6-10		14.4	19.8	***17.1***	DMFT value 8-14; 9-16		1.9	1.0	***1.5***	3.7	3.9	***3.8***	4.1	7.9	***6.0***	43.5	44.1	***43.8***
dmft value 11-15		1.0	0.9	***1.0***	DMFT value 15-21; 17-24		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	1.0	***0.5***	5.6	6.9	***6.3***
dmft value 16 or more		0.0	0.0	***0.0***	DMFT value 22-28; 25-28		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	2.0	***1.0***
					DMFT value 29 or more		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	13.0	13.7	***13.4***
State Total	**n=**	**309**	**308**	***617***	**State Total**	**n=**	**311**	**306**	***617***	**313**	**305**	***618***	**333**	**305**	***638***	**313**	**305**	***618***
With caries experience		70.2	67.5	***68.9***	With caries experience		66.2	69.9	***68.1***	69.6	69.5	***69.6***	77.2	79.0	***78.1***	92.0	88.5	***90.3***
dmft value 1-3		19.4	18.8	***19.1***	DMFT value 1-3		30.9	31.7	***31.3***	25.9	22.0	***24.0***	17.1	14.8	***16.0***	6.1	4.3	***5.2***
dmft value 4-5		22.3	20.1	***21.2***	DMFT value 4-7; 4-8		34.1	34.6	***34.4***	38.0	42.0	***40.0***	39.6	39.0	***39.3***	23.0	20.3	***21.7***
dmft value 6-10		27.2	27.3	***27.3***	DMFT value 8-14; 9-16		1.3	3.6	***2.5***	5.8	5.2	***5.5***	19.5	22.6	***21.1***	39.9	33.8	***36.9***
dmft value 11-15		1.0	1.3	***1.2***	DMFT value 15-21; 17-24		0.0	0.0	***0.0***	0.0	0.3	***0.2***	0.9	2.6	***1.8***	6.1	8.9	***7.5***
dmft value 16 or more		0.3	0.0	***0.2***	DMFT value 22-28; 25-28		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	1.0	***0.5***
					DMFT value 29 or more		0.0	0.0	NA	0.0	0.0	NA	0.0	0.0	***0.0***	16.9	20.3	***18.6***

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

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



The overall percentage of 5-year-old subjects (primary teeth) who had experienced caries was about 69 per cent (70.2 per cent males and 67.5 per cent females). A frequency distribution of the dmft values by the percentage of subjects who had experienced caries (Table 6.01) shows that 27.3 per cent subjects had a dmft value of 6-10 followed by 21.2 per cent with a dmft value of 4-5. Thus, about 48.5 per cent of the 5-year-old subjects had experienced caries in 4 or more teeth and about 67.5 per cent had experienced caries in about half (50 per cent) of their dentition. Only about 1.4 per cent subjects had a dmft value higher than 10.

The mean dmft in the state was 3.7 (Table 6.02) for children aged 5 years (primary teeth). The decayed teeth (dt) component contributed to the whole of dmft value in this age group. Since there were no missing teeth in this age group, the mean number of teeth present in the mouth was the expected 20. The SIC Index was more than twice the mean dmft value and stood at about 7.1 for the state. This indicates that a third of the surveyed population had a much higher incidence of caries (decayed teeth) than what is indicated by the figure for mean number of decayed teeth (dt).

The picture was similar for male and female subjects, and between rural and urban areas. There were no major differentials between the Lower and Upper Brahmaputra Regions.

The caries experience increased as age advanced (Fig 6.01). The prevalence of subjects with caries experience in permanent teeth (DMFT>0) was approximately 68.1 per cent (12 years); 69.6 per cent (15 years); 78.1 per cent (35-44 years); and 90.3 per cent (65-74 years).

About 65.7 per cent of the subjects (12 years) and 64 per cent (15 years) had experienced caries in more than one and up to a quarter (25 per cent) of the teeth normally present at that age. Another 2.5 per cent and 5.5 per cent had experienced caries in up to 50 per cent of their teeth at 12 years and 15 years of age, respectively. In the 35-44 and 65-74 age groups, there were a much higher percentage of subjects who had experienced caries in 25-50 per cent of their teeth. About 1.8 per cent of the subjects in the 35-44 age group and 26.6 per cent in the 65-74 age group had experienced caries in between than 50 per cent and about 100 per cent of their teeth (Table 6.01).

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

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=	159	159	318	159	158	317	161	156	317	163	155	318	164	152	316
Mean no. of teeth present (mnt/MNT)		19.9	20.0	20.0	28.0	28.0	28.0	28.0	28.0	28.0	31.4	31.0	31.2	23.6	23.2	23.4
Mean dmft and Mean DMFT		4.0	3.5	3.8	2.5	2.9	2.7	3.1	2.9	3.0	4.3	5.4	4.9	10.8	11.6	11.2
Mean no. of Decayed teeth (dt/DT)		3.9	3.5	3.7	2.5	2.9	2.7	3.0	2.9	3.0	3.7	4.4	4.1	2.4	2.8	2.6
Mean no. of Missing teeth (mt/MT)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.0	0.8	8.4	8.8	8.6
Mean no. of Filled teeth (ft/FT)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SIC Index		7.4	6.8	7.1	4.9	5.8	5.4	6.1	5.8	6.0	8.2	9.4	8.8	22.7	26.1	24.4
No. of subjects edentulous		0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	16.0	20.0	36
Region 2	n=	150	149	299	152	147	299	151	149	300	153	147	300	148	152	300
Mean no. of teeth present (mnt/MNT)		20.0	20.0	20.0	28.0	28.0	28.0	28.0	28.0	28.0	31.4	31.2	31.3	20.9	19.2	20.1
Mean dmft and Mean DMFT		3.7	3.5	3.6	2.4	2.8	2.6	3.2	3.6	3.4	7.2	7.0	7.1	16.2	17.4	16.8
Mean no. of Decayed teeth (dt/DT)		3.7	3.5	3.6	2.4	2.8	2.6	3.1	3.5	3.3	6.6	6.3	6.5	5.2	4.6	4.9
Mean no. of Missing teeth (mt/MT)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.8	0.7	11.1	12.8	12.0
Mean no. of Filled teeth (ft/FT)		0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SIC Index		6.6	7.3	7.0	4.6	4.8	4.7	5.6	6.4	6.0	11.4	11.8	11.6	26.2	27.7	27.0
No. of subjects edentulous		0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	24.0	27.0	51
State Rural	n=	205	202	407	203	203	406	204	203	407	204	202	406	205	202	407
Mean no. of teeth present (mnt/MNT)		20.0	20.0	20.0	28.0	28.0	28.0	28.0	28.0	28.0	31.4	31.1	31.3	22.7	21.7	22.2
Mean dmft and Mean DMFT		3.9	3.6	3.8	2.5	2.9	2.7	3.1	3.2	3.2	5.4	6.1	5.8	12.7	13.8	13.3
Mean no. of Decayed teeth (dt/DT)		3.9	3.6	3.8	2.5	2.9	2.7	3.1	3.1	3.1	4.8	5.2	5.0	3.4	3.5	3.5
Mean no. of Missing teeth (mt/MT)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.9	0.8	9.3	10.3	9.8
Mean no. of Filled teeth (ft/FT)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SIC Index		7.5	7.4	7.5	4.8	5.4	5.1	6.2	6.4	6.3	11.1	11.7	11.4	25.7	28.5	27.1
No. of subjects edentulous		0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	30.0	38.0	68
State Urban	n=	104	106	210	108	102	210	108	102	210	112	100	212	107	102	209
Mean no. of teeth present (mnt/MNT)		19.8	19.9	19.9	28.0	28.0	28.0	28.0	27.9	28.0	31.5	31.1	31.3	22.0	20.0	21.0
Mean dmft and Mean DMFT		2.8	3.1	3.0	2.1	2.1	2.1	2.5	2.8	2.7	3.5	3.8	3.7	12.8	13.9	13.4
Mean no. of Decayed teeth (dt/DT)		2.6	3.0	2.8	2.0	2.0	2.0	2.2	2.4	2.3	2.9	2.6	2.8	2.7	2.6	2.7
Mean no. of Missing teeth (mt/MT)		0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.5	0.9	0.7	10.0	11.3	10.7
Mean no. of Filled teeth (ft/FT)		0.1	0.0	0.1	0.1	0.1	0.1	0.3	0.3	0.3	0.2	0.3	0.3	0.1	0.0	0.1
SIC Index		5.7	6.4	6.1	4.4	4.9	4.7	5.4	5.5	5.5	6.9	7.4	7.2	22.3	23.4	22.9
No. of subjects edentulous		0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	10.0	9.0	19
State Total	n=	309	308	617	311	305	616	312	305	617	316	302	618	312	304	616
Mean no. of teeth present (mnt/MNT)		20.0	20.0	20.0	28.0	28.0	28.0	28.0	28.0	28.0	31.4	31.1	31.3	22.6	21.6	22.1
Mean dmft and Mean DMFT		3.8	3.5	3.7	2.4	2.8	2.6	3.0	3.1	3.1	5.1	5.8	5.5	12.7	13.8	13.3
Mean no. of Decayed teeth (dt/DT)		3.7	3.5	3.6	2.4	2.8	2.6	3.0	3.0	3.0	4.5	4.9	4.7	3.3	3.4	3.4
Mean no. of Missing teeth (mt/MT)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.9	0.8	9.4	10.4	9.9
Mean no. of Filled teeth (ft/FT)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SIC Index		7.0	7.1	7.1	4.8	5.3	5.1	5.9	6.1	6.0	9.8	10.6	10.2	24.5	27.0	25.8
No. of subjects edentulous		'0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	40.0	47.0	87

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.**

The mean DMFT appeared to rise steadily as age advanced (Fig 6.02) and was the highest (13.3) for the 65-74 age group (Table 6.02). The decayed teeth (DT) component contributed most to the DMFT in subjects aged 12, 15 and 35-44 years. In the 65-74 age group and among both male and female subjects, the missing teeth component (MT) was 9.9 and contributed the most (three times more than the decayed teeth component) to the DMFT. Almost all cases of missing teeth were reported to be due to caries (Table 6.03). There were no filled teeth in any of the age groups surveyed.

The Significant Caries (SIC) Index, which gives the mean of one-third of the subjects with the highest DMFT levels, was applied to all age groups. The corresponding figures for SIC index were almost twice the DMFT figures in all age groups (Table 6.02).

Caries appeared to be slightly more prevalent in the urban (93.8 per cent) than in rural areas (88.5 per cent) in older adults (65-74 years). There were no marked differentials in other age groups. The pattern of distribution of the components of DMFT was similar in rural and urban areas. There were no marked differentials between regions or between male and female subjects.

About 14 per cent of the subjects across both sexes in the 65-74 age group were edentulous or without natural teeth. Overall, the number of teeth present decreased as age advanced (Table 6.02). These findings suggest cumulative high tooth mortality, which could be due to caries and/or due to periodontal disease, orthodontic reasons or other causes.

Fig. 6.02 Mean number of teeth with caries experience in Assam

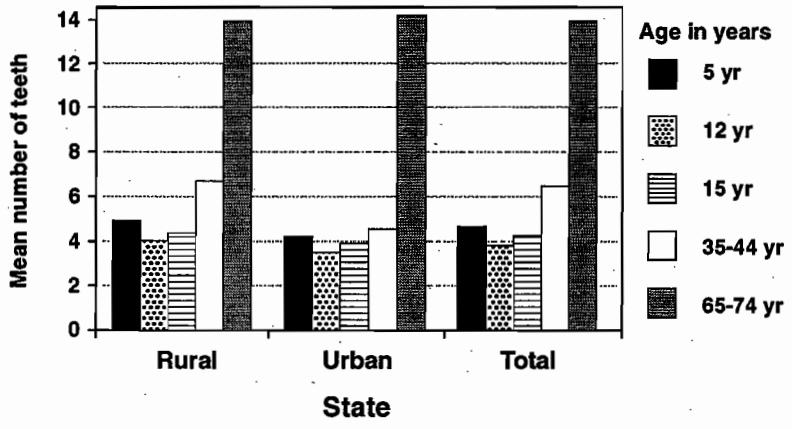


Table 6.03. Mean number of teeth missng due to caries or other reasons by age, sex and geographical area. STATE: Assam

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=	159	158	*317*	161	156	*317*	163	155	*318*	164	152	*316*
Mean no. of teeth missing due to caries		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.6	1.0	*0.8*	8.2	8.7	*8.5*
Mean no. of teeth missing due to other reasons		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.2	0.2	*0.2*
Region 2	n=	152	147	*299*	151	149	*300*	153	147	*300*	148	152	*300*
Mean no. of teeth missing due to caries		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.6	0.8	*0.7*	11.1	12.8	*12.0*
Mean no. of teeth missing due to other reasons		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
State Rural	n=	203	203	*406*	204	203	*407*	204	202	*406*	205	202	*407*
Mean no. of teeth missing due to caries		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.6	0.9	*0.8*	9.2	10.2	*9.7*
Mean no. of teeth missing due to other reasons		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.1	0.1	*0.1*
State Urban	n=	108	102	*210*	108	102	*210*	112	100	*212*	107	102	*209*
Mean no. of teeth missing due to caries		0.0	0.0	*0.0*	0.0	0.1	*0.1*	0.5	0.9	*0.7*	9.8	10.8	*10.3*
Mean no. of teeth missing due to other reasons		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.2	0.5	*0.4*
State Total	n=	311	305	*616*	312	305	*617*	316	302	*618*	312	304	*616*
Mean no. of teeth missing due to caries		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.6	0.9	*0.8*	9.3	10.3	*9.8*
Mean no. of teeth missing due to other reasons		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.1	0.1	*0.1*

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

6.1.2 Root Caries

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

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

The prevalence proportion of subjects with root caries was approximately 6.6 per cent and 9.5 per cent in the 35-44 and 65-74 year age groups, respectively. There were no subjects in the state with root fillings.

Few subjects had root fillings in both the age groups in the state. The mean number of teeth with root fillings was close to zero (0.2) among the 35-44 year-olds and close to one tooth (0.8 per cent) among the 65-74 year-olds. Root caries was thus not a public health problem in the state.

There were no major differentials in rural and urban areas, in between regions and between male and female subjects.

