National Oral Health Survey Sri Lanka 2015-2016

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2015-2016

Ministry of Health, Nutrition and Indigenous Medicine

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Colombo 10, Sri Lanka.

2018

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Message from the Director General of Health Services

It is with immense pleasure I forward this message to the report of the 4th National Oral Health Survey of Sri Lanka.

With the vision of building a healthier nation, Ministry of Health identified the importance of providing oral health services in order to reduce the oral disease burden in this country.

Periodic evaluation of oral health status of the population is important for any country. National Oral Health Surveys reveals a snapshot view of prevalence and severity of main oral diseases, habits related to oral health and oral health care utilization pattern of the country. Such information is important in planning, implementation, monitoring and evaluation of national oral health programmes. Furthermore, such information is useful for policymakers to assess disease trends which could be used in policy formulation with regards to future oral health needs of a country.

Sri Lanka has conducted three National Oral Health Surveys in years 1983-1984, 1994-1995 and 2002-2003. The current survey, which is the fourth one, was conducted in the years 2015-2016 unveils the updated oral health status of the Sri Lankan population. The socio-economic, demographic and other changes in the social strata encountered during the past decade will be reflected in the findings of this report.

I take this opportunity to commend the service rendered by the team who worked tirelessly towards the success of the fourth National Oral Health Survey. I appreciate the dedicated service rendered by Dr J. M. W. Jayasundara Bandara former Director General of Health Services. Finally, I would like to thank the WHO country office for assistance given for the survey.

Dr. Anil Jasinghe

Director General of Health Services

Executive summary

Oral health is an integral part of general health and therefore essential for the wellbeing and quality of life of an individual. Moreover, high prevalence of oral disease combined with limited availability of oral health services to manage these conditions lead to a significant socio-economic burden on the society. Therefore in view of avoiding these adverse effects, it is important to have sound oral health policies and essential oral healthcare services to the society combined with sound monitoring mechanisms. For this purpose, regular assessment of oral disease burden and dental service utilization pattern of the society is essential.

In order to fulfill this vital task, the Ministry of Health Sri Lanka has been conducting National Oral Health Surveys periodically since 1984. Three surveys had already been conducted and this report presents the summarized results of the 4th National Oral Health Survey, which was conducted in 2015-2016.

The results provide a snap-shot view of oral disease burden and dental service utilization pattern of the society. In addition, these results will also supplement and update the existing oral health databases on the Sri Lankan population. Therefore, the results could be useful to assess the effectiveness of the oral healthcare services provided, for planning of oral health services at national, provincial and district levels as well as to compare the oral disease trends over the years.

Ten thousand (10000) participants, comprising 2000 each from 5-year-old, 12-year-old, 15-year-old, 35-44-year-old and 65-74-year-old age groups were selected as the sample. Selection of age groups, assessment criteria of oral health status and its associated factors were principally based on the guidelines recommended by the World Health Organization; presented in Oral Health Surveys Basic Methods 5th Edition. However, few modifications were made to suit the country requirements. Multi-stage sampling technique was used for selection of participants. In the first stage, 100 clusters (schools) were selected using Probability Proportionate to Size (PPS) sampling technique representing all administrative districts of the country. A school was considered as the primary cluster-unit. In the second stage, participants were identified from the selected clusters. Systematic sampling technique was used to select 5-year-olds, 12-year-olds and 15-year-olds from schools. The other two groups; 35-44-year-olds and 65-74-year-olds were selected from the vicinity of the selected school by house-to-house visits while maintaining the sex ratio of the country.

Data were collected by the means of an interviewer administered questionnaire and a clinical oral examination. The clinical examination was performed under natural light using sterile instruments while the subject was in seated position on a normal school/household chair. Twenty nine (29) dental surgeons with postgraduate qualifications in Community Dentistry functioned as examiners and school dental therapists functioned as data recorders. All were trained and calibrated for the survey criteria and methods before data collection. Administrative clearance for the survey was obtained from relevant authorities.

Data entry and analysis were performed by using Census and Survey Processing system (CSPro*)* and Statistical Package for the Social Sciences (SPSS) software respectively. After data cleaning and editing, data from a total of 9935 participants were available for analysis. Data were presented as percentages and mean values (with SD) whenever appropriate. Considering country requirements, sub-sector variations; sex, ethnicity, sector (urban/rural) and district variations, were also presented.

Key findings of the survey are given in the Table A. When compared with the findings of previous National Oral Health Surveys, there was a reduction in the oral disease burden, improvement in oral health habits and the use of oral healthcare services. However, the prevalence of untreated disease was still substantially high among all age groups. It was also evident that dental service utilization was mainly for obtaining emergency care. Moreover, Tamils and rural population had a higher disease burden and poor oral health habits than other ethnic groups; Sinhalese and Muslims, and urban population respectively. Hence, the above issues need to be addressed to improve oral health status of the Sri Lankan population.

Table A: Summary of population profile and key findings: National Oral Health Survey 2015-2016

	Category	Description	Age group				
			5yrs	12yrs	15yrs	35-44yrs	65-74yrs
Sample characteristics	Sample size	Expected *(Total 10000)*	2000	2000	2000	2000	2000
		Available *(Total 9935)*	1995	1996	2003	1982	1959
	Sex (%)	Male	52.3	50.1	50.0	48.4	49.8
		Female	47.7	49.9	50.0	51.6	50.2
	Ethnic group (%)	Sinhalese	69.9	70.1	69.9	66.6	66.1
		Tamil	15.1	15.4	15.1	16.5	16.8
		Muslim	14.9	14.4	15.0	16.8	16.9
		Other	0.1	0.1	0.0	0.1	0.2
	Sector (%)	Urban	28.5	28.5	28.5	27.9	28.3
		Rural	71.5	71.5	71.5	72.1	71.7
Disease pattern	Number of teeth	Mean number of permanent teeth	1.7	26.1	27.9	27.5	15.3
		Mean number of deciduous teeth	19.4	0.7	0.0	0.0	0.0
		Percentage of people with Edentulousness	0.0	0.0	0.0	0.0	11.3
	Dental caries	Percentage of people with active caries (D>0)	60.7*	24.2	35.3	63.8	51.3
		Percentage of people with missing teeth (M>0)	3.6*	3.3	7.4	82.2	97.4
		Percentage of people with filled teeth (F>0)	11.5*	8.8	9.1	23.7	4.8
		Percentage of people with total caries experience (DMFT>0)	63.1*	30.4	41.5	92.5	98.3
		Percentage of people with untreated caries out of total caries experience (D>0/DMFT>0)	96.2*	79.6	85.1	69.0	52.2
		Mean D	2.8*	0.4	0.8	2.0	1.8
		Mean M	0.1*	0.1	0.1	4.0	16.5
		Mean F	0.2*	0.1	0.1	0.5	0.1
		Mean DMFT	3.1*	0.6	1.0	6.5	18.4
	Bleeding-on-probing	Percentage of people with bleeding-on-probing	18.3	44.7	46.5	52.6	50.4
		Mean number of teeth with bleeding-on-probing	0.7	3.3	3.9	4.6	4.2
	Calculus	Percentage of people with calculus	13.7	47.0	49.3	70.7	71.6
	Periodontal pockets (≥4mm)	Percentage of people with pockets	-	-	5.4	25.3	44.4
		Mean number of teeth with pockets	-	-	0.2	1.5	2.7
	Loss of attachment (LOA)	Percentage of people with LOA 0-3mm	-	-	99.3	76.5	22.7
		Mean number of sextants LOA 0-3mm	-	-	6.0	5.4	2.2
		Percentage of people with LOA 4-5mm	-	-	0.7	17.7	31.3
		Mean number of sextants LOA 4-5mm	-	-	0.0	0.4	1.1
	Tooth-wear	Percentage of people affected	-	2.2	5.1	48.2	-
	Dento-facial anomalies	Percentage of people with severe malocclusion	-	15.7	13.1	-	-
	Denture-wear	Percentage of people not wearing dentures	-	-	99.9	92.2	82.3
		Percentage of people wearing partial denture	-	-	0.1	7.7	12.9
		Percentage of people wearing full denture	-	-	0.0	0.3	5.9
	Dental trauma	Percentage of people affected	1.8	5.1	5.4	6.5	-
	Treatment need	Percentage of people need routine care	61.8	62.6	65.6	84.2	84.0
		Percentage of people need immediate care	0.8	0.5	0.8	1.3	0.9
Habits	Tooth cleaning habits	Percentage of people brush teeth: 2/day	53.9	50.1	55.8	73.3	55.0
		Percentage of people use tooth brush	96.7	97.5	98.4	95.9	70.4
		Percentage of people use fluoride toothpaste	75.6	80.0	82.1	79.3	59.0
Service utilization	Distance to government dental clinic	Percentage of people reside 5km or less	-	67.3	64.3	64.0	65.2
	Last visit to dental clinic	Percentage of people visit to dental clinic within 1yr	-	59.6	31.4	30.9	18.4
	Type treatment received at the last visit	Percentage of people received: Extractions	-	12.5	14.9	50.4	52.2
		Percentage of people received: Permanent fillings	-	13.3	13.7	17.0	3.1