Fig. 6.04 Percent subject with root caries in Assam

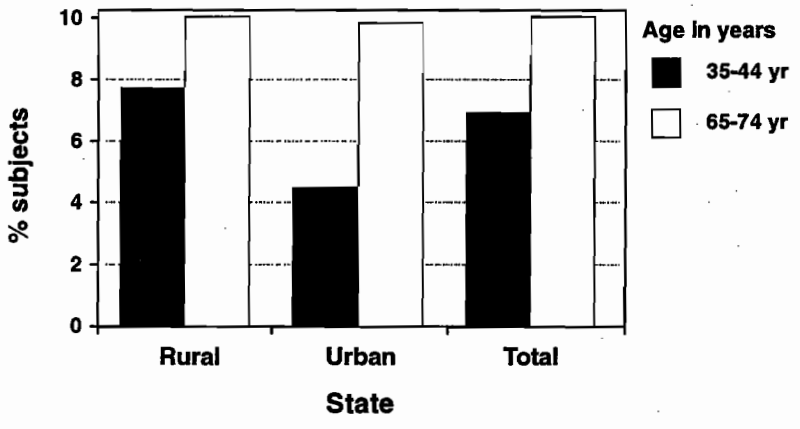


Table 6.04. Percent subjects and mean no. of teeth with root caries and fillings by age, sex and geographical area.

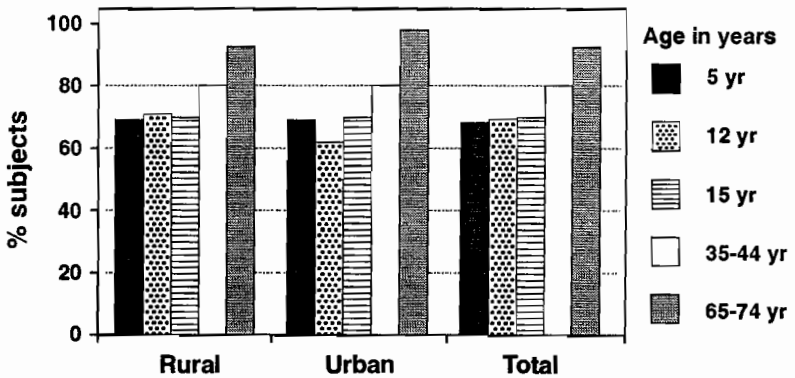
STATE : Assam

Root Caries		35-44 years			65-74 years		
		M	F	T	M	F	T
Region 1	n=	**174**	**158**	***332***	**164**	**153**	***317***
% Subjects with Root caries		3.7	5.2	***4.5***	9.3	9.6	***9.5***
Mean nos of teeth with Root Caries		0.2	0.2	***0.2***	0.7	0.8	***0.8***
% 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=	**159**	**147**	***306***	**149**	**152**	***301***
% Subjects with Root caries		8.0	10.0	***9.0***	10.2	8.8	***9.5***
Mean nos of teeth with Root Caries		0.2	0.3	***0.3***	1.0	0.8	***0.9***
% Subjects with Root fillings		0.0	0.0	***0.0***	0.0	0.0	***0.0***
Mean nos of teeth with Root fillings		0.0	0.0	***0.0***	0.0	0.0	***0.0***
State Rural	n=	**212**	**204**	***416***	**205**	**203**	***408***
% Subjects with Root caries		6.2	7.9	***7.1***	9.8	9.4	***9.6***
Mean nos of teeth with Root Caries		0.2	0.3	***0.3***	0.9	0.8	***0.9***
% Subjects with Root fillings		0.0	0.0	***0.0***	0.0	0.0	***0.0***
Mean nos of teeth with Root fillings		0.0	0.0	***0.0***	0.0	0.0	***0.0***
State Urban	n=	**121**	**101**	***222***	**108**	**102**	***210***
% Subjects with Root caries		2.6	5.1	***3.9***	9.6	8.2	***8.9***
Mean nos of teeth with Root Caries		0.1	0.1	***0.1***	0.7	0.9	***0.8***
% 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=	**333**	**305**	***638***	**313**	**305**	***618***
% Subjects with Root caries		5.7	7.5	***6.6***	9.8	9.2	***9.5***
Mean nos of teeth with Root Caries		0.2	0.2	***0.2***	0.8	0.8	***0.8***
% 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 percentage of subjects requiring preventive and treatment care, by type of treatment needed, and Table 6.06 presents the mean number of teeth requiring treatment, by type of treatment. (Fig. 6.05 and 6.06)

Fig 6.05 Percent subjects with treatment need in Assam



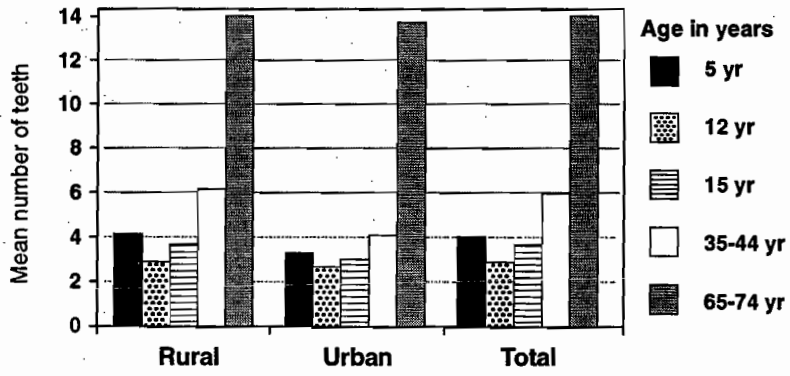
The subjects were clinically assessed for their need for both preventive and treatment care, based on their caries experience and dentition status. Preventive care needs included caries arresting care and fissure sealing.

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

The treatment need in the surveyed population was high (more than 60 per cent) in all age groups. Up to 87.5 per cent (65-74 years) needed some treatment.

The 5-year-olds had the least treatment need while this was the highest in subjects aged 65-74 years (Fig 6.05). Invariably, the need for one surface filling was many times more than that for two or more surface fillings. The need for extractions was inversely related with age, with the youngest age group of 5-year-olds needing the least extractions and those in the 65-74 year age group needing the most. There was no difference in the pattern of need by type of need between male and female subjects and between rural and urban areas and between the regions.

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



A notable proportion of subjects in the higher age groups (35+) were recommended other, but unspecified, treatment care.

At the state level, the mean number of teeth needing treatment was highest in the highest age group of 65-74 years (13.4), more in females than males). The mean number of teeth requiring treatment was the lowest in the subjects aged 12 years (2.6) more in females. The pattern was similar for rural and urban areas, although the mean number of teeth needing treatment was higher in the rural areas compared to the urban areas (Fig 6.05).

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

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=	159	159	*318*	159	159	*318*	161	156	*317*	174	158	*332*	164	153	*317*
Treatment needed		68.0	64.1	*66.1*	65.2	66.9	*66.1*	66.5	66.0	*66.3*	68.4	76.5	*72.5*	85.5	82.7	*84.1*
Preventive care & fissure sealant		0.5	1.6	*1.1*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
Filling one or more surfaces		66.5	61.5	*64.0*	62.3	65.1	*63.7*	65.5	64.1	*64.8*	59.3	62.6	*61.0*	27.1	20.2	*23.7*
Crown & Veneer		0.0	0.0	*0.0*	0.2	0.0	*0.1*	0.2	0.5	*0.4*	0.0	0.8	*0.4*	0.8	0.8	*0.8*
Pulp care		0.2	2.4	*1.3*	2.0	3.3	*2.7*	2.1	4.8	*3.5*	2.5	3.2	*2.9*	1.0	0.0	*0.5*
Extraction		13.2	12.6	*12.9*	8.5	6.6	*7.6*	8.0	6.1	*7.1*	26.8	30.0	*28.4*	23.8	29.2	*26.5*
Need for other care		1.1	0.0	*0.6*	1.1	0.2	*0.7*	0.0	3.6	*1.8*	19.6	29.4	*24.5*	71.2	67.3	*69.3*
Region 2	n=	150	149	*299*	152	147	*299*	152	149	*301*	159	147	*306*	149	152	*301*
Treatment needed		71.9	63.4	*67.7*	67.2	78.1	*73*	73.3	72.0	*73*	85.4	84.2	*84.8*	96.3	90.5	*93.4*
Preventive care & fissure sealant		5.4	2.1	*3.8*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
Filling one or more surfaces		68.1	61.8	*65.0*	66.1	73.4	*69.8*	70.6	71.1	*70.9*	67.2	60.6	*63.9*	16.5	9.9	*13.2*
Crown & Veneer		0.0	0.2	*0.1*	0.2	0.0	*0.1*	0.0	0.2	*0.1*	0.2	0.0	*0.1*	0.9	0.0	*0.5*
Pulp care		0.0	0.0	*0.0*	8.1	5.4	*6.8*	11.9	12.8	*12.4*	30.4	33.4	*31.9*	3.2	1.8	*2.5*
Extraction		19.7	20.8	*20.3*	4.5	6.3	*5.4*	3.8	7.2	*5.5*	52.1	48.5	*50.3*	43.7	38.7	*41.2*
Need for other care		1.1	0.2	*0.7*	0.5	0.5	*0.5*	1.1	1.8	*1.5*	11.0	15.5	*13.3*	62.9	63.2	*63.1*
State Rural	n=	205	202	*407*	203	204	*407*	204	203	*407*	212	204	*416*	205	203	*408*
Treatment needed		70.0	62.9	*66.5*	66.2	72.6	*69.4*	69.8	67.6	*68.7*	73.9	79.8	*76.9*	88.9	84.8	*86.9*
Preventive care & fissure sealant		1.9	1.0	*1.5*	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		67.9	61.3	*64.6*	64.6	70.2	*67.4*	68.7	66.1	*67.4*	61.0	62.5	*61.8*	20.6	14.1	*17.4*
Crown & Veneer		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.6	*0.3*	1.0	0.6	*0.8*
Pulp care		0.0	1.2	*0.6*	4.0	4.6	*4.3*	6.1	7.7	*6.9*	13.6	15.5	*14.6*	1.7	0.8	*1.3*
Extraction		17.1	17.8	*17.5*	6.7	6.2	*6.5*	6.8	7.2	*7.0*	39.5	39.8	*39.7*	32.9	35.6	*34.3*
Need for other care		1.0	0.0	*0.5*	0.6	0.0	*0.3*	0.4	3.1	*1.8*	15.4	23.0	*19.2*	65.4	63.0	*64.2*
State Urban	n=	104	106	*210*	108	102	*210*	109	102	*211*	121	101	*222*	108	102	*210*
Treatment needed		66.4	70.6	*68.5*	64.5	60.0	*62.3*	63.3	72.5	*67.9*	77.1	76.7	*76.9*	92.6	91.5	*92.1*
Preventive care & fissure sealant		5.2	6.9	*6.1*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
Filling one or more surfaces		62.0	63.7	*62.9*	57.8	54.3	*56.1*	58.5	71.2	*64.9*	68.3	57.4	*62.9*	41.3	31.6	*36.5*
Crown & Veneer		0.0	0.7	*0.4*	1.9	0.0	*1.0*	1.2	3.2	*2.2*	0.6	0.0	*0.3*	0.0	0.0	*0.0*
Pulp care		1.3	3.7	*2.5*	6.1	0.0	*3.1*	3.0	8.4	*5.7*	4.0	7.8	*5.9*	2.5	0.0	*1.3*
Extraction		5.0	1.2	*3.1*	9.7	8.9	*9.3*	4.2	1.3	*2.8*	11.6	16.7	*14.2*	18.2	13.7	*16.0*
Need for other care		1.9	0.7	*1.3*	2.5	2.6	*2.6*	0.6	1.3	*1.0*	23.8	32.6	*28.2*	87.1	85.3	*86.2*
State Total	n=	309	308	*617*	311	306	*617*	313	305	*618*	333	305	*638*	313	305	*618*
Treatment needed		69.4	63.8	*66.6*	65.9	71.0	*68.5*	69.0	68.2	*68.6*	74.3	79.3	*76.8*	89.3	85.6	*87.5*
Preventive care & fissure sealant		2.3	1.8	*2.1*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
Filling one or more surfaces		67.1	61.6	*64.4*	63.7	68.2	*66.0*	67.4	66.6	*67.0*	62.0	61.9	*62.0*	23.3	16.4	*19.9*
Crown & Veneer		0.0	0.1	*0.1*	0.2	0.0	*0.1*	0.2	0.4	*0.3*	0.1	0.5	*0.3*	0.8	0.5	*0.7*
Pulp care		0.2	1.5	*0.9*	4.2	4.1	*4.2*	5.6	7.7	*6.7*	12.2	14.4	*13.3*	1.8	0.7	*1.3*
Extraction		15.6	15.6	*15.6*	7.0	6.5	*6.8*	6.5	6.5	*6.5*	35.6	36.8	*36.2*	30.9	32.8	*31.9*
Need for other care		1.1	0.1	*0.6*	0.8	0.3	*0.6*	0.4	2.9	*1.7*	16.6	24.2	*20.4*	68.2	65.7	*67.0*

The type of treatment varied with age. The mean number of teeth needing fillings ranged from 2 to 3, except in the 65-74 age group where the need for fillings was lower (Table 6.06). The mean number of teeth indicated for extraction ranged from 0.1 to 3.0 and was higher in the 35-44 and 65-74 year age groups. A relatively high mean number of teeth (about 10) were indicated for other, but unspecified care, in the 65-74 year age group. The pattern was similar for males and females, for rural and urban areas in the state, and between regions.