**5yrs: deciduous teeth - not measured*

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List of abbreviations

CPI	Community Periodontal Index
DGHS	Director General of Health Services
DDG	Deputy Director General
DDG/DS	Deputy Director General – Dental Services
DT	Total of decayed teeth in permanent dentition
MT	Total of missing teeth in permanent dentition
FT	Total of filled teeth in permanent dentition
DMFT	Total of decayed, missing and filled teeth in permanent dentition
dt	Total of decayed teeth in deciduous dentition
mt	Total of missing teeth in deciduous dentition
ft	Total of filled teeth in deciduous dentition
dmft	Total of decayed, missing and filled teeth in deciduous dentition
GN	Grama Niladhari
LKR	Sri Lankan Rupees
LOA	Loss of periodontal attachment
OSF	Oral Submucous Fibrosis
OPMD	Oral Potentially Malignant Disorders
MOH	Medical Officer of Health
NGO	Non-governmental organization
NOHS	National Oral Health Survey
PDHS	Provincial Director of Health Services
PHI	Public Health Inspector
PHM	Public Health Midwife
PI	Principal Investigator
R-DT	Total of decayed roots in permanent dentition
R-FT	Total of filled roots in permanent dentition
R-DFT	Total of decayed and filled roots in permanent dentition
RDS	Regional Dental Surgeon
SDT	School Dental Therapist
WHO	World Health Organization

Chapter 1

Introduction

1.1 Country profile and vital statistics

Democratic Socialist Republic of Sri Lanka is a tropical country situated in the Indian ocean between 5^0 to 9^0 of Northern-latitudes and 79^0 to 82^0 Eastern-longitudes with a land area of 65 610 square kilometres[1] (Figure 1.1). Sri Lanka is a multi-ethnic society with 74.9% of Sinhalese, 15.3% of Tamils and 9.3% of Muslims[2].

For the purpose of administration, the country is divided into 09 provinces, 25 districts and 322 divisional secretary areas. A divisional secretary area is further divided into several Grama Niladhari (GN) divisions which are the smallest local administrative unit. The urban-rural classification of the country is based on administrative boundaries. In this context, areas governed by municipal or urban councils are categorized as urban areas while areas covered by 'Pradeshiya Sabhas' considered as rural areas. Areas primarily consisting of tea and rubber plantations are considered as the estate sector. According to the latest census, approximately 18.2% of the total population lives in urban areas, 4.4% in the estate sector, while the majority, 77.4%, lives in rural areas[2].

The estimated population of Sri Lanka for the year 2015 is 20.9 million with an annual growth rate of 0.94%. The population density is 334 persons per square kilometres and the median age of the population is 31 years. More than half of the population is concentrated in the Western, Central, Southern and North-Western provinces[1].

Despite being considered as a low-middle income country, Sri Lanka has shown a continuous improvement in health and social indicators mainly due to well structured social welfare system (Table 1.1).

Table 1.1: Health and social indicators in Sri Lanka (for selected years)

	1983	1994	2002	2015
Estimated mid-year population (million)[3]	15.7	18.1	19.1	20.9
Sex ratio (males/100 females)[2]	104 (1981)	-	99.1 (2001)	93.8 (2012)
GDP per capita (USD)[4]	387.8	654.2	873.2	3844.9
Current expenditure on health (% GDP)	-	3.1[5]	3.6[5]	3.0[6]
Human Development Index (HDI)	0.593[7]	0.646[8]	0.697[8]	0.766[8]
Literacy rate (10 years and over)	87.2[2]	90.1[9]	91.1 (2001)[2]	97.7(2012)[2]
Crude birth rate (per 1000 population) [10]	25.3	19.2	18.5	15.6
Crude death rate (per 1000 population)[11]	6.1	7.1	6.4	6.8
Life expectancy at birth (years)[12]	69.0	69.4	72.5	75.1
Maternal mortality rate (per 100 000 live births) [13]	-	69	45	30
Infant mortality rate (per 100 000 live births)[14]	24.2	16.5	11.3	8.3

1.2 Health services in Sri Lanka

The government of Sri Lanka has recognized the right for universal access to healthcare and considers health as a national priority. Thus the Ministry of Health is encouraged to collaborate with multiple sectors such as universities, armed forces, commercial enterprises and non-governmental organizations (NGO) for the provision of healthcare to the nation. The country delivers a mix of Allopathic, Ayurvedhic, Unani, Sidha, Homeopathy and Acupuncture medicine systems. Of these, the allopathic system is the predominant type catering the majority of the population[1].

The public health service is free at the point of delivery and is structured in two parallel streams. The preventive health services are provided through specialized health programmes and campaigns whilst the curative health services are provided through a network of hospitals ranging from non-specialized care at primary level to specialized care through a range of hospitals. The private sector provides nearly one-half of out-patient and approximately 5-10 % of in-patient care services. Most private healthcare expenses are paid by individuals out of pocket, as health insurance schemes are not widely available in the country[1].

The Ministry of Health provides the stewardship to health service development and delivery by policy formulation and regulation of the services. The Ministry of Health also involves in training and development of certain categories of human resources as well as the management of large public hospitals and specialized health programmes and campaigns. The rest of the public health services are managed by the decentralized provincial system. The Director General of Health Service (DGHS) at the Ministry of Health coordinates the health services. Supporting the DGHS, a group of Deputy Director Generals (DDG) and Directors coordinate the various aspects of health services. At the provincial level, Provincial Director of Health Services (PDHS) coordinates the health services and the PDHS is supported by Regional Director of Health Services (RDHS) at district level and Medical Officer of Health (MOH) at smaller divisional units called MOH areas. All hospitals are managed either by Hospital Directors, Medical Superintends, District Medical Officers or Medical Officer In-charges[1].

1.3 Oral healthcare services in Sri Lanka

Dental services of the country are delivered through the medical service infrastructure. The Deputy Director General-Dental Services (DDG/DS) is the focal point of administration of oral health services in the Ministry of Health. When considering the type of care delivered, the curative services are provided through network of public and private dental clinics. The preventive oral healthcare services are predominantly delivered through dental clinics situated in schools and community centres. School Dental Therapists (SDTs) at school dental clinics provide oral healthcare for children between 3-13 years of age. Community dental clinics and some school based (adolescent) dental clinics are managed by dental surgeons who also involved in providing preventive oral healthcare. Mobile dental services for inaccessible groups are provided through a network of mobile dental units located at regional offices. Specialist services are provided by consultants in Oral and Maxillo-Facial Surgery, Orthodontics, Restorative Dentistry, Community Dentistry and Oral Pathology through a network of specialist dental clinics in respective disciplines[1].

Oral healthcare services to the nation are also delivered through multi-sector collaborative activities. Basic information related to good oral health practices is introduced into school curricular and the school dental programme is integrated with the school medical inspection. Similarly, 'oral health package' is introduced into existing family health services and cancer control programmes. Moreover, assistance from NGOs and commercial enterprises is encouraged for public awareness and mobile dental programmes as well as the development and marketing of consumer products that are conducive to promote oral health such as fluoridated toothpaste[1].

1.3.1 Manpower and facilities of dental services

The Faculty of Dental Sciences of University of Peradeniya is the only institution that trains dental surgeons and dental technicians in the country while the Dental Therapist Training School under Ministry of Health trains SDTs. Dental specialists of all disciplines are trained at the Postgraduate Institute of Medicine of University of Colombo. On average, 10 dental specialists, 80 dental surgeons, 03 dental laboratory technicians and 50 SDTs qualify from these institutions annually[1]. Improvement of dental manpower status in Sri Lanka over the years is given in Table 1.2.