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

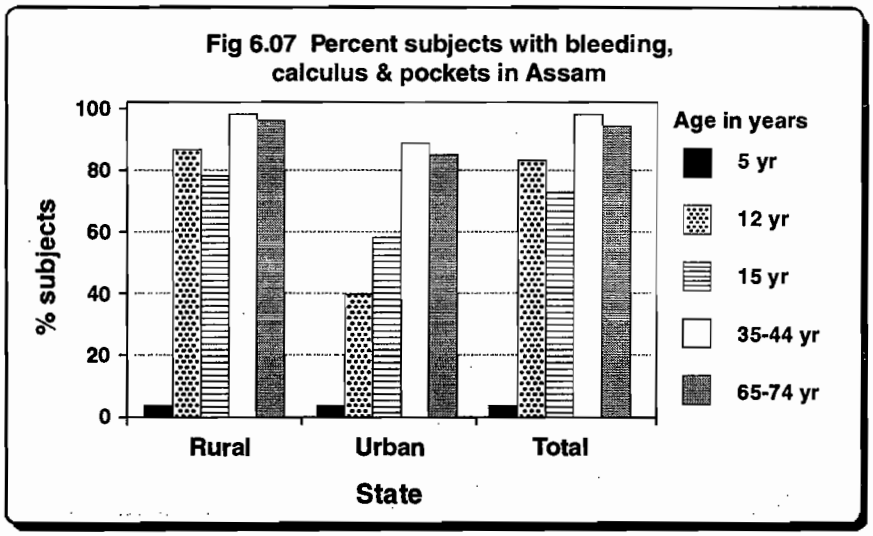
Treatment Need		5 years			12 years			15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Region 1	n=	159	159	318	159	158	317	161	156	317	163	155	318	164	152	316
Treatment needed		3.5	3.2	3.4	1.7	2.0	1.9	2.1	2.0	2.1	4.2	5.0	4.6	11.0	12.3	11.7
Preventive care/ fissure sealant		0.0	0.0	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		3.1	2.9	3.0	1.6	1.8	1.7	2.0	1.9	2.0	2.5	3.0	2.8	0.8	0.6	0.7
Crown/ Veneer		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.1
Pulp care		0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0
Extraction		0.3	0.3	0.3	0.1	0.1	0.1	0.1	0.0	0.1	1.0	1.0	1.0	1.7	2.6	2.2
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	8.2	9.0	8.6
Region 2	n=	150	149	299	152	147	299	151	149	300	153	147	300	148	152	300
Treatment needed		3.5	3.4	3.5	1.5	1.7	1.6	1.9	2.2	2.1	6.8	6.8	6.8	15.8	16.8	16.3
Preventive care/ fissure sealant		0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Filling one or more surfaces		3.0	2.9	3.0	1.4	1.6	1.5	1.7	2.0	1.9	2.9	2.4	2.7	0.5	0.4	0.5
Crown/ Veneer		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
Pulp care		0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	1.2	1.2	1.2	0.1	0.0	0.1
Extraction		0.4	0.4	0.4	0.0	0.1	0.1	0.0	0.0	0.0	2.1	2.4	2.3	4.4	4.1	4.3
Need for other care		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.8	0.7	10.8	12.3	11.6
State Rural	n=	205	202	407	203	203	406	204	203	407	204	202	406	205	202	407
Treatment needed		3.6	3.4	3.5	2.4	2.9	2.7	3.1	3.2	3.2	5.4	6.0	5.7	12.7	14.1	13.4
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		3.2	3.0	3.1	2.3	2.7	2.5	2.9	2.9	2.9	2.7	2.9	2.8	0.6	0.4	0.5
Crown/ Veneer		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
Pulp care		0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.5	0.5	0.0	0.0	0.0
Extraction		0.4	0.4	0.4	0.1	0.1	0.1	0.1	0.1	0.1	1.6	1.7	1.7	2.9	3.4	3.2
Need for other care		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.9	0.8	9.1	10.2	9.7
State Urban	n=	104	106	210	108	102	210	108	102	210	112	100	212	107	102	209
Treatment needed		2.5	2.8	2.7	2.0	2.0	2.0	2.2	2.5	2.4	3.3	3.4	3.4	12.6	13.5	13.1
Preventive care/ fissure sealant		0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Filling one or more surfaces		2.2	2.4	2.3	1.7	1.8	1.8	2.1	2.3	2.2	2.5	2.2	2.4	1.6	1.1	1.4
Crown/ Veneer		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
Pulp care		0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1
Extraction		0.2	0.0	0.1	0.2	0.2	0.2	0.1	0.0	0.1	0.3	0.2	0.3	1.2	1.5	1.4
Need for other care		0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.5	0.8	0.7	9.7	10.9	10.3
State Total	n=	309	308	617	311	305	616	312	305	617	316	302	618	312	304	616
Treatment needed		3.5	3.3	3.4	2.4	2.8	2.6	3.0	3.1	3.1	5.1	5.7	5.4	12.7	14.0	13.4
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		3.1	2.9	3.0	2.2	2.6	2.4	2.8	2.8	2.8	2.7	2.8	2.8	0.7	0.5	0.6
Crown/ Veneer		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
Pulp care		0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.4	0.5	0.5	0.0	0.0	0.0]
Extraction		0.3	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.1	1.4	1.5	1.5	2.7	3.2	3.0
Need for other care		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.9	0.8	9.1	10.3	9.7

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.

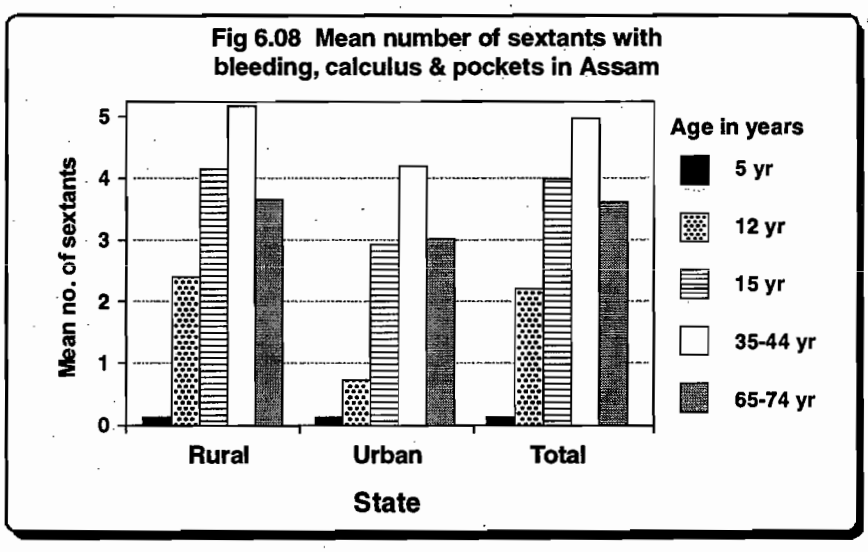
Table 6.07 presents the per cent subjects with their periodontal status (bleeding, calculus and pockets) by individual scores and by level of severity. (Fig. 6.07) Table 6.08 presents the mean number of sextants with bleeding, calculus and pockets.



Periodontal disease was not recorded in children aged 5 years. The prevalence of periodontal disease was high in the state (Table 6.07). It ranged from a peak level of about 88.2 per cent in subjects aged 35-44 years to a low of about 67.8 per cent in subjects aged 15 years (Fig. 6.07).

The severity of periodontal disease is measured by the components of bleeding, calculus and pockets (4-5 mm and 6 mm). Bleeding emerged as the most prevalent component in all age groups, except in the 65-74 year age group (Table 6.07). It was followed by calculus, which was the most prevalent in the 65-74 age group (49.4 per cent). The prevalence of pockets (4-5 mm and 6 mm) was negligible. Bleeding was a more prevalent condition in the lower age groups, while the problem of accumulated calculus increased as age advanced.

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



The Table 6.08 shows that the mean number of sextants with periodontal disease (i.e., those sextants in the mouth with bleeding, calculus or pockets) increased as age advanced from 15 years (2.1) to 35-44 years (4.9). It was 3.5 in subjects aged 65-74 years. Fig. 6.08 depicts the rural, urban and the state's total distribution of the mean number of sextants with the disease by age.

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

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

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=	**60**	**64**	***124***	**161**	**156**	***317***	**163**	**155**	***318***	**146**	**131**	***277***
With bleeding,calculus, or pockets		69.8	78.8	***74.3***	62.3	61.1	***61.7***	81.0	88.7	***84.9***	86.9	84.6	***85.8***
with bleeding		69.8	78.8	***74.3***	57.2	60.0	***58.6***	59.8	64.5	***62.2***	39.8	39.2	***39.5***
with calculus		0.0	0.0	***0.0***	2.7	0.2	***1.5***	8.8	10.4	***9.6***	32.5	39.0	***35.8***
with pockets 4-5 mm		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
with pockets 6 mm		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.9	0.0	***0.5***
with bleeding or higher		69.8	78.8	***74.3***	59.7	60.9	***60.3***	72.0	78.3	***75.2***	53.5	45.5	***49.5***
with calculus or higher		0.0	0.0	***0.0***	2.7	0.2	***1.5***	9.0	10.4	***9.7***	32.5	39.0	***35.8***
with pockets 4-5 mm or higher		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
with pockets 6mm		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.9	0.0	***0.5***
Region 2	n=	**69**	**63**	***132***	**151**	**149**	***300***	**153**	**147**	***300***	**124**	**119**	***243***
With bleeding,calculus, or pockets		77.3	82.2	***79.8***	79.3	77.2	***78.3***	94.2	93.7	***94.0***	89.1	86.7	***87.9***
with bleeding		77.3	81.7	***79.5***	76.8	75.2	***76.0***	69.7	73.2	***71.5***	29.8	33.0	***31.4***
with calculus		0.0	0.5	***0.3***	0.5	1.1	***0.8***	23.2	17.6	***20.4***	56.8	49.4	***53.1***
with pockets 4-5 mm		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
with pockets 6 mm		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
with bleeding or higher		77.3	81.7	***79.5***	78.8	76.1	***77.5***	71.0	76.1	***73.6***	32.3	37.3	***34.8***
with calculus or higher		0.0	0.5	***0.3***	0.5	1.1	***0.8***	23.2	17.6	***20.4***	56.8	49.4	***53.1***
with pockets 4-5 mm or higher		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
with pockets 6mm		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
State Rural	n=	**105**	**97**	***202***	**204**	**203**	***407***	**204**	**202**	***406***	**174**	**160**	***334***
With bleeding,calculus, or pockets		75.0	85.4	***80.2***	70.7	69.9	***70.3***	86.7	92.0	***89.4***	88.8	87.3	***88.1***
with bleeding		75.0	85.4	***80.2***	68.9	69.5	***69.2***	71.3	77.5	***74.4***	43.3	40.5	***41.9***
with calculus		0.0	0.0	***0.0***	4.3	1.4	***2.9***	24.0	24.1	***24.1***	54.6	52.0	***53.3***
with pockets 4-5 mm		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
with pockets 6 mm		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.6	***0.3***	0.7	0.0	***0.4***
with bleeding or higher		75.0	85.4	***80.2***	68.9	69.5	***69.2***	71.3	77.5	***74.4***	43.3	40.5	***41.9***
with calculus or higher		0.0	0.0	***0.0***	1.8	0.4	***1.1***	15.3	14.6	***15.0***	44.8	46.9	***45.9***
with pockets 4-5 mm or higher		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
with pockets 6mm		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.7	0.0	***0.4***
State Urban	n=	**24**	**30**	***54***	**108**	**102**	***210***	**112**	**100**	***212***	**96**	**90**	***186***
With bleeding,calculus, or pockets		38.9	24.9	***31.9***	53.9	47.7	***50.8***	80.3	80.4	***80.4***	80.5	71.7	***76.1***
with bleeding		38.9	22.7	***30.8***	51.4	45.7	***48.6***	73.8	77.1	***75.5***	67.2	57.7	***62.5***
with calculus		0.0	2.2	***1.1***	3.1	2.0	***2.6***	12.5	9.1	***10.8***	24.9	23.1	***24.0***
with pockets 4-5 mm		0.0	0.0	***0.0***	0.0	0.0	***0.0***	1.2	0.0	***0.6***	1.4	0.0	***0.7***
with pockets 6 mm		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
with bleeding or higher		38.9	22.7	***30.8***	51.4	45.7	***48.6***	73.8	77.1	***75.5***	67.2	57.7	***62.5***
with calculus or higher		0.0	2.2	***1.1***	2.5	2.0	***2.3***	6.6	3.3	***5.0***	13.3	14.0	***13.7***
with pockets 4-5 mm or higher		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
with pockets 6mm		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
State Total	n=	**129**	**127**	***256***	**312**	**305**	***617***	**316**	**302**	***618***	**270**	**250**	***520***
With bleeding,calculus, or pockets		72.8	80.2	***76.5***	68.5	67.0	***67.8***	85.8	90.6	***88.2***	87.7	85.3	***86.5***
with bleeding		72.8	80.0	***76.4***	66.6	66.5	***66.6***	71.7	77.5	***74.6***	46.5	42.8	***44.7***
with calculus		0.0	0.2	***0.1***	4.2	1.4	***2.8***	22.4	22.3	***22.4***	50.6	48.2	***49.4***
with pockets 4-5 mm		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.2	0.0	***0.1***	0.2	0.0	***0.1***
with pockets 6 mm		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.5	***0.3***	0.6	0.0	***0.3***
with bleeding or higher		72.8	80.0	***76.4***	66.6	66.5	***66.6***	71.7	77.5	***74.6***	46.5	42.8	***44.7***
with calculus or higher		0.0	0.2	***0.1***	1.9	0.6	***1.3***	14.1	13.1	***13.6***	40.6	42.6	***41.6***
with pockets 4-5 mm or higher		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
with pockets 6mm		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.6	0.0	***0.3***

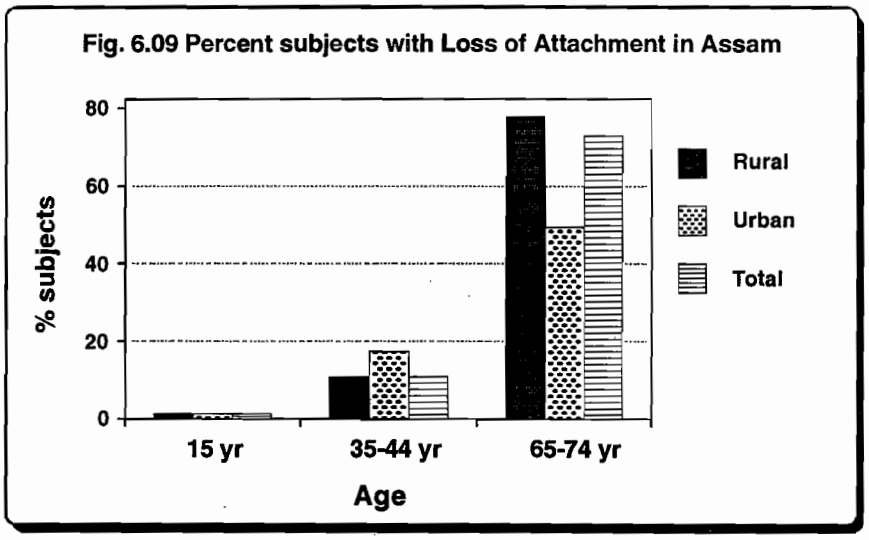
Table 6.08. Mean no. of sextants with bleeding, calculus and pockets by age, sex and geographical area. STATE: Assam

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=	159	159	318	161	156	317	174	158	332	164	153	317
Mean no. of healthy sextants		0.8	0.5	0.7	2.5	2.6	2.6	1.3	0.8	1.1	0.7	0.8	0.8
With bleeding, calculus, pockets		1.8	2.0	1.9	3.5	3.4	3.5	4.3	4.9	4.6	3.7	3.5	3.6
with bleeding		1.8	2.0	1.9	3.4	3.4	3.4	3.5	4.0	3.8	1.8	1.6	1.7
with calculus		0.0	0.0	0.0	0.1	0.0	0.1	0.7	0.9	0.8	1.8	1.9	1.9
with pockets(4-5 mm)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
with pockets (6mm or more)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Excluded sextants		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Not recorded		3.4	3.5	3.5	0.0	0.0	0.0	0.4	0.2	0.3	1.6	1.7	1.7
Region 2	n=	152	147	299	152	149	301	159	147	306	149	152	301
Mean no. of healthy sextants		0.7	0.5	0.6	1.4	1.4	1.4	0.5	0.5	0.5	0.4	0.4	0.4
With bleeding, calculus, pockets		2.4	2.4	2.4	4.6	4.6	4.6	5.3	5.4	5.4	3.4	3.0	3.2
with bleeding		2.4	2.4	2.4	4.6	4.5	4.6	4.0	4.3	4.2	0.9	0.9	0.9
with calculus		0.0	0.0	0.0	0.0	0.1	0.1	1.4	1.0	1.2	2.5	2.0	2.3
with pockets(4-5 mm)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
with pockets (6mm or more)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Excluded sextants		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Not recorded		2.9	3.1	3.0	0.0	0.0	0.0	0.2	0.2	0.2	2.2	2.6	2.4
State Rural	n=	203	204	407	204	203	407	212	204	416	205	203	408
Mean no. of healthy sextants		0.8	0.4	0.6	2.0	2.0	2.0	0.9	0.6	0.8	0.5	0.6	0.6
With bleeding, calculus, pockets		2.3	2.4	2.4	4.0	4.0	4.0	4.8	5.2	5.0	3.7	3.4	3.6
with bleeding		2.3	2.4	2.4	4.0	4.0	4.0	3.7	4.2	4.0	1.4	1.3	1.4
with calculus		0.0	0.0	0.0	0.1	0.0	0.1	1.0	1.0	1.0	2.2	2.1	2.2
with pockets(4-5 mm)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
with pockets (6mm or more)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Excluded sextants		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Not recorded		3.0	3.2	3.1	0.0	0.0	0.0	0.3	0.2	0.3	1.8	2.0	1.9
State Urban	n=	108	102	210	109	102	211	121	101	222	108	102	210
Mean no. of healthy sextants		0.7	1.4	1.1	3.1	3.4	3.3	1.8	1.4	1.6	1.0	0.8	0.9
With bleeding, calculus, pockets		0.5	0.5	0.5	2.8	2.6	2.7	3.7	4.4	4.1	2.8	2.7	2.8
with bleeding		0.5	0.4	0.5	2.8	2.4	2.6	3.3	4.1	3.7	2.1	1.8	2.0
with calculus		0.0	0.0	0.0	0.1	0.1	0.1	0.4	0.4	0.4	0.7	0.9	0.8
with pockets(4-5 mm)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
with pockets (6mm or more)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Excluded sextants		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Not recorded		4.8	4.1	4.5	0.0	0.0	0.0	0.5	0.2	0.4	2.2	2.5	2.4
State Total	n=	311	306	617	313	305	618	333	305	638	313	305	618
Mean no. of healthy sextants		0.8	0.5	0.7	2.1	2.2	2.2	1.0	0.7	0.9	0.6	0.7	0.7
With bleeding, calculus, pockets		2.0	2.1	2.1	3.9	3.8	3.9	4.6	5.1	4.9	3.6	3.3	3.5
with bleeding		2.0	2.1	2.1	3.8	3.8	3.8	3.7	4.1	3.9	1.5	1.3	1.4
with calculus		0.0	0.0	0.0	0.1	0.0	0.1	0.9	0.9	0.9	2.0	1.9	2.0
with pockets(4-5 mm)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
with pockets (6mm or more)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Excluded sextants		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Not recorded		3.2	3.3	3.3	0.0	0.0	0.0	0.4	0.2	0.3	1.9	2.1	2.0

6.2.2. Loss of attachment

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

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



Overall, the prevalence proportion of subjects with loss of attachment in one or more sextants was relatively low in subjects aged 35-44 years (11.2 per cent) but much higher in the 65-74 year age group (70.8 per cent) in the state (Fig 6.09). It was almost equally distributed by sex in the 35-44 and 65-74 year age groups. The least severe form of loss of attachment (4-5 mm) was the most prevalent followed by the more severe form of 6-8 mm (Table 6.09).

The mouth is divided into sextants for recording and measuring loss of attachment. The mean number of sextants with loss of attachment in subjects aged 35-44 years was only 0.4 while it was 2.8 in subjects aged 65-74 years (Table 6.10).

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

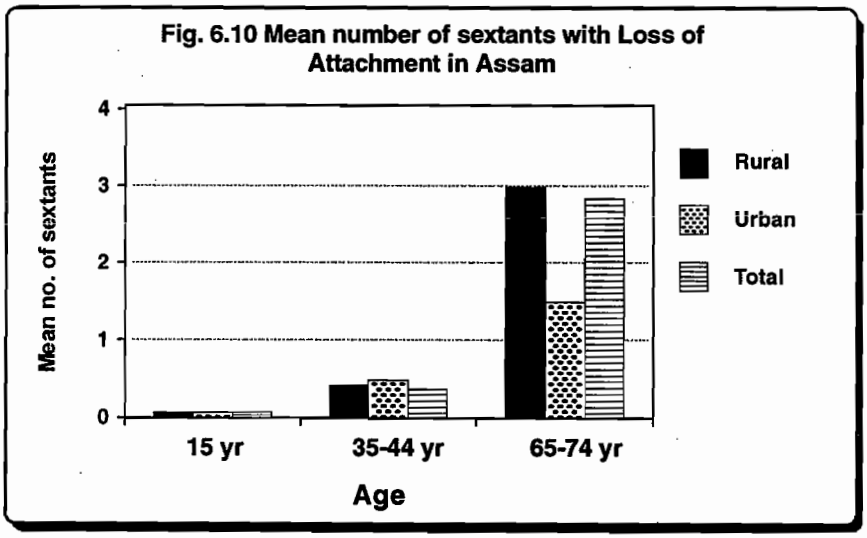


Table 6.09. Percent distribution of subjects with highest scores of loss of attachment by age. sex, and geographical area.

STATE: Assam

Loss of Attachment (LOA)		15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T
Region 1	n=	**160**	**155**	***315***	**163**	**155**	***318***	**145**	**130**	***275***
With no loss of attachment (0-3 mm)		99.8	97.5	***98.7***	86.8	86.3	***86.6***	30.3	34.1	***32.2***
With loss of attachment		0.2	2.5	***1.4***	13.2	13.7	***13.5***	69.7	65.9	***67.8***
with LOA 4-5 mm		0.2	2.5	***1.4***	12.4	12.8	***12.6***	62.5	54.2	***58.4***
with LOA 6-8 mm		0.0	0.0	***0.0***	0.8	0.8	***0.8***	6.2	11.7	***9.0***
with LOA 9-11 mm		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
with LOA 12mm or more		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.9	0.0	***0.5***
Region 2	n=	**151**	**149**	***300***	**153**	**146**	***299***	**125**	**120**	***245***
With no loss of attachment (0-3 mm)		100.0	100.0	***100***	92.3	92.9	***92.6***	25.9	21.3	***23.6***
With loss of attachment		0.0	0.0	***0.0***	7.7	7.1	***7.4***	74.1	78.7	***76.4***
with LOA 4-5 mm		0.0	0.0	***0.0***	7.7	6.0	***6.9***	74.1	76.9	***75.5***
with LOA 6-8 mm		0.0	0.0	***0.0***	0.0	1.1	***0.6***	0.0	1.5	***0.8***
with LOA 9-11 mm		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
with LOA 12mm or more		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.3	***0.2***
State Rural	n=	**203**	**202**	***405***	**204**	**201**	***405***	**174**	**161**	***335***
With no loss of attachment (0-3 mm)		100.0	98.2	***99.1***	89.1	89.6	***89.4***	25.2	26.1	***25.7***
With loss of attachment		0.0	1.8	***0.9***	10.9	10.4	***10.7***	74.8	73.9	***74.4***
with LOA 4-5 mm		0.0	1.8	***0.9***	10.3	9.4	***9.9***	69.3	64.6	***67.0***
with LOA 6-8 mm		0.0	0.0	***0.0***	0.6	1.0	***0.8***	4.8	9.3	***7.1***
with LOA 9-11 mm		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
with LOA 12mm or more		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.7	0.0	***0.4***
State Urban	n=	**108**	**102**	***210***	**112**	**100**	***212***	**96**	**89**	***185***
With no loss of attachment (0-3 mm)		98.8	100.0	***99.4***	86.9	83.5	***85.2***	52.1	54.0	***53.1***
With loss of attachment		1.2	0.0	***0.6***	13.1	16.5	***14.8***	47.9	46.0	***47.0***
with LOA 4-5 mm		1.2	0.0	***0.6***	13.1	15.8	***14.5***	47.9	44.4	***46.2***
with LOA 6-8 mm		0.0	0.0	***0.0***	0.0	0.7	***0.4***	0.0	0.8	***0.4***
with LOA 9-11 mm		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
with LOA 12mm or more		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.8	***0.4***
State Total	n=	**311**	**304**	***615***	**316**	**301**	***617***	**270**	**250**	***520***
With no loss of attachment (0-3 mm)		99.8	98.4	***99.1***	88.8	88.8	***88.8***	28.8	29.7	***29.3***
With loss of attachment		0.2	1.6	***0.9***	11.2	11.2	***11.2***	71.2	70.3	***70.8***
with LOA 4-5 mm		0.2	1.6	***0.9***	10.7	10.3	***10.5***	66.4	61.9	***64.2***
with LOA 6-8 mm		0.0	0.0	***0.0***	0.5	1.0	***0.8***	4.2	8.3	***6.3***
with LOA 9-11 mm		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
with LOA 12mm or more		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.6	0.1	***0.4***

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

Loss of Attachment (LOA)		15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T
Region 1	n=	161	156	317	174	158	332	164	153	317
With no loss of attachment (0-3 mm)		5.9	5.8	5.9	5.0	5.3	5.2	1.5	1.5	1.5
With loss of attachment		0.0	0.1	0.1	0.5	0.5	0.5	2.9	2.7	2.8
with loss of attachment 4-5 mm		0.0	0.1	0.1	0.5	0.5	0.5	2.6	2.3	2.5
with loss of attachment 6-8 mm		0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.3
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	0.0	0.0	0.0
Not recorded		0.0	0.1	0.1	0.5	0.2	0.4	1.6	1.8	1.7
Region 2	n=	152	149	301	159	147	306	149	152	301
With no loss of attachment (0-3 mm)		6.0	6.0	6.0	5.5	5.5	5.5	0.9	0.8	0.9
With loss of attachment		0.0	0.0	0.0	0.3	0.3	0.3	2.9	2.7	2.8
with loss of attachment 4-5 mm		0.0	0.0	0.0	0.3	0.3	0.3	2.9	2.7	2.8
with loss of attachment 6-8 mm		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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	0.0	0.0	0.0
Not recorded		0.0	0.0	0.0	0.2	0.2	0.2	2.2	2.6	2.4
State Rural	n=	204	203	407	212	204	416	205	203	408
With no loss of attachment (0-3 mm)		6.0	5.9	6.0	5.2	5.4	5.3	1.1	1.2	1.2
With loss of attachment		0.0	0.1	0.1	0.5	0.4	0.5	3.1	2.9	3.0
with loss of attachment 4-5 mm		0.0	0.1	0.1	0.4	0.4	0.4	2.9	2.5	2.7
with loss of attachment 6-8 mm		0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.2
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	0.0	0.0	0.0
Not recorded		0.0	0.0	0.0	0.3	0.2	0.3	1.8	2.0	1.9
State Urban	n=	109	102	211	121	101	222	108	102	210
With no loss of attachment (0-3 mm)		5.9	6.0	6.0	5.1	5.3	5.2	2.4	1.8	2.1
With loss of attachment		0.1	0.0	0.1	0.4	0.6	0.5	1.3	1.6	1.5
with loss of attachment 4-5 mm		0.1	0.0	0.1	0.4	0.5	0.5	1.3	1.6	1.5
with loss of attachment 6-8 mm		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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	0.0	0.0	0.0
Not recorded		0.0	0.0	0.0	0.5	0.2	0.4	2.3	2.6	2.5
State Total	n=	313	305	618	333	305	638	313	305	618
With no loss of attachment (0-3 mm)		6.0	5.9	6.0	5.2	5.4	5.3	1.3	1.2	1.3
With loss of attachment		0.0	0.1	0.1	0.4	0.4	0.4	2.9	2.7	2.8
with loss of attachment 4-5 mm		0.0	0.1	0.1	0.4	0.4	0.4	2.7	2.4	2.6
with loss of attachment 6-8 mm		0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.2
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	0.0	0.0	0.0
Not recorded		0.0	0.0	0.0	0.4	0.2	0.3	1.8	2.1	2.0

6.3 MALOCCLUSION STATUS

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

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

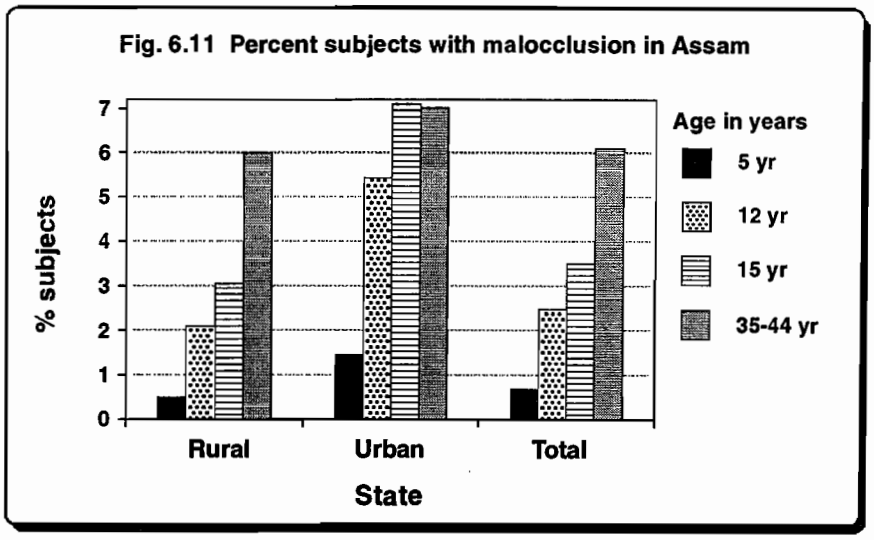
No significant malocclusion was reported in subjects aged 5 years, where only primary teeth are present.