Table 1.2: Dental manpower in Sri Lanka: Government sector (for selected years)

Category		1984[15]	1994[16]	2002[9]	2015[1]
Dental specialists	Oral and Maxillo-facial Surgery	10	15	22	28
	Orthodontics	03	04	07	21
	Community Dentistry	12	05	06	11
	Restorative Dentistry	0	0	02	09
	Oral Pathology	0	0	0	01
Dental surgeons		311	387[17]	765	1536
School dental therapists		434	490	450	383
Dental technicians		12	38	11	50
Dental clinics in the government sector		201	335(1996)[17]	312	712
School dental clinics		213	350(1996)[17]	379	488

Due to inadequate numbers, dental professionals and dental technicians in the government sector are allowed to engage in private practice after their duty hours. SDTTs are not allowed to engage in private practice.

1.4 Oral disease burden in Sri Lanka

Since 1984, the Ministry of Health has assessed the oral disease burden in Sri Lankan population periodically. Using the guidelines recommended by the World Health Organization (WHO), three National Oral Health Surveys (NOHS) were conducted in 1983, 1994 and 2002 and the data gathered have been used for planning of dental services. Summary of key oral health related information of the three past NOHS are given in Table 1.3.

Table 1.3: Oral disease trends in Sri Lanka (selected indicators based on NOHS reports)

Category	Age group	National Oral Health Survey		
		1983-1984[15]	1994-1995[16]	2002-2003[18]
Mean no. of teeth present	5 years	17.9	17.7	19.6
	12 Years	24.9	25.4	25.7
	15 years	-	27.6	27.8
	35-44 years	25.8	25.8	26.4
	65- 74 years	-	11.5	12.2
Edentulous (%)	35-44 years	1.1	1.6	0.1
	65- 74 years	-	36.9	21.8
Dental caries: Percentage prevalence and severity (mean DMFT/dmft)	5 years*	78% (4.4)	76.4% (4.1)	65.5% (3.6)
	12 Years	67% (1.9)	53.1% (1.4)	40% (0.9)
	15 years	-	69.7% (2.5)	52.2% (1.5)
	35-44 years	92% (9.2)	91.1% (10.1)	89.8% (8.4)
	65- 74 years	-	64.5 % (22.5)	71.1% (17.2)
Percentage of people with active caries to total caries experience [%D(d)/%DMFT(dmft)]	5 years*	99.4	95.7	97.1
	12 Years	95.6	88.2	88.3
	15 years	-	93.3	90.1
	35-44 years	84.5	87.5	82.3
	65- 74 years	-	72.1	66.9
Periodontal disease (based on CPI) Percentage of people need no treatment: healthy (CPI=0)	5 years	-	31.8	-
	12 Years	12.0	13.4	27.2
	15 years	-	12.7	3.2
	35-44 years	5.0	2.1	10.1
	65- 74 years	-	0.8	1.9
Percentage of people need oral hygiene instructions (OHI) and scaling (CPI=2)	5 years	-	21.7	-
	12 Years	76.0	5.1	57.9
	15 years	-	52.6	1.9
	35-44 years	55.0	29.1	67.5
	65- 74 years	-	13.6	57.8
Percentage of people need OHI, scaling and complex care (CPI 3+4)	5 years	-	0.1	-
	12 Years	3.0	2.9	0.1
	15 years	-	13.5	0.6
	35-44 years	37.0	63.6	16.9
	65- 74 years	-	85.3	19.9
Tooth cleaning habits Percentage of people use of tooth brush and toothpaste	5 years	-	73.8	78.9
	12 Years	-	80.9	85.5
	15 years	-	87.9	89.9
	35-44 years	-	64.4	81.2
	65- 74 years	-	24.6	35.6
Dental service utilization pattern Percentage of people visit dental clinic during the past one year	5 years	-	40.5	10.1
	12 Years	-	35.2	43.1
	15 years	-	16.1	13.7
	35-44 years	-	25.7	25.6
	65- 74 years	-	9.8	12.6

- Not assessed * Deciduous teeth

Note: In NOHSs 1983-1984 and 1994-1995, 6-year-olds were examined instead of 5-year-olds

The results show a declining trend in the prevalence and severity of dental caries and gum disease over the years among all age groups coupled with an increasing trend in the mean number of teeth present. However, a substantial burden of oral disease still prevails. The figures also show that the oral health related habits have improved with time.

1.4.1 Dietary habits and harmful habits

With the collaboration of the WHO, the Ministry of Health periodically assessed tobacco, alcohol, fruit and vegetable consumption patterns among Sri Lankan population through non-communicable disease risk factor STEPS surveys[19]. When considering the fruit consumption, more than 70% of the population consumed fruits less than the recommended amount (5 servings /day)[19]. The information on the tobacco and alcohol use among selected age groups of the Sri Lankan population is given in Table 1.4. According to the data, alcohol and tobacco use among females was substantially lower than males.

Table 1.4: Tobacco and alcohol use in Sri Lankan population in the year 2015 (selected age groups)[19]

		Age group	Male	Female
Smoking (%)	Never smoked	30-44yrs	52.1	99.8
		60-69yrs	36.7	99.8
	Daily smoking	30-44yrs	22.6	0.0
		60-69yrs	22.0	0.0
Smokeless tobacco (%)	Never used	30-44yrs	65.7	95.6
		60-69yrs	55.5	86.5
	Used daily	30-44yrs	21.3	2.4
		60-69yrs	34.6	10.7
Alcohol use (%)	Never used	30-44yrs	34.5	96.6
		60-69yrs	30.9	94.8
	Current user (within past 30 days)	30-44yrs	42.3	0.3
		60-69yrs	33.6	1.0

Even though there are no population-based periodical assessment mechanisms on the sugar and sweet consumption patterns, there are evidence of higher sugar and fizzy-drink consumption in Sri Lankan children and adolescents[20,21]. Moreover, the use of smokeless tobacco products, particularly in the form of commercially available packets, is also becoming popular among the population from recent years[22].

1.5 Purpose of the survey

There has been a rapid socio-economic development in Sri Lanka, particularly in the last decade, which has resulted in an improvement of oral health infrastructure and service delivery. Therefore, the main objective of the fourth National Oral Health Survey was to describe the oral disease burden and health service utilization pattern of the Sri Lankan population. The results will be useful to assess the effectiveness of existing oral health services. The results will also provide valuable evidence for the improvement of oral health services in terms of planning infrastructure, human resources development and financial allocations at national, provincial and district levels.

In addition, this information will update the existing NOHS data-base; therefore will be useful for monitoring and comparing oral disease trends at district, provincial, national and even at international levels. This survey will also provide a good oral health data source for academics and researchers.

Figure 1.1 Map of Sri Lanka

Map No. 4172 Rev. 2 UNITED NATIONS
January 2007 (Colour)

Department of Peacekeeping Operations
Cartographic Section

Chapter 2

Materials and methods

2.1 Factors considered in developing the survey methodology

- Population representation: Since there is a considerable variation in the structure of population in terms of sex, ethnicities and sectors (urban/rural), proper population representation is vital in the sample.
- District-based information: Since the district is the local administrative and managerial-hub in Sri Lanka, district-based results will be important in planning oral healthcare services.
- Standard methodology: Since previous NOHSs were conducted using WHO guidelines, the use of the same is required to monitor disease trends and for local, national and international comparisons.
- Logistics and feasibility: These factors are important when conducting an island-wide survey. Therefore, survey methodology used in previous NOHSs was observed. The summary of survey methodology used in previous NOHSs is given in the Table 2.1

Table 2.1 Summary of survey methodology used in past National Oral Health Surveys

Survey	1983-1984[15]	1994-1995[16]	2002-2003[18]
Age groups considered	6 years, 12 years and 35-44 years (WHO index groups[23])	6 years, 12 years, 15 years, 35-44 years and 65-74 years (WHO index groups[23])	5 years, 12 years, 15 years 35-44 years and 65-74 years (WHO index groups[23])
Sample size	5,760	10,000	10,000
Sampling technique	Multistage stratified cluster sampling technique combined with probability proportionate to size (PPS)	Multistage stratified cluster sampling technique combined with PPS	Multistage stratified cluster sampling technique combined with PPS
Number of clusters	48 (urban 24 and rural 24) * PPS applied for urban and rural school lists separately	48 (urban 16 and rural 32) PPS sampling technique applied for urban and rural school lists separately	50 (urban 10 and rural 40) PPS sampling technique for entire school list
Districts covered (out of 25 districts)	19/25 (Not covered: Matale, Ampara, Mannar, Mullaitivu, Kilinochchi)	19/25 (Not covered: Monaragala, Polonnaruwa, Mannar, Mullaitivu, Kilinochchi)	22/25 (Not covered: Mannar, Mullaitivu, Kilinochchi)
Cluster size	120 (40 from each age group)	175 for urban (35 from each age group) 225 for rural (45 from each age group)	200 (40 from each age group)
Examination setting	5-year-olds, 12-year-olds and 15-year-olds at schools; 35-44-year-olds and 65-74-year-olds: at their houses (by house-to-house visits)		
Examination criteria	Recommended by the WHO[23]		

Considering the above factors,

- Five index age groups recommended by the WHO for population level oral health surveys[23] were considered for the survey, i.e. 5 years, 12 years, 15 years, 35-44 years and 65-74 years.
- Considering logistics and feasibility, it was decided to study an island-wide sample of 10,000 subjects, representing 2000 subjects from each age group, similar to last two surveys.
- In order to increase the probability of representing all administrative districts of the country, it was also decided to select 100 clusters. Therefore, 100 subjects (cluster size) were selected from a cluster with 20 from each age group.
- Since there was a considerable female over-representation in 35-44-year-old and 65-74-year-old age groups in past NOHSs, it was decided to include equal number of males and females (10 each) for 35-44-year-olds and 65-74-year-olds from each cluster to maintain the sex ratio of the country within the sample.

- Multi-stage stratified cluster sampling technique was employed to select the sample. To achieve proper representation of the population, cluster sampling combined with probability proportionate to size (PPS) technique was used.

2.2 Sampling procedure

2.2.1 Sampling error

Since the sample size was not calculated according to the prevalence of the diseases, the error that could be tolerated for the national value obtained for a given age group at 95% confidence level was calculated using the following formula[24].

$$D = 1.96 \times SE = 1.96 \times \{[P \times Q] / N\}^{1/2}$$

When;
D = Estimated error,
P = Expected prevalence of the disease (maximum is 50% prevalence, i.e. 0.5)
Q = (1 – P) = 0.5
N = Sample size = 2000,
SE = Standard error at 95 % confidence interval = 1.96

Therefore, maximum error (D) that has to be tolerated for a national value (2000 participants) of a disease was:

$$D = 1.96 \times \{[0.5 \times 0.5]/2000\}^{1/2} = 0.0219 = 2.2\%$$

For a district, assuming that one cluster would be selected (n=100), the maximum error for a given age group (20 participants) that has to be tolerated was: $D = 1.96 \times \{[0.5 \times 0.5] / 20\}^{1/2} = 0.2191 = 21.9\%$

2.2.2 Sampling frame

Considering following facts it was decided to use the list of schools maintained by the Ministry of Education as the sampling frame.

- Out of the five index age groups, 6-year-old, 12-year-old, and 15-year-old age groups consist of children attending school.
- In Sri Lanka, more than 90% of 6-year-olds, 12-year-olds and 15-year-old olds attend schools.
- Schools are readily accessible; therefore provide a feasible and convenient setting for data collection form children.
- The Ministry of Education routinely maintains an updated database of schools with the number of children.
- There was no other reliable source of information available at local level.

A soft copy of the updated list of schools of Sri Lanka for the year 2011 was obtained from the Ministry of Education. This comprehensive list contained all the schools in the country arranged in the order of province, district, type of local authority and education division. For each school, the list also gave the address of school and the number of children in a school according to the grades.

2.3 Selection of the sample

Selection of the sample was done in two stages. In the first stage, clusters were identified using PPS sampling technique. In the second stage, subjects were selected for each age group from the identified clusters.

Stage 1 – Selecting the clusters

A school was considered as the cluster. Eligible students in the index groups; namely 5-year-olds, 12-year-olds, and 15-year-olds, were recruited from the selected cluster school. For 35-44-year-olds and 65-74-year-olds, the cluster was the closest area to the selected school and within the same GN division.

To identify 100 cluster schools, the following method was adopted. Firstly, the cumulative total of school children was calculated for the entire list. For this, the same order of arrangement of schools in the list provided by the Ministry of Education was used. According to this list, there were 3,940,072 children in 9685 schools in 25 administrative districts.

To obtain the sampling interval, the total number of children was divided by the number of clusters required (100). Thus the sampling interval was: 3,940,072/100 = 39,400

Next, a random number (19330), which is less than the sampling interval, was selected to decide the first cluster school from the top of the list. The school that had the 19330th student in the cumulative total was considered as the first cluster. The second cluster was selected by adding the sampling interval to the random number. Remaining clusters were selected by adding the sampling interval to the previously selected number. This method yielded 28 urban and 72 rural clusters representing all administrative districts in Sri Lanka. The distribution of clusters by districts and the sector (urban/rural) are given in Figure 2.1 and Annexure 1

Then, in all selected schools, the index grades were identified; grade 1 for 5-year-olds, grade 8 for 12-year-olds and grade 11 for 15-year-olds. After that, the total number of children in index grades was determined. If the required number of students (i.e. 20) in any index grade was not available in the selected school, the next school with sufficient number of students was selected as an additional school. Both schools were given 3 random numbers each for each index age group.

Stage 2 – Random selection of subjects from selected clusters

a. Selection of 5-year-old, 12-year-old and 15-year-old age groups

To determine the available number of students for the recruitment to the sample in index grades of a particular school was difficult in some times due to several reasons.

- The list of schools used was updated in 2011, thus may not be accurate.
- Absenteeism on the day of examination.
- As the index age groups were determined based on the assumption that the 5-year-olds are in grade 1, there is a possibility of over-aged students in a given class due to following reasons.
    - Possibility of delayed admissions, particularly in rural areas.
    - If the examination is done during the second-half of the calendar year, there is a possibility that the majority of students in an index grade are over-age.

Therefore, the following procedure was adopted.

On the day of examination, for a given school, examiners were asked to prepare the list of all eligible and available students for three index age groups separately. Because of the possibility of having over-age and under-age students, examiners were also instructed to look for eligible students in the grade above and in the grade below the index grade and prepare the list in the order of index grade, grade below and grade above it.

When the eligible students were more than the number needed (i.e. >20), the examiners were asked to use the systematic sampling technique to obtain the required number. Firstly, they had to calculate the sampling interval. Then using the given random number, they had to select the first child from the list of eligible students and then by adding the sampling interval repeatedly they had to recruit the remaining number of students.

When the eligible number was less than the required number needed (i.e. <20), the examiners were asked to recruit all of them and move to the next school given in the list to take the balance. List of visited schools is given in Annexure 2. The procedure of selecting children is described with examples in Annexure 3.

b. Selection of 35-44-year-old and 65-74-year-old age groups

35-44-year-old and 65-74-year-old age groups were selected from the neighbourhood of the school. The examiners were advised not to cross the boundary of the GN division in which the school is located to ensure the sector (urban/rural) variation is intact.

The first household was the physically nearest to the school, measured from the main entrance of the school to the main entrance of the house. Once the examiners completed the data collection of eligible individuals in a house, they were advised to move to the next closest house. People who were not residing in the area (visitors etc.) were excluded. They were advised to follow this procedure until they completed the required number of subjects, i.e. 20 from each index groups. Furthermore, they were advised to ensure sex ratio intact by recruiting 10 males and 10 females for each age group.

Details of selecting adult and elderly age groups with examples are given in Annexure 3.

2.4 Oral health assessment form

2.4.1 Layout and content

The oral health assessment form consisted of several sections (Annexure 4). It was based on the 'Oral Health Assessment Form' recommended by the WHO for population surveys[23]. However, to suit local requirement of the country, few modifications were made.

Sections A, B, C and O consisted of questions on socio-demographic factors, habits and dental service utilization pattern in the form of an interviewer-administered questionnaire.

Sections D, E, F, G, H, I, J, K, L, M and N consisted of a data record sheet for clinical oral examination. Oral mucosal conditions, enamel fluorosis, tooth-wear, dental trauma, dento-facial anomalies, dentition status, periodontal status, loss of attachment, calculus, treatment need and denture-wearing status were recorded during clinical examination.

The size of the form was restricted to two A4 size pages for easy handling and recording. All the cages of the form were coded to facilitate data entry.

2.4.2 Clinical examination criteria, questions and codes

A separate guideline was formulated for examiners, which consisted of instructions on administering questionnaire, criteria for clinical examination and respective codes (Annexure 5). The examiners were instructed to read the guideline thoroughly and familiarize themselves with the questions, clinical procedures and codes.