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

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=	159	159	318	159	159	318	161	156	317	174	158	332
None or minor malocclusion (<25)		99.0	100.0	**99.5**	97.5	98.1	**97.8**	98.9	97.0	**98.0**	95.8	94.5	**95.2**
Malocclusion present		1.3	0.0	**0.7**	2.5	1.9	**2.2**	1.1	3.0	**2.1**	4.2	5.5	**4.9**
Definite malocclusion (26 -30)		0.0	0.0	**0.0**	1.6	1.9	**1.8**	0.2	2.7	**1.5**	2.7	3.8	**3.3**
Severe malocclusion (31 - 35)		0.2	0.0	**0.1**	0.8	0.0	**0.4**	0.8	0.2	**0.5**	1.5	0.0	**0.8**
V Severe malocclusion (36 or more)		1.1	0.0	**0.6**	0.0	0.0	**0.0**	0.0	0.0	**0.0**	0.0	1.7	**0.9**
Region 2	n=	150	149	299	152	147	299	152	149	301	159	147	306
None or minor malocclusion (<25)		100.0	100.0	**100.0**	98.3	97.7	**98.0**	95.9	93.6	**94.8**	91.5	93.0	**92.3**
Malocclusion present		0.0	0.0	**0.0**	1.7	2.3	**2.0**	4.1	6.4	**5.3**	8.5	7.0	**7.8**
Definite malocclusion (26 -30)		0.0	0.0	**0.0**	1.0	1.6	**1.3**	3.2	5.7	**4.5**	4.5	3.4	**4.0**
Severe malocclusion (31 - 35)		0.0	0.0	**0.0**	0.7	0.5	**0.6**	0.0	0.5	**0.3**	2.0	0.5	**1.3**
V Severe malocclusion (36 or more)		0.0	0.0	**0.0**	0.0	0.2	**0.1**	0.9	0.2	**0.6**	2.0	3.1	**2.6**
State Rural	n=	205	202	407	203	204	407	204	203	407	212	204	416
None or minor malocclusion (<25)		99.0	100.0	**99.5**	98.2	98.4	**98.3**	98.3	96.3	**97.3**	94.3	94.1	**94.2**
Malocclusion present		0.6	0.0	**0.3**	1.8	1.6	**1.7**	1.7	3.7	**2.7**	5.7	5.9	**5.8**
Definite malocclusion (26 -30)		0.0	0.0	**0.0**	1.2	1.6	**1.4**	0.7	3.7	**2.2**	3.1	3.5	**3.3**
Severe malocclusion (31 - 35)		0.0	0.0	**0.0**	0.6	0.0	**0.3**	0.6	0.0	**0.3**	1.8	0.0	**0.9**
V Severe malocclusion (36 or more)		0.6	0.0	**0.3**	0.0	0.0	**0.0**	0.4	0.0	**0.2**	0.7	2.3	**1.5**
State Urban	n=	104	106	210	108	102	210	109	102	211	121	101	222
None or minor malocclusion (<25)		98.0	100.0	**99.0**	95.1	94.4	**94.8**	94.7	91.6	**93.2**	94.1	92.4	**93.3**
Malocclusion present		2.4	0.0	**1.2**	4.9	5.6	**5.3**	5.3	8.4	**6.9**	5.9	7.6	**6.8**
Definite malocclusion (26 -30)		0.0	0.0	**0.0**	2.8	3.4	**3.1**	5.3	4.9	**5.1**	4.6	4.6	**4.6**
Severe malocclusion (31 - 35)		1.2	0.0	**0.6**	2.1	1.5	**1.8**	0.0	2.7	**1.4**	0.6	1.5	**1.1**
V Severe malocclusion (36 or more)		1.2	0.0	**0.6**	0.0	0.7	**0.4**	0.0	0.7	**0.4**	0.6	1.5	**1.1**
State Total	n=	309	308	617	311	306	617	313	305	618	333	305	638
None or minor malocclusion (<25)		99.0	100.0	**99.5**	97.8	97.9	**97.9**	97.8	95.8	**96.8**	94.3	94.0	**94.2**
Malocclusion present		0.8	0.0	**0.4**	2.2	2.1	**2.2**	2.2	4.2	**3.2**	5.7	6.0	**5.9**
Definite malocclusion (26 -30)		0.0	0.0	**0.0**	1.4	1.8	**1.6**	1.3	3.8	**2.6**	3.3	3.7	**3.5**
Severe malocclusion (31 - 35)		0.2	0.0	**0.1**	0.8	0.2	**0.5**	0.5	0.3	**0.4**	1.7	0.2	**1.0**
V Severe malocclusion (36 or more)		0.7	0.0	**0.4**	0.0	0.1	**0.1**	0.3	0.1	**0.2**	0.7	2.2	**1.5**

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

The overall prevalence of definite or severe form of malocclusion in the state was very low (Fig 6.11). It was 2.2 per cent among 12-year-olds, 3.2 per cent among 15-year-olds, but was higher in the 35-44 year age group at about 5.8 per cent. The order of prevalence of malocclusion, by severity, in all age groups was 'definite' followed by 'severe' and 'very severe' forms.



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

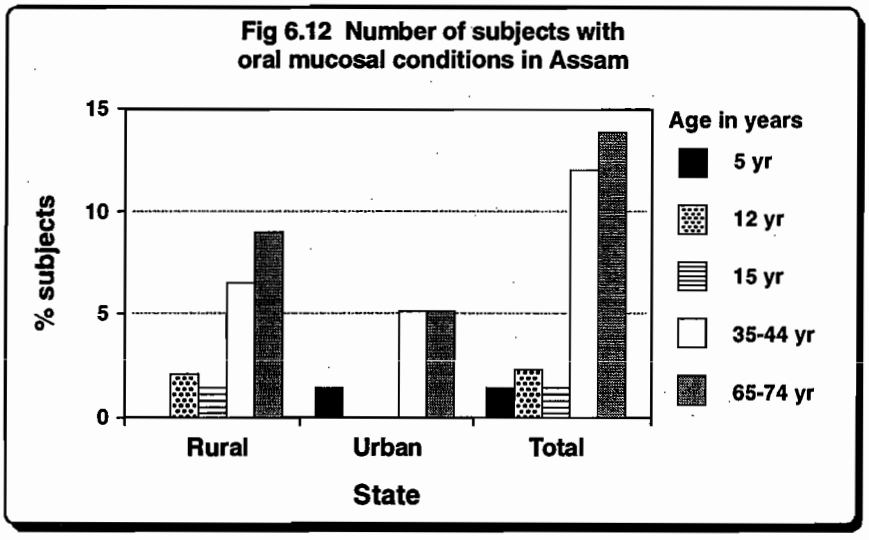
6.4 ORAL CANCER AND ORAL MUCOSAL LESIONS

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

The prevalence of oral mucosal lesions was quite low in the state (Fig 6.12). In subjects aged 5 years, only one male from the urban area (0.4 per cent), had oral mucosal lesions. These were equally distributed in the form of ulcerations and candidiasis.

In subjects aged 12 years, only two female subjects, both from rural areas, had lesions. Of these, one had ulceration while the other had an abscess.

Only one female subject from an urban area, aged 15 years, had ulceration.



In subjects in the 35-44 year age group, 12 subjects (1.9 per cent) had oral mucosal lesions, distributed in order of prevalence as ulcerations, abscesses and leukoplakia. In subjects aged 65-74 years, 14 subjects (2.3 per cent) had oral mucosal lesions, which included ulcerations and candidiasis in order of prevalence.

Table 6.12. No of subjects with oral mucosal lesions and type of lesions by age, sex and geographical area. STATE: Assam

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=	159	159	318	159	158	317	161	156	317	163	155	318	163	152	315
Oral mucosal lesions present		1	0	1	0	2	2	0	1	1	5	2	7	3	4	7
Oral Cancer		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leukoplakia		0	0	0	0	0	0	0	0	0	2	0	2	0	1	1
Lichen Planus		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ulceration		1	0	1	0	1	1	0	1	1	3	0	3	2	2	4
ANUG		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Candidiasis		1	0	1	0	0	0	0	0	0	0	0	0	1	1	2
Abscess		0	0	0	0	1	1	0	0	0	0	2	2	0	0	0
Any other condition		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Region 2	n=	150	149	299	152	147	299	151	149	300	153	147	300	148	152	300
Oral mucosal lesions present		0	0	0	0	0	0	0	0	0	4	1	5	3	4	7
Oral Cancer		0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Leukoplakia		0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Lichen Planus		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ulceration		0	0	0	0	0	0	0	0	0	3	1	4	3	2	5
ANUG		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Candidiasis		0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Abscess		0	0	0	0	0	0	0	0	0	1	0	1	0	0	0
Any other condition		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
State Rural	n=	205	202	407	203	203	406	204	203	407	204	202	406	204	202	406
Oral mucosal lesions present		0	0	0	0	2	2	0	1	1	5	2	7	5	4	9
Oral Cancer		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leukoplakia		0	0	0	0	0	0	0	0	0	1	0	1	0	1	1
Lichen Planus		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ulceration		0	0	0	0	1	1	0	1	1	4	1	5	4	2	6
ANUG		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Candidiasis		0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
Abscess		0	0	0	0	1	1	0	0	0	0	1	1	0	0	0
Any other condition		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
State Urban	n=	104	106	210	108	102	210	108	102	210	112	100	212	107	102	209
Oral mucosal lesions present		1	0	1	0	0	0	0	0	0	4	1	5	1	4	5
Oral Cancer		0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Leukoplakia		0	0	0	0	0	0	0	0	0	1	0	1	0	1	1
Lichen Planus		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ulceration		1	0	1	0	0	0	0	0	0	2	0	2	1	2	3
ANUG		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Candidiasis		1	0	1	0	0	0	0	0	0	0	0	0	0	1	1
Abscess		0	0	0	0	0	0	0	0	0	1	1	2	0	0	0
Any other condition		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
State Total	n=	309	308	617	311	305	616	312	305	617	316	302	618	311	304	615
Oral mucosal lesions present		1	0	1	0	2	2	0	1	1	9	3	12	6	8	14
Oral Cancer		0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Leukoplakia		0	0	0	0	0	0	0	0	0	2	0	2	0	2	2
Lichen Planus		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ulceration		1	0	1	0	1	1	0	1	1	6	1	7	5	4	9
ANUG		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Candidiasis		1	0	1	0	0	0	0	0	0	0	0	0	1	2	3
Abscess		0	0	0	0	1	1	0	0	0	1	2	3	0	0	0
Any other condition		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Oral cancer was detected in 1 (0.1 per cent) female subject from an urban area in the 65-74 year age group. The lesion was located on the vermillion border of the mouth. Leukoplakia was detected in 3 males (0.7 per cent) in the 35-44 age group and 2 females (0.5 per cent) in the 65-74 age group (Tables 6.12 and 6.13). It was located on the sulci and buccal mucosa, and equally distributed in rural and urban areas.

A broad analysis of the lesions by location in the oral mucosa (Table 6.13) showed that ulceration was distributed on the buccal mucosa, vermillion border and the tongue; and abscesses occurred on alveolar border/ gingiva.

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

STATE: Assam

Location	Oral Mucosal Condition																	
	Oral Cancer		Leuko-plakia		Lichen Planus		Ulceration		ANUG		Candi-diasis		Abscess		Others		Total by Location	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
State Rural																		
Vermilion Border	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
Commissures	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	**1**	**1**
Lips	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	**0**	**1**
Sulci	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0	0	**1**	**2**
Buccal mucosa	0	0	1	0	0	0	8	3	0	0	0	0	0	0	0	0	**9**	**3**
Floor of mouth	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
Tongue	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	**0**	**1**
Hard/Soft palate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
Alv ridges/ Gingiva	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	**0**	**1**
Rural Total	**0**	**0**	**2**	**1**	**0**	**0**	**8**	**5**	**0**	**0**	**1**	**1**	**0**	**2**	**0**	**0**	**11**	**9**
State Urban																		
Vermilion Border	0	1	0	0	0	0	3	0	0	0	1	1	1	0	0	0	**5**	**2**
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	1	1	0	0	0	0	0	0	0	0	0	0	0	0	**1**	**1**
Buccal mucosa	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	**1**	**2**
Floor of mouth	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
Tongue	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	**1**	**0**
Hard/Soft palate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
Alv ridges/ Gingiva	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	**0**	**1**
Urban Total	**0**	**1**	**1**	**1**	**0**	**0**	**5**	**2**	**0**	**0**	**1**	**1**	**1**	**1**	**0**	**0**	**8**	**6**
State Total																		
Vermilion Border	0	1	0	0	0	0	3	0	0	0	1	1	1	0	0	0	**5**	**2**
Commissures	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	**1**	**1**
Lips	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	**0**	**1**
Sulci	0	0	2	2	0	0	0	0	0	0	0	0	0	1	0	0	**2**	**3**
Buccal mucosa	0	0	1	0	0	0	9	5	0	0	0	0	0	0	0	0	**10**	**5**
Floor of mouth	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
Tongue	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	**1**	**1**
Hard/Soft palate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
Alv ridges/ Gingiva	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	**0**	**2**
State Total	**0**	**1**	**3**	**2**	**0**	**0**	**13**	**7**	**0**	**0**	**2**	**2**	**1**	**3**	**0**	**0**	**19**	**15**

6.5 DENTAL FLUOROSIS STATUS

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

Fluorosis was either not present or not recorded in children aged 5 years in the state.

The prevalence of fluorosis was very low and did not appear to be a major public health problem in the state. The 'mild' and 'very mild' forms appeared in 12-year-old female subjects (1.1 per cent) in the state, distributed among the rural and urban areas. The 'severe' form was seen among 0.5 per cent male subjects in the 35-44 age group in the rural area.

There were no major differentials between regions.