2.5 Examiner training, calibration and maintenance of data quality

A total of 29 examiners who possess MSc in Community Dentistry were selected as examiners for the survey. They were trained and calibrated against gold-standards (03 Consultants in Community Dentistry who also had experience as examiners in previous NOHS) to minimize the examiner variability. Intra and inter examiner variability was assessed throughout the survey by duplicating the examinations and interviews.

Examiner training and calibration session were conducted in two identical episodes two days apart. The calibration was based on tooth-by-tooth assessments of caries (DMFT/dmft scores) and periodontal (gingival bleeding-on-probing and periodontal pockets) status of a given patient. All examiners were allocated patients and examination findings were compared between examiners as well as with the findings of the experts to ensure validity and reliability. If any examiner failed to achieve a satisfactory level of consistency, he/she was further calibrated against the experts.

In addition, at progress-review meetings, the identified issues related to data collection during the survey were further discussed and rectified.

Consistency of examinations was also measured by instructing examiners to make duplicate examinations on samples of 5-year-olds, 12-year-olds and 15-year-olds. Interclass-correlations of those examinations were calculated to measure the consistency of examinations. Variables that were subjected to errors during examiner calibration were used for this exercise. Details of the examiner training and calibration are given in Annexure 6.

SDTs (and in few instances dental surgeons) functioned as data recorders. They were selected from the area where the cluster was located and trained by the respective examiners at the field setting. Prior to data collection, they were briefed about the survey guidelines and the data collection form. During the survey, the examiners constantly monitored the entries to ensure accuracy of the recording.

2.6 Administrative requirements

Permission was obtained from the Secretary, Ministry of Education to conduct the survey in schools island-wide. Relevant provincial, zonal and divisional education directors and the school principals were informed prior to visiting the schools. Moreover, all RDHSs, RDSs and relevant MOHs were also informed. Furthermore, all the examiners were provided with a letter by the DGHS authorizing them to engage in data collection for the survey with an identity card signed by the DDG/DS.

2.7 Data collection

The survey team was instructed to visit the selected school initially for examination of 5-year-olds, 12-year-olds, and 15-year-olds and then to move to the field for examination of the 35-44-year-olds and 65-74-year-olds. The team was advised to introduce themselves, explain the purpose, the survey procedure and obtain consent from the participants before examinations and interviews.

To facilitate data collection, 'examination-units' were formed; each consisted of an examiner, a data recorder and an assistant. Each examiner was provided with an 'enumeration-kit' which consisted of a survey guideline, set of survey forms, pencils, pencil sharpener and erasers (Figure 2.2). All the interviews and examinations were performed by trained and calibrated examiners and data were recorded by SDTs or dental surgeons who are serving in the survey area. During the clinical examinations, assistance was provided by trained health assistants. In general, 03 examination-units were allocated per cluster. However, depending on the logistics in terms of travelling distance and the population density, 02-04 examination-units were assigned for some clusters. Public Health Midwives (PHMs) and Public Health Inspectors (PHIs) of a given area provided assistance during the house-to-house visits searching for 35-44-year-olds and 65-74-year-olds. Logistic support was arranged by the RDSs and MOHs of the area. (The members of a survey team is given in Figure 2.3)

Examinations were carried out under the daylight, while the subject was seated on a normal chair. A mouth mirror, Community Periodontal Index (CPI) probe, a pair of tweezers and a piece of gauze were used for the oral examination. Sterile instruments were used for all the subjects and the standard precautions in infection control were adopted (Figures 2.4 and 2.5).

At the end of data collection, the participant was informed about his/her oral health status with appropriate referrals where necessary. Also all examiners were instructed to check the data entries before leaving the participant. The list of examiners who participated in the survey and their total number of examinations are given in Annexure 7.

2.8 Data entry, analysis and presentation

All examiners were asked to double-check the entries before submitting the data collection forms to the coordinating centre situated at Institute of Oral Health, Maharagama. All data collection forms were manually checked by the Principal Investigator (PI) for completeness and accuracy. Encountered incorrect or illogical entries were rectified in consultation with the relevant examiners. Record sheet either with more than 50% missing values or illogical entries, such as mismatch of teeth with the age group, were not considered for analysis. In records with missing entries where the examiner was unable to explain the reasons for missing data, those fields were coded as 'not recorded'. Total teeth-count and missing-teeth-count under sections of caries and periodontal assessments were used as bench-mark for consistency of recording.

Subsequently, all data forms were sent for data entry using Census and Survey Processing System (CSPro) version 6.3 software. The data entry programme was developed by an expert on Health Informatics with the consultation of the PI. In order to minimize entry errors and to maintain accuracy, logic-checks and field restrictions were included into the data entry porgramme. Data entry was carried out by three data entry operators who were familiar with the software and their accuracy of data entry was assured by an expert before entrusting the assignment.

Following data entry, the data-set was transferred to Microsoft Excel and then to Statistical Package for the Social Sciences *(*SPSS) version 15. Accuracy of entries was then assessed again by the PI with the help of a statistician. Frequency tables and cross-tabs of selected variables with age group were used to check incorrect entries.

Data analysis and presentation were done according to WHO guidelines given in the Oral Health Surveys Basic Methods 5th edition[23]. However, to meet country specific requirements, additional tables on sub-sector variations such as sex, ethnicity, sector (urban/rural) and district variations were also derived. District-based tables of disease pattern are given in a separate section; Chapter 6.

Data were presented as percentages and mean values (with SD) whenever appropriate. All percentages, mean values and standard deviations were given to one decimal point. Hence, in certain instances, there is a possibility that the figures given in sub-categories might not tally the total due to rounding effect.

2.9 Expenditure of the survey

This survey is funded by the Ministry of Health and the WHO. Expenditure of the survey is given below.

	Activity	**Total expenditure (LKR.)**
1.	Preliminary planning and review meetings	102,450.00
2.	Purchasing instruments and equipment (e.g. CPI probes)	1,500,000.00
3.	Data collection	3,230,760.00
4.	Data entry and verification	410,700.00
5.	Printing	340,000.00
	Total	**5,583,910.00**