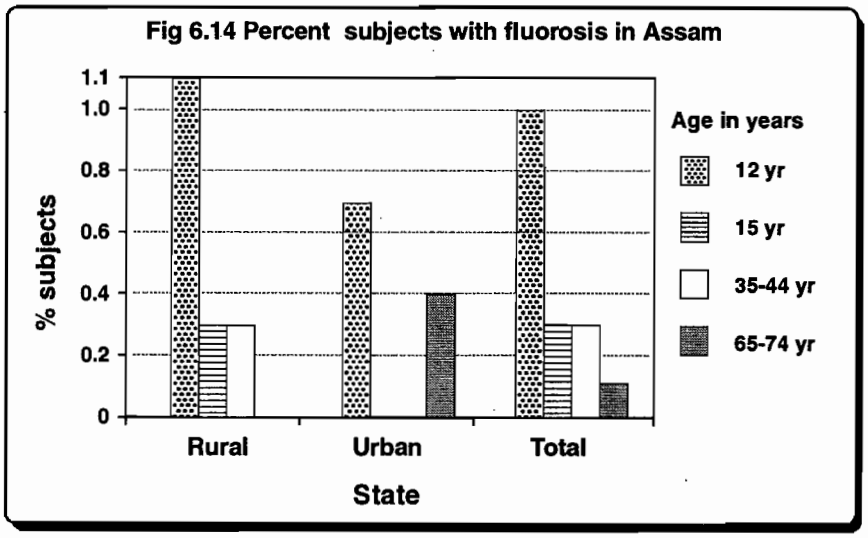


Table 6.14. Percent distribution of subjects with severity of dental fluorosis by age, sex and geographical area. STATE: Assam

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=	159	159	318	159	158	317	161	156	317	163	155	318	140	126	266
With Fluorosis		0.0	0.0	0.0	0.0	2.7	1.4	0.8	0.0	0.4	0.0	0.8	0.4	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	0.0	0.0	0.0	0.0	0.0	0.0
V Mild & Mild		0.0	0.0	0.0	0.0	1.7	0.9	0.8	0.0	0.4	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	0.8	0.4	0.0	0.0	0.0
Region 2	n=	150	149	299	152	147	299	151	149	300	152	146	298	123	121	244
With Fluorosis		0.0	0.0	0.0	0.9	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.2
Questionable		0.0	0.0	0.0	0.9	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.2
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=	205	202	407	203	203	406	204	203	407	203	202	405	171	158	329
With Fluorosis		0.0	0.0	0.0	0.4	1.8	1.1	0.6	0.0	0.3	0.0	0.6	0.3	0.0	0.0	0.0
Questionable		0.0	0.0	0.0	0.4	0.6	0.5	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	1.2	0.6	0.6	0.0	0.3	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	0.6	0.3	0.0	0.0	0.0
State Urban	n=	104	106	210	108	102	210	108	102	210	112	99	211	92	89	181
With Fluorosis		0.0	0.0	0.0	0.0	1.3	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.4
Questionable		0.0	0.0	0.0	0.0	1.3	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.4
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 Total	n=	309	308	617	311	305	616	312	305	617	315	301	616	263	247	510
With Fluorosis		0.0	0.0	0.0	0.3	1.7	1.0	0.5	0.0	0.3	0.0	0.5	0.3	0.1	0.0	0.1
Questionable		0.0	0.0	0.0	0.3	0.7	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
V Mild & Mild		0.0	0.0	0.0	0.0	1.1	0.6	0.5	0.0	0.3	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	0.5	0.0	0.0	0.0	0.0

6.6 OTHER LESIONS

6.6.1 Extra oral lesions

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

There were no extra oral lesions detected in the 5 and 15 age groups among both male and female subjects.

In the 12-year age group, only 0.3 per cent male, rural subjects had extra oral lesions. The prevalence among subjects aged 35-44 years was 0.2 per cent in the state, in the urban area. Only 0.5 per cent female subjects in the 65-44 age group, in urban areas, had extra oral lesions. These lesions were all ulceration, sores, erosions or fissures located in the head, neck or limbs region.

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

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=	159	159	318	159	158	317	160	155	315	161	154	315	163	151	314
With extra oral lesions		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.3	0.0	0.9	0.5
Ulceration,sores,erosions,fissures		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.3	0.0	0.9	0.5
head, neck, limbs		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.3	0.0	0.0	0.0
nose, cheeks, chin		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.5
commissures		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
vermilion border		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cancrum oris		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Abnormalities of upper & lower lips		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Enlarged lymph nodes(head & neck)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Region 2	n=	150	149	299	152	147	299	151	149	300	153	147	300	148	152	300
With extra oral lesions		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
Ulceration,sores,erosions,fissures		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
head, neck, limbs		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
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	0.0	0.0	0.0	0.0	0.0	0.0
Abnormalities of upper & lower lips		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Enlarged lymph nodes(head & neck)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
State Rural	n=	205	202	407	203	203	406	204	203	407	204	202	406	204	202	406
With extra oral lesions		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	0.6	0.3
Ulceration,sores,erosions,fissures		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	0.6	0.3
head, neck, limbs		0.0	0.0	0.0	0.4	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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	0.6	0.3
commissures		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
vermilion border		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cancrum oris		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Abnormalities of upper & lower lips		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Enlarged lymph nodes(head & neck)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
State Urban	n=	104	106	210	108	102	210	107	101	208	110	99	209	107	101	208
With extra oral lesions		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.3	1.3	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	1.2	1.3	1.3	0.0	0.0	0.0
head, neck, limbs		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.3	1.3	0.0	0.0	0.0
nose, cheeks, chin		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
commissures		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
vermilion border		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cancrum oris		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Abnormalities of upper & lower lips		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Enlarged lymph nodes(head & neck)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
State Total	n=	309	308	617	311	305	616	311	304	615	314	301	615	311	303	614
With extra oral lesions		0.0	0.0	0.0	0.3	0.0	0.2	0.0	0.0	0.0	0.2	0.2	0.2	0.0	0.5	0.3
Ulceration,sores,erosions,fissures		0.0	0.0	0.0	0.3	0.0	0.2	0.0	0.0	0.0	0.2	0.2	0.2	0.0	0.5	0.3
head, neck, limbs		0.0	0.0	0.0	0.3	0.0	0.2	0.0	0.0	0.0	0.2	0.2	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	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.3
commissures		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
vermilion border		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cancrum oris		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Abnormalities of upper & lower lips		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Enlarged lymph nodes(head & neck)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

6.6.2 T M joint symptoms and signs

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

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

In the 35-44 age group, only 0.6 per cent male subjects, distributed in rural and urban areas, had TM Joint symptoms. Signs were seen in male subjects from urban areas of the state. Clicking was present in 0.5 per cent of the male subjects examined. Tenderness and reduced jaw mobility were recorded in 0.2 per cent male subjects.

In the 65-74 age group, symptoms were reported in 7.7 per cent males and 7.4 per cent female subjects. These subjects were distributed in both rural and urban areas, though more females reported the symptoms in the urban area. Signs were present in both male and female subjects in the state. The main sign recorded was clicking in both male and female subjects, almost equally distributed by place of residence.

There were no marked differentials between regions.

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

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=	159	159	318	159	158	317	161	156	317	163	154	317	163	152	315
Symptoms present		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.3	9.3	9.8	9.6
Signs present		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.3	11.7	10.0	10.9
Clicking		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.1	5.9	7.0	6.5
Tenderness		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.1	6.1	3.6	4.9
Reduced jaw mobility		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.1	0.0	0.0	0.0
Region 2	n=	150	149	299	152	147	299	151	149	300	153	147	300	148	152	300
Symptoms present		0.0	0.0	0.0	0.9	0.0	0.5	0.0	0.0	0.0	0.9	0.0	0.5	4.6	3.6	4.1
Signs present		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.5	4.6	3.4	4.0
Clicking		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.5	3.9	3.1	3.5
Tenderness		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.1	1.4
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	0.9	0.9	0.9
State Rural	n=	205	202	407	203	203	406	204	203	407	204	202	406	204	202	406
Symptoms present		0.0	0.0	0.0	0.4	0.0	0.2	0.0	0.0	0.0	0.4	0.0	0.2	8.0	7.2	7.6
Signs present		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.2	9.8	7.2	8.5
Clicking		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.2	5.6	5.4	5.5
Tenderness		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5	2.2	3.4
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	0.4	0.4	0.4
State Urban	n=	104	106	210	108	102	210	108	102	210	112	99	211	107	102	209
Symptoms present		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	1.2	5.0	9.2	7.1
Signs present		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	1.2	5.0	9.8	7.4
Clicking		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.6	1.9	6.6	4.3
Tenderness		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.6	4.3	5.9	5.1
Reduced jaw mobility		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.6	0.0	0.0	0.0
State Total	n=	309	308	617	311	305	616	312	305	617	316	301	617	311	304	615
Symptoms present		0.0	0.0	0.0	0.3	0.0	0.2	0.0	0.0	0.0	0.6	0.0	0.3	7.7	7.4	7.6
Signs present		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.3	9.2	7.5	8.4
Clicking		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.3	5.2	5.5	5.4
Tenderness		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.1	4.5	2.6	3.6
Reduced jaw mobility		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.1	0.3	0.3	0.3

6.6.3 Enamel defects (opacities, hypoplasia)

Table 6.17 presents the per cent subjects with enamel defects, by type of defect, and Table 6.18 presents the mean number of teeth affected with enamel defects, by type of defects.

Structural enamel defects in teeth were recorded in terms of opacities and hypoplasias, types of opacities and combinations of both. The 5-year age group was excluded from examination.

Overall, there was a very low prevalence though there was an almost even distribution of enamel defects by age groups and sex in Assam. The defects appeared to be evenly distributed in rural and urban areas. The proportion of subjects with enamel defects ranged from 0.2 per cent in females in the 35-44 year age group to a maximum of about 2.4 per cent subjects (both male and female) in the 12-year age group. No enamel defects were recorded in the 65-74 age group.

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

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

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

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=	159	158	*317*	161	156	*317*	163	155	*318*	147	130	*277*
With enamel defects		0.8	3.2	*2.0*	1.9	1.7	*1.8*	0.0	0.3	*0.2*	0.0	0.0	*0.0*
demarcated opacity		0.8	1.6	*1.2*	1.1	1.7	*1.4*	0.0	0.3	*0.2*	0.0	0.0	*0.0*
diffuse opacity		0.0	1.7	*0.9*	0.8	0.0	*0.4*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
hypoplasia		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
other defects		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
combinations of opacities and hypoplasia		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
all three conditions		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
Region 2	n=	152	147	*299*	151	149	*300*	153	146	*299*	124	125	*249*
With enamel defects		4.1	1.8	*3.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
demarcated opacity		4.1	1.8	*3.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
diffuse opacity		0.5	0.0	*0.3*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
hypoplasia		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
other defects		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
combinations of opacities and hypoplasia		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
all three conditions		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
State Rural	n=	203	203	*406*	204	203	*407*	204	202	*406*	174	163	*337*
With enamel defects		2.1	2.6	*2.4*	1.2	1.2	*1.2*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
demarcated opacity		2.1	1.4	*1.8*	0.6	1.2	*0.9*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
diffuse opacity		0.0	1.2	*0.6*	0.6	0.0	*0.3*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
hypoplasia		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
other defects		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
combinations of opacities and hypoplasia		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
all three conditions		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
State Urban	n=	108	102	*210*	108	102	*210*	112	99	*211*	97	92	*189*
With enamel defects		1.3	3.8	*2.6*	1.2	0.0	*0.6*	0.0	1.3	*0.7*	0.0	0.0	*0.0*
demarcated opacity		1.3	3.8	*2.6*	1.2	0.0	*0.6*	0.0	1.3	*0.7*	0.0	0.0	*0.0*
diffuse opacity		1.3	0.0	*0.7*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
hypoplasia		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
other defects		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
combinations of opacities and hypoplasia		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
all three conditions		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
State Total	n=	311	305	*616*	312	305	*617*	316	301	*617*	271	255	*526*
With enamel defects		2.0	2.7	*2.4*	1.2	1.1	*1.2*	0.0	0.2	*0.1*	0.0	0.0	*0.0*
demarcated opacity		2.0	1.6	*1.8*	0.7	1.1	*0.9*	0.0	0.2	*0.1*	0.0	0.0	*0.0*
diffuse opacity		0.2	1.1	*0.7*	0.5	0.0	*0.3*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
hypoplasia		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
other defects		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
combinations of opacities and hypoplasia		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*
all three conditions		0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*	0.0	0.0	*0.0*

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

Enamel opacities/Hypoplasia		5 years			12 years			15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Region 1	*n=*	159	159	*318*	159	159	*318*	161	156	*317*	174	158	*332*	164	153	*317*
Mean no. of teeth with enamel defects		0.0	0.0	***0.0***	0.0	0.1	***0.1***	0.1	0.0	***0.1***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
demarcated opacity		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
diffuse opacity		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
hypoplasia		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
other defects		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
combinations of opacities and hypoplasia		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
all three conditions		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
Region 2	*n=*	150	149	*299*	152	147	*299*	152	149	*301*	159	147	*306*	149	152	*301*
Mean no. of teeth with enamel defects		0.0	0.0	***0.0***	0.1	0.0	***0.1***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
demarcated opacity		0.0	0.0	***0.0***	0.1	0.0	***0.1***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
diffuse opacity		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
hypoplasia		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
other defects		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
combinations of opacities and hypoplasia		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
all three conditions		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
State Rural	*n=*	205	202	*407*	203	204	*407*	204	203	*407*	212	204	*416*	205	203	*408*
Mean no. of teeth with enamel defects		0.0	0.0	***0.0***	0.0	0.1	***0.1***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
demarcated opacity		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
diffuse opacity		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
hypoplasia		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
other defects		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
combinations of opacities and hypoplasia		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
all three conditions		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
State Urban	*n=*	104	106	*210*	108	102	*210*	109	102	*211*	121	101	*222*	108	102	*210*
Mean no. of teeth with enamel defects		0.1	0.0	***0.1***	0.0	0.1	***0.1***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
demarcated opacity		0.0	0.0	***0.0***	0.0	0.1	***0.1***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
diffuse opacity		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
hypoplasia		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
other defects		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
combinations of opacities and hypoplasia		0.1	0.0	***0.1***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
all three conditions		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
State Total	*n=*	309	308	*617*	311	306	*617*	313	305	*618*	333	305	*638*	313	305	*618*
Mean no. of teeth with enamel defects		0.0	0.0	***0.0***	0.0	0.1	***0.1***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
demarcated opacity		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
diffuse opacity		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
hypoplasia		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
other defects		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
combinations of opacities and hypoplasia		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
all three conditions		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***

6.6.4 Prosthetic status (upper & lower)

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

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

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

Prosthetic Status (Upper)		15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T
Region 1	*n=*	**161**	**156**	***317***	**174**	**158**	***332***	**164**	**153**	***317***
With Prostheses present		0.0	0.0	***0.0***	0.8	0.0	***0.4***	1.0	4.9	***3.0***
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***	0.8	0.0	***0.4***	0.2	1.6	***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***	0.0	0.0	***0.0***	0.7	3.3	***2.0***
Region 2	*n=*	**152**	**149**	***301***	**159**	**147**	***306***	**149**	**152**	***301***
With Prostheses present		0.0	0.0	***0.0***	0.0	0.9	***0.5***	3.2	4.4	***3.8***
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	0.9	***0.5***	0.2	0.9	***0.6***
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***	3.0	3.5	***3.3***
State Rural	*n=*	**204**	**203**	***407***	**212**	**204**	***416***	**205**	**203**	***408***
With Prostheses present		0.0	0.0	***0.0***	0.6	0.4	***0.5***	1.1	4.3	***2.7***
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***	0.6	0.4	***0.5***	0.0	1.0	***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***	0.0	0.0	***0.0***	1.1	3.3	***2.2***
State Urban	*n=*	**109**	**102**	***211***	**121**	**101**	***222***	**108**	**102**	***210***
With Prostheses present		0.0	0.0	***0.0***	0.0	0.0	***0.0***	6.1	7.8	***7.0***
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***	1.8	3.9	***2.9***
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***	0.0	0.0	***0.0***	4.2	3.9	***4.1***
State Total	*n=*	**313**	**305**	***618***	**333**	**305**	***638***	**313**	**305**	***618***
With Prostheses present		0.0	0.0	***0.0***	0.5	0.3	***0.4***	1.7	4.7	***3.2***
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***	0.5	0.3	***0.4***	0.2	1.3	***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***	0.0	0.0	***0.0***	1.5	3.4	***2.5***

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

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

Prosthetic Status (Lower)		15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T
Region 1	n=	161	156	317	174	158	332	164	153	317
Prostheses present		0.0	0.0	0.0	0.8	0.0	0.4	1.0	4.4	2.7
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	0.8	0.0	0.4	0.2	1.1	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	0.0	0.0	0.0	0.7	3.3	2.0
Region 2	n=	152	149	301	159	147	306	149	152	301
Prostheses present		0.0	0.0	0.0	0.0	0.2	0.1	3.4	4.4	3.9
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	0.2	0.1	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	0.0	0.0	0.0	3.0	4.4	3.7
State Rural	n=	204	203	407	212	204	416	205	203	408
Prostheses present		0.0	0.0	0.0	0.6	0.0	0.3	1.1	4.3	2.7
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	0.6	0.0	0.3	0.0	0.6	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	0.0	0.0	0.0	1.1	3.7	2.4
State Urban	n=	109	102	211	121	101	222	108	102	210
Prostheses present		0.0	0.0	0.0	0.0	0.7	0.4	6.7	5.2	6.0
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	0.7	0.4	2.5	1.3	1.9
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	0.0	0.0	0.0	4.2	3.9	4.1
State Total	n=	313	305	618	333	305	638	313	305	618
Prostheses present		0.0	0.0	0.0	0.5	0.1	0.3	1.8	4.4	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	0.5	0.1	0.3	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	0.0	0.0	0.0	1.5	3.7	2.6

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

No subjects in the 15-year age group were wearing a prosthesis in the upper or lower arches. The overall proportion of subjects wearing one or the other type of prostheses in the upper and lower arches was low in the state, but the per cent subjects wearing prostheses increased as age advanced, from 35-44 to 65-74 years (Tables 6.19 and 6.20).