Figure 2.1 Cluster distribution of the National Oral Health Survey 2015-2016

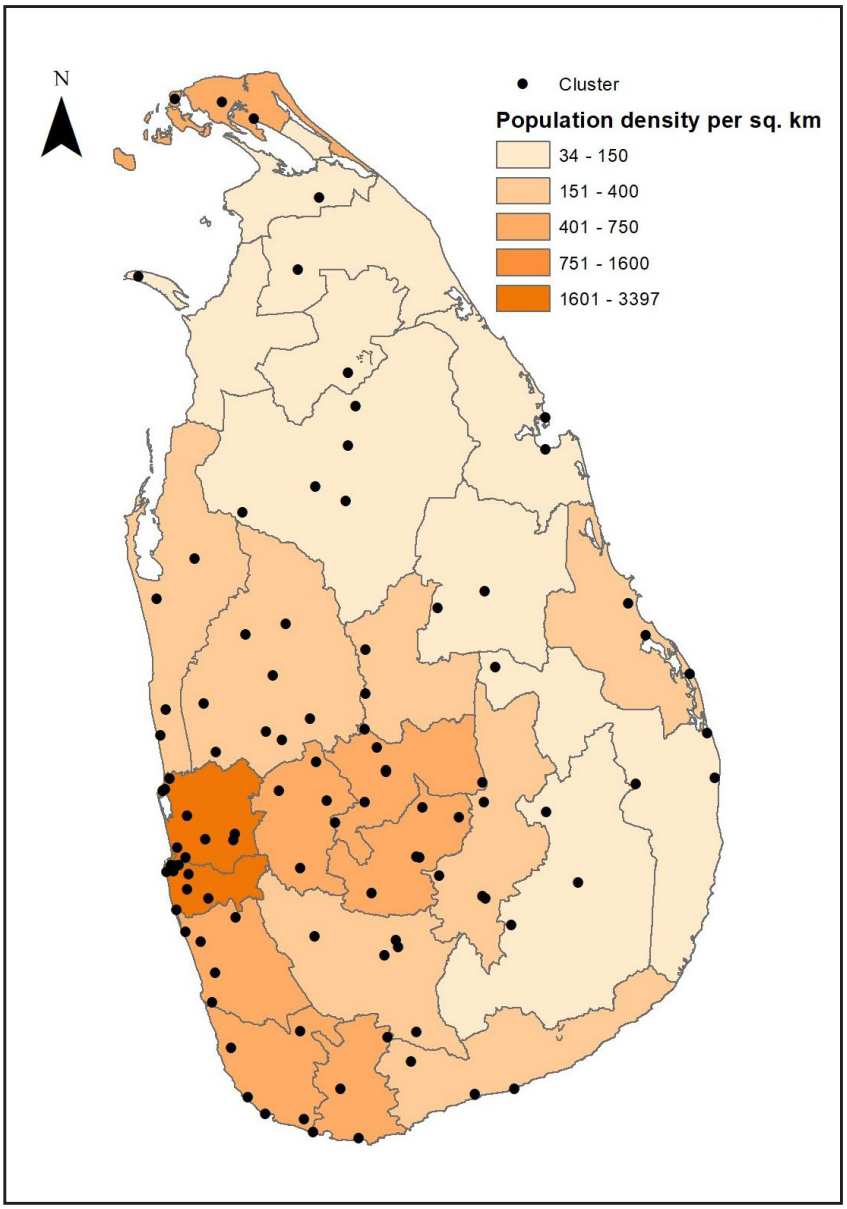

Figure 2.2: Enumeration kit

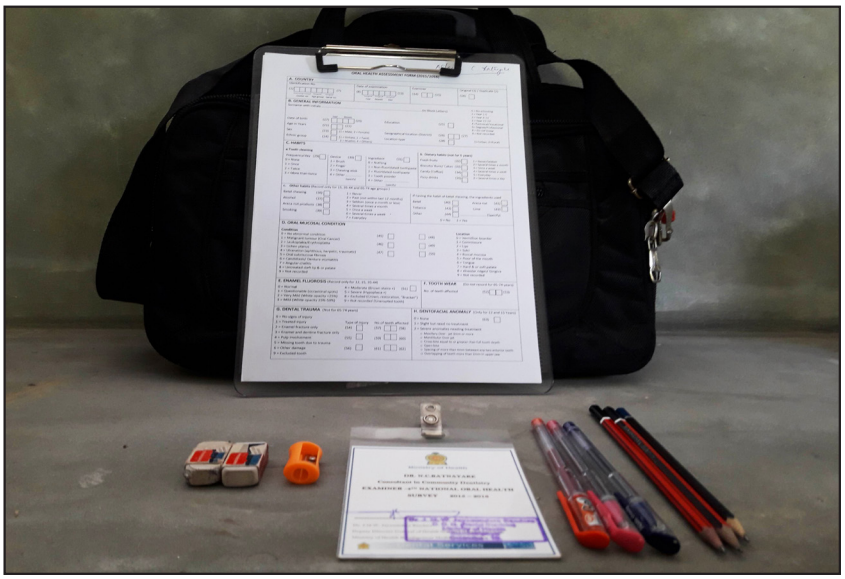

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Figure 2.3: Survey team for a cluster (4 examination units)

Figure 2.4: Examination: School setting

Figure 2.5: Examination: House-to-house visits

Chapter 3

Results

3.1 Sample characteristics

3.1.1 Socio-demographic characteristics

The sample consisted of 9935 participants in five index age groups. Sex, ethnic, education and sector distribution of the participants according to age groups is given in Table 3.1. National census data (2012) is also given for comparison of selected parameters[2].

Table 3.1: Percentage distribution of participants according to age groups, sex, ethnicity, sector and educational status

		Age groups					Total	*% of population in Sri Lanka (Census 2012)*
		5yrs	12yrs	15yrs	35-44yrs	65-74yrs		
Total sample	(N)	1995	1996	2003	1982	1959	9935	
Sex	Male	52.3	50.1	50.0	48.4	49.8	50.1	*48.4*
	Female	47.7	49.9	50.0	51.6	50.2	49.9	*51.6*
Ethnicity	Sinhalese	69.9	70.1	69.9	66.6	66.1	68.5	*74.9*
	Tamils	15.1	15.4	15.1	16.5	16.8	15.8	*15.3*
	Muslims	14.9	14.4	15.0	16.8	16.9	15.6	*9.3*
	Other	0.1	0.1	0.0	0.1	0.2	0.1	*0.5*
Sector	Urban	28.5	28.5	28.5	27.9	28.3	28.3	*18.2*
	Rural	71.5	71.5	71.5	72.1	71.7	71.7	*81.8*
Educational status	No schooling	0.0	0.0	0.0	1.0	8.2	1.8	
	Year 1-5	100.0	0.0	0.0	7.2	30.4	27.5	
	Year 6-11	0.0	100.0	100.0	63.0	48.9	62.5	
	Year 12-13	0.0	0.0	0.0	23.2	8.2	6.3	
	Technical/Vocational	0.0	0.0	0.0	0.9	1.6	0.5	
	Degree/Professional	0.0	0.0	0.0	4.1	2.1	1.2	
	Do not know	0.0	0.0	0.0	0.0	0.2	0.0	
	Not recorded	0.0	0.0	0.0	0.6	0.4	0.2	

Compared to national census data, there is an over-representation of Muslims and urban population in the survey participants. Moreover, there is an under-representation of Sinhalese and 'other' ethnic groups across all age groups.

3.1.2 District representation

Table 3.2: Number and percentage distribution of participants in the sample according to districts

District	No. of clusters	Age group					Total		*% of population in Sri Lanka (census 2012)*
		5yrs	12yrs	15yrs	35-44yrs	65-74yrs	N	%	
Colombo	9	180	179	180	178	176	893	9.0	*11.4*
Gampaha	9	180	180	181	177	179	897	9.0	*11.3*
Kalutara	5	100	100	102	100	100	502	5.1	*6.0*
Kandy	7	140	140	140	136	134	690	6.9	*6.8*
Matale	2	40	40	40	40	39	199	2.0	*2.4*
Nuwara-Eliya	5	100	99	100	99	98	496	5.0	*3.5*
Galle	5	98	99	100	99	100	496	5.0	*5.2*
Matara	4	79	80	80	79	79	397	4.0	*4.0*
Hambantota	3	60	60	60	59	60	299	3.0	*2.9*
Jaffna	4	80	80	80	80	78	398	3.0	*2.9*
Mannar	1	20	21	20	20	20	101	1.0	*0.5*
Vavuniya	1	20	20	20	20	19	99	1.0	*0.9*
Mullaitivu	1	20	20	20	21	20	101	1.0	*0.5*
Kilinochchi	1	20	20	20	20	20	100	1.0	*0.6*
Batticaloa	3	60	60	60	60	58	298	3.0	*2.6*
Ampara	5	100	99	100	97	95	491	4.9	*3.2*
Trincomalee	2	40	39	40	40	39	198	2.0	*1.9*
Kurunegala	8	160	160	160	159	160	799	8.0	*7.9*
Puttalam	3	60	60	60	60	60	300	3.0	*3.7*
Anuradhapura	5	100	100	100	99	97	496	5.0	*4.2*
Polonnaruwa	3	60	60	60	60	59	299	3.0	*2.0*
Badulla	4	78	80	80	80	74	392	3.9	*4.0*
Monaragala	3	60	60	60	60	60	300	3.0	*2.2*
Ratnapura	4	80	80	80	80	78	398	4.0	*5.3*
Kegalle	4	80	80	80	79	76	395	4.0	*4.1*
Total	100	1995	1996	2003	1982	1959	9935	100.0	*100.0*

Compared to national census data, the participant representation in districts is comparable to the population representation of the country.

3.2 Oral health habits

Three oral health related habits were considered; tooth cleaning habits, dietary habits and harmful habits.

3.2.1 Tooth cleaning habits

Three aspects of tooth cleaning habit were considered; frequency, mode and ingredients used for tooth cleaning.

3.2.1.1 Frequency of tooth cleaning

Question: - *How many times did you clean your teeth in the past 24 hours?*

Table 3.3: Percentage distribution of participants according to the frequency of tooth cleaning

	Age group	N	Frequency/day				Not recorded /Missing
			None	Once	Twice	More than twice	
Sri Lanka	5yrs	1995	0.3	40.6	53.9	4.2	1.2
	12yrs	1996	0.1	48.0	50.1	1.9	0.0
	15yrs	2003	0.0	42.4	55.8	1.7	0.0
	35-44yrs	1982	0.3	21.2	73.3	5.2	0.0
	65-74yrs	1959	6.2	33.4	55.0	5.4	0.0
Male	5yrs	1043	0.2	42.2	52.4	4.2	1.0
	12yrs	999	0.1	53.2	44.6	2.1	0.0
	15yrs	1002	0.0	51.3	47.7	1.0	0.0
	35-44yrs	960	0.3	29.3	66.3	4.2	0.0
	65-74yrs	975	6.5	39.9	48.9	4.7	0.0
Female	5yrs	952	0.3	38.8	55.5	4.1	1.4
	12yrs	997	0.1	42.8	55.5	1.6	0.0
	15yrs	1001	0.1	33.6	63.9	2.4	0.0
	35-44yrs	1022	0.3	13.7	79.8	6.2	0.0
	65-74yrs	984	6.0	27.0	61.0	6.0	0.0
Sinhalese	5yrs	1394	0.1	37.1	58.0	4.7	0.1
	12yrs	1399	0.1	44.9	53.6	1.4	0.0
	15yrs	1400	0.0	40.1	58.9	1.0	0.0
	35-44yrs	1320	0.4	17.8	78.3	3.6	0.0
	65-74yrs	1295	6.3	34.7	55.6	3.4	0.0
Tamil	5yrs	302	0.7	56.3	41.7	1.3	0.0
	12yrs	308	0.3	60.4	36.0	3.2	0.0
	15yrs	302	0.0	50.7	47.7	1.7	0.0
	35-44yrs	328	0.0	32.3	65.2	2.4	0.0
	65-74yrs	329	6.7	37.4	52.0	4.0	0.0
Muslim	5yrs	297	0.7	40.7	46.8	4.7	7.1
	12yrs	287	0.0	49.8	47.7	2.4	0.0
	15yrs	300	0.3	45.3	49.3	5.0	0.0
	35-44yrs	333	0.3	24.0	61.3	14.4	0.0
	65-74yrs	331	5.7	24.2	55.6	14.5	0.0
Urban	5yrs	568	0.0	38.7	53.5	4.2	3.5
	12yrs	568	0.0	41.2	56.7	2.1	0.0
	15yrs	571	0.0	37.0	61.5	1.6	0.0
	35-44yrs	553	0.4	25.0	70.0	4.7	0.0
	65-74yrs	554	5.1	31.4	58.7	4.9	0.0
Rural	5yrs	1427	0.4	41.3	54.0	4.1	0.2
	12yrs	1428	0.1	50.7	47.4	1.8	0.0
	15yrs	1432	0.1	44.6	53.6	1.7	0.0
	35-44yrs	1429	0.3	19.8	74.5	5.4	0.0
	65-74yrs	1405	6.7	34.2	53.5	5.6	0.0

A majority of participants in all age groups cleaned their teeth twice a day. However, in 5-year-olds, 12-year-olds and 15-year-olds, a substantial proportion (>40%) cleaned their teeth 'once a day'.

3.2.1.2 Mode of tooth cleaning

Question: *What did you use to clean your teeth last time?*

Table 3.4: Percentage distribution of participants according to the mode of tooth cleaning

	Age group	N	None	Brush	Finger	Other*	Not recorded /Missing
Sri Lanka	5yrs	1995	0.1	96.7	1.9	0.1	1.2
	12yrs	1996	0.0	97.5	2.5	0.0	0.0
	15yrs	2003	0.0	98.4	1.5	0.0	0.0
	35-44yrs	1982	0.0	95.9	3.7	0.3	0.2
	65-74yrs	1959	2.8	70.4	23.1	2.0	1.7
Male	5yrs	1043	0.1	97.1	1.8	0.0	0.1
	12yrs	999	0.0	97.4	2.6	0.0	0.0
	15yrs	1002	0.0	98.5	1.4	0.1	0.0
	35-44yrs	960	0.0	96.1	3.2	0.4	0.2
	65-74yrs	975	2.9	68.9	23.7	2.6	1.8
Female	5yrs	952	0.1	96.3	2.0	0.2	1.4
	12yrs	997	0.0	97.7	2.3	0.0	0.0
	15yrs	1001	0.0	98.3	1.7	0.0	0.0
	35-44yrs	1022	0.0	95.6	4.2	0.1	0.1
	65-74yrs	984	2.6	72.0	22.5	1.3	1.6
Sinhalese	5yrs	1394	0.0	99.1	0.7	0.0	0.1
	12yrs	1399	0.0	99.3	0.7	0.0	0.0
	15yrs	1400	0.0	99.4	0.5	0.1	0.0
	35-44yrs	1320	0.0	98.0	1.7	0.3	0.2
	65-74yrs	1295	2.2	75.1	18.7	0.9	2.1
Tamil	5yrs	302	0.3	92.4	7.0	0.3	0.0
	12yrs	308	0.0	90.9	9.1	0.0	0.0
	15yrs	302	0.0	94.7	5.3	0.0	0.0
	35-44yrs	328	0.0	85.7	13.7	0.3	0.3
	65-74yrs	329	3.6	48.6	44.4	2.4	0.9
Muslim	5yrs	297	0.3	89.9	2.4	0.3	7.1
	12yrs	287	0.0	96.2	3.8	0.0	0.0
	15yrs	300	0.0	97.3	2.7	0.0	0.0
	35-44yrs	333	0.0	97.6	2.1	0.3	0.0
	65-74yrs	331	3.9	73.4	19.3	2.1	1.2
Urban	5yrs	568	0.0	95.4	1.1	0.0	3.5
	12yrs	568	0.0	97.5	2.5	0.0	0.0
	15yrs	571	0.0	99.1	0.9	0.0	0.0
	35-44yrs	553	0.0	95.1	4.5	0.2	0.2
	65-74yrs	554	2.7	71.7	23.1	1.1	1.4
Rural	5yrs	1427	0.1	97.3	2.2	0.1	0.2
	12yrs	1428	0.0	97.5	2.5	0.0	0.0
	15yrs	1432	0.0	98.1	1.8	0.1	0.0
	35-44yrs	1429	0.0	96.2	3.4	0.3	0.1
	65-74yrs	1405	2.8	70.0	23.1	2.4	1.9

*Other includes: Chewing-stick and Cloth

The most common mode of tooth cleaning in all age groups was the tooth brush. However, in 65-74-year-olds, 23.1% used the finger for tooth cleaning.

There was a variation in the mode of tooth cleaning among ethnic groups. A higher percentage of Tamils used the finger for tooth cleaning compared to the other two ethnic groups.

3.2.1.3 Ingredients used for tooth cleaning

Question: *What is the material/ ingredient used last time to clean teeth?*

Note: When the response was toothpaste, probing questions were asked to differentiate between fluoridated and non-fluoridated tooth paste.

Table 3.5: Percentage distribution of participants according to the type of ingredients used for tooth cleaning