The per cent subjects aged 35-44 years wearing prostheses (upper and/or lower arch) was about 0.8 per cent while it was about 3.2 per cent in subjects aged 65-74 years.

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

More female subjects were generally wearing a prostheses. The prevalence pattern of subjects wearing prostheses in the upper arch and their pattern of distribution by type of prostheses was similar in rural and urban subjects and in the regions.

Full mouth removable dentures (upper and lower arches) were being worn only by subjects aged 65-74 years, (2.4 per cent), distributed more in urban areas, in the state (Table 6.21).

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

Prosthetic status of full denture (upper & lower arch)		15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T
Region 1	n=	160	153	*313*	163	155	*318*	164	152	*316*
Percent subjects with full mouth removable denture		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.7	3.1	***1.9***
Region 2	n=	150	149	*299*	153	147	*300*	147	152	*299*
Percent subjects with full mouth removable denture		0.0	0.0	***0.0***	0.0	0.0	***0.0***	3.0	3.5	***3.3***
State Rural	n=	202	200	*402*	204	202	*406*	205	202	*407*
Percent subjects with full mouth removable denture		0.0	0.0	***0.0***	0.0	0.0	***0.0***	1.1	3.3	***2.2***
State Urban	n=	108	102	*210*	112	100	*212*	106	102	*208*
Percent subjects with full mouth removable denture		0.0	0.0	***0.0***	0.0	0.0	***0.0***	4.3	2.6	***3.5***
State Total	n=	310	302	*612*	316	302	*618*	311	304	*615*
Percent subjects with full mouth removable denture		0.0	0.0	***0.0***	0.0	0.0	***0.0***	1.5	3.2	***2.4***

6.6.5 Prosthetic need (upper & lower)

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

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

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

Prosthetic Need (Upper)		15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T
Region 1	n=	**161**	156	***317***	**174**	**158**	***332***	**164**	**153**	***317***
With Prosthetic need		0.2	1.9	***1.1***	11.5	13.9	***12.7***	59.6	56.4	***58.0***
Need for one unit prosthesis		0.2	1.9	***1.1***	6.4	6.5	***6.5***	11.6	14.4	***13.0***
Need for multi unit prosthesis		0.0	0.0	***0.0***	5.2	7.4	***6.3***	35.6	29.4	***32.5***
Need for combination of one and/or MUP		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
Need for full prosthesis		0.0	0.0	***0.0***	0.0	0.0	***0.0***	12.4	12.5	***12.5***
Region 2	n=	**152**	**149**	***301***	**159**	**147**	***306***	**149**	**152**	***301***
With Prosthetic need		0.0	0.0	***0.0***	4.1	7.8	***6.0***	53.5	54.3	***53.9***
Need for one unit prosthesis		0.0	0.0	***0.0***	1.2	3.1	***2.2***	8.7	5.8	***7.3***
Need for multi unit prosthesis		0.0	0.0	***0.0***	2.9	4.7	***3.8***	21.4	22.0	***21.7***
Need for combination of one and/or MUP		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.9	0.0	***0.5***
Need for full prosthesis		0.0	0.0	***0.0***	0.0	0.0	***0.0***	22.5	26.5	***24.5***
State Rural	n=	**204**	**203**	***407***	**212**	**204**	***416***	**205**	**203**	***408***
With Prosthetic need		0.0	1.2	***0.6***	8.4	11.4	***9.9***	55.6	53.6	***54.6***
Need for one unit prosthesis		0.0	1.2	***0.6***	3.9	4.7	***4.3***	10.6	11.3	***11.0***
Need for multi unit prosthesis		0.0	0.0	***0.0***	4.5	6.7	***5.6***	28.5	24.3	***26.4***
Need for combination of one and/or MUP		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.4	0.0	***0.2***
Need for full prosthesis		0.0	0.0	***0.0***	0.0	0.0	***0.0***	16.1	18.0	***17.1***
State Urban	n=	**109**	**102**	***211***	**121**	**101**	***222***	**108**	**102**	***210***
With Prosthetic need		1.2	1.3	***1.3***	12.2	13.4	***12.8***	69.5	69.6	***69.6***
Need for one unit prosthesis		1.2	1.3	***1.3***	8.4	8.9	***8.7***	9.8	10.4	***10.1***
Need for multi unit prosthesis		0.0	0.0	***0.0***	3.9	4.5	***4.2***	43.3	42.3	***42.8***
Need for combination of one and/or MUP		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
Need for full prosthesis		0.0	0.0	***0.0***	0.0	0.0	***0.0***	16.3	16.8	***16.6***
State Total	n=	**313**	**305**	***618***	**333**	**305**	***638***	**313**	**305**	***618***
With Prosthetic need		0.2	1.2	***0.7***	9.0	11.6	***10.3***	57.4	55.6	***56.5***
Need for one unit prosthesis		0.2	1.2	***0.7***	4.6	5.2	***4.9***	10.6	11.2	***10.9***
Need for multi unit prosthesis		0.0	0.0	***0.0***	4.4	6.4	***5.4***	30.6	26.6	***28.6***
Need for combination of one and/or MUP		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.3	0.0	***0.2***
Need for full prosthesis		0.0	0.0	***0.0***	0.0	0.0	***0.0***	16.0	17.7	***16.9***

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

The need for prostheses was only 10.3 per cent (upper arch) and 12.6 per cent (lower arch) in the 35-44 age group but it increased rapidly to about 56.5 (upper arch) and 55.8 per cent (lower arch) in the 65-74 group (Tables 6.22 and 6.23).

Only about 0.7 per cent of the subjects in the 15-year-old group required a one-unit prosthesis. In the 35-44 year age group, the most prevalent need was for one or multi-unit prostheses. In the 65-74 age group, the most prevalent need was for multi-unit prostheses followed by the need for full dentures and by the need for one-unit prostheses.

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

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

Prosthetic Need (Lower)		15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T
Region 1	**n=**	**161**	**156**	***317***	**174**	**158**	***332***	**164**	**153**	***317***
With Prosthetic need		0.2	2.7	***1.5***	11.7	18.8	***15.3***	60.5	54.1	***57.3***
Need for one unit prosthesis		0.2	1.9	***1.1***	5.1	11.6	***8.4***	9.6	9.6	***9.6***
Need for multi unit prosthesis		0.0	0.8	***0.4***	5.8	7.2	***6.5***	38.7	31.7	***35.2***
Need for combination of one and/or MUP		0.0	0.0	***0.0***	0.8	0.0	***0.4***	0.0	0.0	***0.0***
Need for full prosthesis		0.0	0.0	***0.0***	0.0	0.0	***0.0***	12.2	12.8	***12.5***
Region 2	**n=**	**152**	**149**	***301***	**159**	**147**	***306***	**149**	**152**	***301***
With Prosthetic need		0.0	0.0	***0.0***	7.2	8.9	***8.1***	52.4	53.9	***53.2***
Need for one unit prosthesis		0.0	0.0	***0.0***	4.5	3.1	***3.8***	5.9	3.4	***4.7***
Need for multi unit prosthesis		0.0	0.0	***0.0***	2.5	5.8	***4.2***	23.7	23.1	***23.4***
Need for combination of one and/or MUP		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
Need for full prosthesis		0.0	0.0	***0.0***	0.2	0.0	***0.1***	22.8	27.4	***25.1***
State Rural	**n=**	**204**	**203**	***407***	**212**	**204**	***416***	**205**	**203**	***408***
With Prosthetic need		0.0	1.8	***0.9***	8.9	14.7	***11.8***	54.6	51.4	***53.0***
Need for one unit prosthesis		0.0	1.2	***0.6***	4.3	7.7	***6.0***	7.5	6.5	***7.0***
Need for multi unit prosthesis		0.0	0.6	***0.3***	4.1	7.0	***5.6***	31.0	26.4	***28.7***
Need for combination of one and/or MUP		0.0	0.0	***0.0***	0.6	0.0	***0.3***	0.0	0.0	***0.0***
Need for full prosthesis		0.0	0.0	***0.0***	0.0	0.0	***0.0***	16.1	18.4	***17.3***
State Urban	**n=**	**109**	**102**	***211***	**121**	**101**	***222***	**108**	**102**	***210***
With Prosthetic need		1.2	1.3	***1.3***	17.8	17.9	***17.9***	77.3	72.3	***74.8***
Need for one unit prosthesis		1.2	1.3	***1.3***	8.9	14.0	***11.5***	13.3	12.4	***12.9***
Need for multi unit prosthesis		0.0	0.0	***0.0***	8.3	3.9	***6.1***	48.2	41.7	***45.0***
Need for combination of one and/or MUP		0.0	0.0	***0.0***	0.0	0.0	***0.0***	0.0	0.0	***0.0***
Need for full prosthesis		0.0	0.0	***0.0***	0.6	0.0	***0.3***	15.8	18.1	***17.0***
State Total	**n=**	**313**	**305**	***618***	**333**	**305**	***638***	**313**	**305**	***618***
With Prosthetic need		0.2	1.7	***1.0***	10.1	15.1	***12.6***	57.6	54.0	***55.8***
Need for one unit prosthesis		0.2	1.2	***0.7***	4.9	8.5	***6.7***	8.3	7.3	***7.8***
Need for multi unit prosthesis		0.0	0.5	***0.3***	4.7	6.7	***5.7***	33.4	28.5	***31.0***
Need for combination of one and/or MUP		0.0	0.0	***0.0***	0.5	0.0	***0.3***	0.0	0.0	***0.0***
Need for full prosthesis		0.0	0.0	***0.0***	0.1	0.0	***0.1***	15.9	18.2	***17.1***

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

The prevalence pattern and distribution of need by type of prostheses was common to rural and urban areas and regions, although the prevalence appeared higher in rural compared to urban areas. There were no marked gender related differentials.

The need for full mouth removable dentures was recorded among subjects in the 65-74 age group. About 16.7 per cent subjects, more in the rural areas, needed such prostheses. In the Upper Brahmaputra Region, the percentage of subjects needing full mouth dentures was 24.8 compared to only 12.1 in Lower Brahamaputra. Gender related differentials were not marked, although female subjects needed marginally more dentures than their male counterparts.

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

Prosthetic status of full denture (upper & lower arch)		15 years			35-44 years			65-74 years		
		M	F	T	M	F	T	M	F	T
Region 1	n=	160	153	*313*	163	155	*318*	164	152	*316*
Percent subjects needing full mouth removable denture		0.0	0.0	*0.0*	0.0	0.0	*0.0*	11.4	12.7	*12.1*
Region 2	n=	150	149	*299*	153	147	*300*	147	150	*297*
Percent subjects needing full mouth removable denture		0.0	0.0	*0.0*	0.0	0.0	*0.0*	22.6	27.0	*24.8*
State Rural	n=	202	200	*402*	204	202	*406*	205	200	*405*
Percent subjects needing full mouth removable denture		0.0	0.0	*0.0*	0.0	0.0	*0.0*	15.5	18.3	*16.9*
State Urban	n=	108	102	*210*	112	100	*212*	106	102	*208*
Percent subjects needing full mouth removable denture		0.0	0.0	*0.0*	0.0	0.0	*0.0*	15.3	16.8	*16.1*
State Total	n=	310	302	*612*	316	302	*618*	311	302	*613*
Percent subjects needing full mouth removable denture		0.0	0.0	*0.0*	0.0	0.0	*0.0*	15.3	18.0	*16.7*

6.6.6 Community need for immediate care and referrals

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

Overall, life threatening and painful or infective conditions were extremely rare in the state. Life threatening conditions were recorded in the state among only 0.7 per cent males, distributed among rural and urban residents in the 5-year age group. Pain or infection was recorded in about 35-40 per cent subjects in all age groups, except in the 65-74 age group, where such percentage of subjects was lower (29.5 per cent males and 24.9 per cent females). A higher proportion of rural subjects, compared to their urban counterparts were affected.

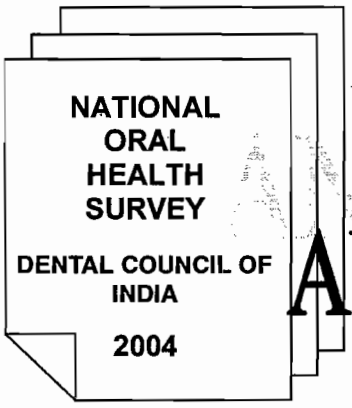
Referrals were made for almost all the conditions recorded.

The pattern was similar for rural and urban areas, but there was a much higher proportion of male and female subjects in rural area with pain or infection.

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

STATE: Assam

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=	158	159	317	156	158	314	161	156	317	163	155	318	164	152	316
Life threatening condition		1.1	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pain or infection		38.2	40.4	39.3	34.5	37.8	36.2	37.7	34.0	35.9	35.0	41.5	38.3	28.6	23.5	26.1
Other condition		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.2	7.0	7.1	20.1	21.6	20.9
Referral		36.3	38.4	37.4	34.7	37.6	36.2	36.5	33.2	34.9	37.7	41.2	39.5	35.6	38.3	37.0
Region 2	n=	149	149	298	152	147	299	151	149	300	153	147	300	148	151	299
Life threatening condition		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pain or infection		41.1	37.4	39.3	38.0	43.1	40.6	39.9	41.1	40.5	46.3	42.8	44.6	31.0	27.1	29.1
Other condition		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	5.4	3.7	14.9	17.1	16.0
Referral		41.5	37.4	39.5	38.0	43.1	40.6	39.9	41.1	40.5	47.4	45.2	46.3	42.0	43.7	42.9
State Rural	n=	204	202	406	200	203	403	204	203	407	204	202	406	205	201	406
Life threatening condition		0.6	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pain or infection		41.8	40.7	41.3	38.4	42.9	40.7	40.7	38.9	39.8	41.7	44.5	43.1	31.2	26.3	28.8
Other condition		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.1	6.7	5.9	19.7	20.7	20.2
Referral		41.0	39.1	40.1	38.7	42.8	40.8	40.4	38.7	39.6	44.3	45.3	44.8	40.5	43.2	41.9
State Urban	n=	103	106	209	108	102	210	108	102	210	112	100	212	107	102	209
Life threatening condition		1.3	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pain or infection		21.4	30.4	25.9	18.0	18.6	18.3	23.9	21.4	22.7	22.2	24.7	23.5	18.3	15.1	16.7
Other condition		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	4.0	5.0	8.1	13.8	11.0
Referral		18.8	30.7	24.8	18.0	18.6	18.3	20.3	18.8	19.6	23.1	25.1	24.1	21.0	20.5	20.8
State Total	n=	307	308	615	308	305	613	312	305	617	316	302	618	312	303	615
Life threatening condition		0.7	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pain or infection		39.3	39.3	39.3	35.8	39.8	37.8	38.5	36.6	37.6	39.1	42.0	40.6	29.5	24.9	27.2
Other condition		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.3	6.4	5.9	18.3	19.9	19.1
Referral		38.2	38.0	38.1	36.0	39.7	37.9	37.8	36.2	37.0	41.4	42.8	42.1	37.9	40.4	39.2



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 (ASSAM)

S. No.	Name	Designation
1	Dr. Rubi Kataki	Regional Coordinator
2	Dr. Liza Pathak	Supervisor
3	Dr. Anupam Deka	Dental Surgeon
4	Dr. Amir Hussain	Dental Surgeon
5	Dr. Charanjit Kaur	Dental Surgeon
6	Dr. Lalit Ch. Baruah	Dental Surgeon
7	Dr. Purabi Chowdhury	Dental Surgeon
8	Dr. Rhituraj Borhozowal	Dental Surgeon
9	Mr. Samal kr. Sinha	Social Worker
10	Mr. Pranab Gogoi	Social Worker
11	Mr. Ranjit Talukder	Attendant

ANNEXURE - 6

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

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

FORM NO. फार्म संख्या | 1 | 1 |

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

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

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

B. FOOD HABITS / खाद्य सम्बन्धी आदतें

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

FORM NO. फार्म संख्या | 1 | 2 |

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

S. No./ क्रम सं.	Question / प्रश्न	Response / उत्तर	Code/कोड		5 Yrs. / 5 वर्ष	12 Yrs. / 12 वर्ष	15 Yrs. / 15 वर्ष	35-44 Yrs./ 35–44 वर्ष	65-74 Yrs./ 65–74 वर्ष	
24.	Your occupation or Profession ? / आपका रोजगार या व्यवसाय?	Farmer ..... 1 कृषक Agriculture Labour ..... 2 कृषि श्रमिक Business ..... 3 व्यापार Professional ..... 4 व्यवसाय White Collar Worker ..... 5 व्हाईट–कालर कार्य Skilled Worker ..... 6 सीखा हुआ कर्मचारी Unskilled Worker ..... 7 बिना सीखा हुआ कर्मचारी Other (Specify) ..... 8 अन्य			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*** ..... ***1*** फ्लोराइड–युक्त ***Non-Fluoridated*** ..... ***2*** फ्लोराइड–रहित ***Can't Say*** ..... ***3*** कह नहीं सकता ***None*** ***4***								(150-154)
41.	***(Ask only if code in Q. 36 was 2.)*** ***How often do you change your toothbrush?*** आप अपना टूथ ब्रश कितने समय बाद बदलते हैं?	***1-3 months/*** 1–3 माह ..... ***1*** ***4-6 months/*** 4–6 माह ..... ***2*** ***6 + months/*** ..... ***3*** 6 से अधिक ***NA (Not using/ Brush)*** ***4***								(155-159)
42.	***How often you rinse your mouth with water after eating? /*** क्या भोजन करने के बाद आप पानी से कुल्ला करते हैं।	***Never*** ..... ***1*** कभी नहीं ***Sometimes*** ..... ***2*** कभी–कभी ***Always*** ..... ***3*** सर्वदा								(160-164)
43.	***Do you use any other oral hygiene aids?*** क्या आप मुँह साफ करने के लिए किसी अन्य साधन का इस्तेमाल करते हैं? ***(Tick as many as reported)*** (जितना बताएं सब लिखें)	***Dental Floss*** ..... ***1*** डेन्टल फ्लॉश ***Interdental Brush*** ..... ***2*** इन्टरडेन्टल ब्रुश ***Toothpicks*** ..... ***3*** टूथ पिक्स ***Fluoride Mouthrinse*** ..... ***4*** फ्लोराइड माउथरिन्स ***Other*** ..... ***5*** ***Mouthwash/Rinse (Specify)*** अन्य माउथवाश/रिन्स लिखें ***None/*** कोई नहीं ***6***								(165-184)

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

E. Pattern of Practices for Dental Treatment

द. दंत–चिकित्सा के तरीके

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

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

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

F. Awareness and Knowledge of Dental Health Problems

एफ. दंत–स्वास्थ्य समस्याओं की जानकारी व जागरूकता

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

S. No./ क्रम सं.	Question / प्रश्न	Response / उत्तर	Code/कोड		5 Yrs. / 5 वर्ष	12 Yrs. / 12 वर्ष	15 Yrs. / 15 वर्ष	35-44 Yrs./ 35–44 वर्ष	65-74 Yrs./ 65–74 वर्ष	
52.	*How can you prevent dental problems?/* आप किस प्रकार दांतों की बीमारियों को रोक सकते हैं? *(Tick as many as reported)* (जितना बताएं सब लिखें)	***Not consuming tobacco products** / तम्बाकू उत्पादों का इस्तेमाल न करके*	1	ASKED						(315-334)
		***Regular cleaning of teeth with brush** ब्रुश द्वारा दांतों की नियमित सफाई*	2							
		***Visiting dentist regularly** दंत–चिकित्सक द्वारा नियमित जांच*	3							
		***Using Fluoride Toothpaste** 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							(360-364)
56.	***How many times a day do you normally Smoke? /*** एक दिन में सामान्यतः कितनी बार धूम्रपान करते हैं?	***< 5 times/*** पांच बार तक ***5-10 times/*** पांच से दस बार ***10-20 times/*** दस से बीस बार ***> 20 times/*** बीस से अधिक	1 2 3 4							(365-369)
57.	***Did you or do you chew pan with tobacco? /*** क्या आप पान तम्बाकू के साथ चबाते हैं या चबाते थे?	***No/*** नहीं ***Yes/*** हाँ ***Don't Know/*** पता नहीं	1 2 3	**If No, Go to Q. 61**						(370-374)
58.	***Did you or do you chew pan-masala with tobacco? /*** क्या आप पान–मसाला तम्बाकू के साथ चबाते हैं या चबाते थे?	***No/*** नहीं ***Yes/*** हाँ ***Don't Know/*** पता नहीं	1 2 3							(375-379)
59	***How long have you been in the habit of chewing pan or pan masala with tobacco? /*** आप कब से पान या पान–मसाला तम्बाकू के साथ चबाते रहें हैं? (एक पर टिक लगायें)	***< 5 Yrs./*** 5 साल से ***5-10 Yrs./*** 5–10 साल से ***> 10 Yrs./*** 10 साल से अधिक	1 2 3							(380-384)
60.	***How often do you chew tobacco in a day? /*** एक दिन में आप तम्बाकू कितनी बार चबाते हैं? (एक पर टिक लगायें)	***< 5 times/*** 5 बार ***5-10 times/*** 5–10 बार ***> 10 times/*** 10 से अधिक	1 2 3							(385-389)
61.	***Did you or do you take Alcohol? /*** क्या आप अल्कोहल (शराब) लेते थे या लेते हैं? (एक पर टिक लगायें)	***No/*** नहीं ***Yes/*** हाँ	1 2	**If No, End the interview here**						(390-394)
62.	***How often do you take Alcohol/*** आप अल्कोहल (शराब) कितनी बार लेते हैं या लेते थे? (एक पर टिक लगायें)	***Daily/*** प्रतिदिन ***3 times a week/*** सप्ताह में 3 बार ***Occasionally/*** कभी–कभी ***< 3 times a week/*** सप्ताह में 3 बार से अधिक	1 2 3 4							(395-399)

SKIP TO NOTE

DENTAL COUNCIL OF INDIA, NEW DELHI

NATIONAL ORAL HEALTH SURVEY & FLUORIDE MAPPING

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

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

FORM NO. 2 0 (1-2)

STATE (6-7)

ZONE (8-9)

TEAM NO. (3-5)

DISTRICT (10)

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

CODE

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

SERIAL NO. OF HOUSEHOLD VISITED (14-16)

NAME OF HEAD OF HOUSEHOLD Mr. / Mrs. _____

NAME OF SPOUSE _____

ADDRESS OF THE HOUSEHOLD _____

_____

EXAMINER _____ (NAME) (SIGN)

RECORDER _____ (NAME) (SIGN)

NAME OF INTERVIEWER _____ (NAME) (SIGN)

FIELD CHECKED BY _____ (NAME) (SIGN)

SCRUTINISED BY _____ (NAME) (SIGN)

CHECKED BY _____ (NAME) (SIGN)

WHO ORAL HEALTH ASSESSMENT FORM (1997)

GENERAL INFORMATION

Name .....

Date of birth (17) Year Month (20)

Age in years (21) (22)

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

Ethnic group (24)

Occupation (25)

Geographical location (26) (27)

Location type : (28)

1 = Urban
2 = Periurban
3 = Rural

OTHER DATA (specify and provide codes)

..... (29)

..... (30)

CONTRAINDICATION TO EXAMINATION

Reason..... (31)

..... 0 = No 1 = yes

CLINICAL ASSESSMENT

EXTRA-ORAL EXAMINATION

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

TEMPOROMANDIBULAR JOINT ASSESSSMENT

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

SIGNS
0 = No
1 = Yes
9 = Not recorded

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

ORAL MUCOSA

CONDITION

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

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

LOCATION

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

ENAMEL OPACITIES/HYPOPLASIA

Permanent teeth

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

14 13 12 11 21 22 23 24
(43) (50)
(51) (52)
46 36

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

17/16 11 26/27
(54) (56)
(57) (59)
47/46 31 36/37

LOSS OF ATTACHMENT*

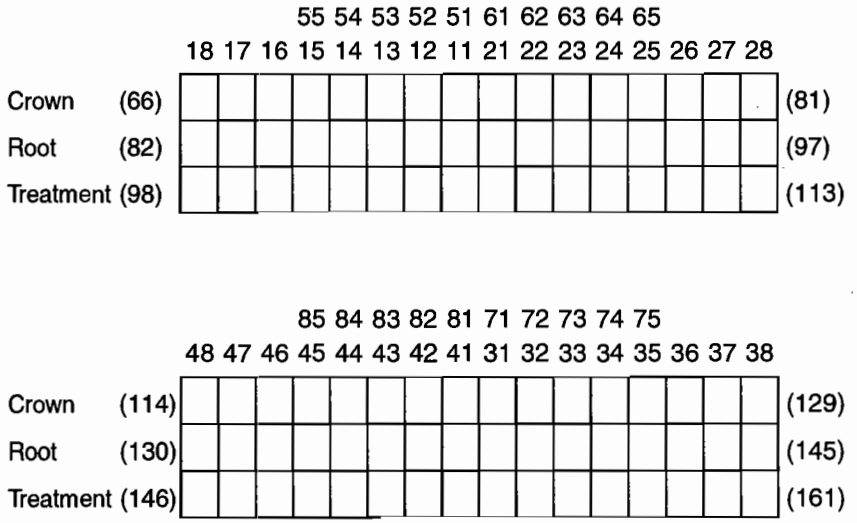
0 = Healthy
1 = 4-5 mm (cementoenamel junction (CEJ) within black band)
2 = 6-8 mm (CEJ between upper limit of black band and 8.5 mm ring)
3 = 9-11 mm (CEJ between 8.5 mm and 11.5 mm rings)
4 = 12 mm or more (CEJ beyond 11.5 mm ring)
X = Excluded sextant
9 = Not recorded

*Not recorded under 15 years of age

17/16 11 26/27
(60) (62)
(63) (65)
47/46 31 36/37

DENTITION STATUS AND TREATMENT NEED

Identification Number



Primary teeth Crown	Permanent teeh Crown/Root		STATUS	TREATMENT
A	0	0	Sound	0 = None
B	1	1	Decayed	P = Preventive, caries arresting care
C	2	2	Filled, with decay	
D	3	3	Filled, no decay	F = Fissure sealant
E	4	-	Missing, as a result of caries	1 = One surface filling 2 = Two or more surface fillings
-	5	-	Missing, any other reason	3 = Crown for any reason
F	6	-	Fissure sealant	4 = Veneer or laminate
G	7	7	Bridge abutment special crown or veneer/implant	5 = Pulp care and restoration 6 = Extraction
-	8	8	Unerupted tooth, (Crown) / unexposed root	7 = Need for other care (specify)..... 8 = Need for other care (specify).....
T	T	-	Trauma (fracture)	
-	9	9	Not recorded	9 = Not recorded

PROSTHETIC STATUS

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

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

PROSTHETIC NEED

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

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

DENTOFACIAL ANOMALIES

DENTITION

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

SPACE

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

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

☐ (170) Diastema in mm

☐ (171) Largest anterior maxillary irregulaity in mm

☐ (172) Largest anterior mandibular irregularity in mm

OCCLUSION

☐ (173) Anterior maxillary overjet in mm

☐ (174) Anterior mandibular overjet in mm

☐ (175) Vertical anterior openbite in mm

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

NEED FOR IMMEDIATE CARE AND REFERRAL

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

0 = Absent
1 = Present
2 = Not recorded

Referral
0 = No
1 = Yes
9 = Not recorded

☐ (180)

NOTES