	Age group	N	None	Fluoridated toothpaste	Non-fluoridated toothpaste	Tooth powder	Other*	Not recorded /Missing
Sri Lanka	5yrs	1995	0.4	75.6	11.2	3.3	8.2	1.4
	12yrs	1996	0.1	80.0	17.0	2.1	0.8	0.1
	15yrs	2003	0.1	82.1	16.4	1.2	0.1	0.0
	35-44yrs	1982	0.1	79.3	15.6	3.2	1.6	0.2
	65-74yrs	1959	5.3	59.0	10.9	14.2	6.2	4.5
Male	5yrs	1043	0.4	75.0	11.7	3.4	8.3	1.3
	12yrs	999	0.0	80.5	15.9	2.5	1.1	0.0
	15yrs	1002	0.0	82.6	15.4	1.7	0.3	0.0
	35-44yrs	960	0.2	79.9	14.6	2.8	2.3	0.2
	65-74yrs	975	6.1	57.6	9.6	14.6	7.3	4.8
Female	5yrs	952	0.4	76.4	10.6	3.2	8.0	0.5
	12yrs	997	0.1	79.5	18.1	1.7	0.5	0.1
	15yrs	1001	0.2	81.5	17.5	0.8	0.0	0.0
	35-44yrs	1022	0.0	78.8	16.6	3.5	1.0	0.1
	65-74yrs	984	4.5	60.3	12.2	13.9	5.1	4.1
Sinhalese	5yrs	1394	0.5	73.3	14.3	1.1	10.5	0.2
	12yrs	1399	0.1	76.6	22.0	0.4	1.0	0.0
	15yrs	1400	0.1	78.5	21.1	0.0	0.2	0.0
	35-44yrs	1320	0.1	75.8	21.7	0.8	1.4	0.2
	65-74yrs	1295	5.4	60.8	14.1	7.2	8.2	4.4
Tamil	5yrs	302	0.3	79.1	4.6	12.3	3.0	0.7
	12yrs	308	0.0	86.7	3.9	8.8	0.3	0.3
	15yrs	302	0.0	87.7	6.6	5.6	0.0	0.0
	35-44yrs	328	0.0	79.3	4.3	13.4	2.7	0.3
	65-74yrs	329	7.0	43.2	3.6	38.3	3.6	4.3
Muslim	5yrs	297	0.0	82.8	3.0	4.4	2.4	7.4
	12yrs	287	0.0	89.5	6.6	3.5	0.3	0.0
	15yrs	300	0.0	93.0	4.3	2.7	0.0	0.0
	35-44yrs	333	0.3	93.4	2.7	2.4	1.2	0.0
	65-74yrs	331	3.0	67.4	5.7	18.1	0.9	4.8
Urban	5yrs	568	0.0	76.8	10.6	1.8	7.4	3.5
	12yrs	568	0.0	86.8	10.6	1.8	0.9	0.0
	15yrs	571	0.0	86.5	12.4	1.1	0.0	0.0
	35-44yrs	553	0.2	84.8	9.2	3.6	2.0	0.2
	65-74yrs	554	3.2	67.1	7.0	15.2	3.4	4.0
Rural	5yrs	1427	0.6	75.2	11.4	3.9	8.5	0.5
	12yrs	1428	0.1	77.3	19.5	2.2	0.8	0.1
	15yrs	1432	0.1	80.3	18.0	1.3	0.2	0.0
	35-44yrs	1429	0.1	77.2	18.1	3.0	1.5	0.1
	65-74yrs	1405	6.0	55.7	12.5	13.9	7.3	4.7

*Other: Toothpaste not specified (40), Charcoal (82), Salt (13), Soap (6), Do not know/not remember (117)

A majority of participants in all age groups used fluoridated toothpaste for cleaning their teeth while 14.2% of the 65-74-year-olds used tooth powder.

Compared to the other two ethnic groups, a higher proportion of Sinhalese in all age groups used non-fluoridated tooth paste. A similar pattern was observed among the rural participants compared to the urban participants. Moreover, irrespective of age groups, a higher proportion of Tamils used tooth powder compared to other two ethnic groups.

3.2.2 Dietary habits

Four categories of food types were considered after discussion with the expert panel.

3.3.2.1 Fruits
3.3.2.2 Starchy and sticky foods: biscuits/buns/cake
3.3.2.3 Sweets: candy/toffee
3.3.2.4 Fizzy-drinks

These dietary habits were assessed using the criteria given by the WHO[23].

Question: *How often do you eat or drink any of the following foods, even in small quantities?*

3.2.2.1 Consumption of fruits

Table 3.6: Percentage distribution of participants according to the consumption of fruits

	Age group	N	Never /Seldom (once a month or less)	Several (2-3) times a month	Once a week	Several (2-6) times a week	Every day	Several times a day	Not recorded
Sri Lanka	12yrs	1996	2.1	10.0	22.4	43.7	20.0	1.1	0.6
	15yrs	2003	1.8	8.9	20.6	48.5	19.1	1.0	0.1
	35-44yrs	1982	2.4	7.4	14.5	41.6	31.6	2.2	0.2
	65-74yrs	1959	4.7	8.0	14.2	37.3	33.7	1.8	0.3
Male	12yrs	999	2.6	8.8	24.5	43.5	18.7	1.4	0.4
	15yrs	1002	1.8	8.6	20.2	48.9	19.1	1.3	0.2
	35-44yrs	960	3.0	9.8	15.6	39.8	29.3	2.4	0.1
	65-74yrs	975	4.6	8.0	15.3	36.7	33.4	1.7	0.2
Female	12yrs	997	1.6	11.2	20.4	43.8	21.4	0.8	0.8
	15yrs	1001	1.9	9.2	21.0	48.1	19.2	0.7	0.0
	35-44yrs	1022	1.9	5.2	13.4	43.3	33.9	2.1	0.3
	65-74yrs	984	4.9	7.9	13.2	37.8	33.9	1.9	0.3
Sinhalese	12yrs	1399	2.0	7.9	19.9	48.2	20.1	1.5	0.4
	15yrs	1400	1.9	6.3	18.3	52.1	20.2	1.1	0.1
	35-44yrs	1320	2.3	6.4	11.6	45.4	32.1	2.0	0.1
	65-74yrs	1295	4.6	6.4	12.6	42.2	32.2	1.9	0.2
Tamil	12yrs	308	1.9	15.3	36.7	27.3	17.9	0.3	0.6
	15yrs	302	1.7	17.9	31.8	33.8	13.2	1.7	0.0
	35-44yrs	328	3.4	9.8	22.0	34.5	27.1	2.7	0.6
	65-74yrs	329	6.4	12.2	21.9	28.3	28.6	2.1	0.6
Muslim	12yrs	287	2.8	15.0	19.5	39.4	21.6	0.0	1.7
	15yrs	300	1.7	12.0	20.0	46.7	19.7	0.0	0.0
	35-44yrs	333	1.8	9.0	18.6	33.6	34.2	2.4	0.3
	65-74yrs	331	3.9	10.0	13.0	26.3	45.0	1.5	0.3
Urban	12yrs	568	2.5	10.4	22.0	40.0	24.5	0.7	0.0
	15yrs	571	2.3	7.0	22.1	43.6	24.3	0.7	0.0
	35-44yrs	553	4.0	9.0	15.4	38.5	31.3	1.6	0.2
	65-74yrs	554	5.6	9.9	14.6	29.6	38.3	1.4	0.5
Rural	12yrs	1428	2.0	9.9	22.6	45.2	18.3	1.3	0.8
	15yrs	1432	1.7	9.6	20.0	50.4	17.0	1.1	0.1
	35-44yrs	1429	1.8	6.8	14.1	42.8	31.8	2.4	0.2
	65-74yrs	1405	4.4	7.2	14.1	40.3	31.9	2.0	0.1

A majority of participants in all age groups consumed fruits 2-6 times a week. Compared to 12-year-olds and 15-year-olds, a high percentage of 35-44-year-olds and 65-74-year-olds consumed fruits 'every day'.

3.2.2.2 Consumption of biscuits/buns/cake

Table 3.7: Percentage distribution of participants according to the consumption of biscuits/buns/cake

	Age group	N	Never/ Seldom (once a month or less)	Several (2-3) times a month	Once a week	Several (2-6) times a week	Every day	Several times a day	Not recorded
Sri Lanka	12yrs	1996	2.6	7.4	15.1	33.9	38.0	2.5	0.6
	15yrs	2003	2.7	6.3	11.9	31.4	45.6	1.8	0.1
	35-44yrs	1982	8.7	9.0	11.4	25.5	43.2	2.0	0.2
	65-74yrs	1959	13.7	9.2	11.1	27.4	36.3	1.8	0.4
Male	12yrs	999	2.5	7.1	14.1	34.0	38.8	3.0	0.4
	15yrs	1002	2.1	6.1	11.4	33.6	44.8	1.7	0.3
	35-44yrs	960	10.0	9.4	12.3	25.2	40.7	2.3	0.1
	65-74yrs	975	12.9	9.8	11.6	28.2	35.4	1.5	0.5
Female	12yrs	997	2.6	7.6	16.1	33.7	37.2	2.0	0.7
	15yrs	1001	3.3	6.6	12.5	29.2	46.5	2.0	0.0
	35-44yrs	1022	7.5	8.7	10.5	25.7	45.5	1.8	0.3
	65-74yrs	984	14.4	8.6	10.7	26.5	37.3	2.1	0.3
Sinhalese	12yrs	1399	2.4	5.5	14.4	36.9	37.5	2.9	0.4
	15yrs	1400	2.9	4.4	10.5	32.4	47.1	2.4	0.2
	35-44yrs	1320	8.7	9.4	10.0	26.6	43.3	1.9	0.1
	65-74yrs	1295	15.8	9.6	10.2	29.9	32.8	1.5	0.3
Tamil	12yrs	308	2.6	15.6	19.5	22.7	37.7	1.3	0.6
	15yrs	302	2.0	13.6	20.5	24.8	38.4	0.7	0.0
	35-44yrs	328	9.1	8.8	18.3	20.7	40.5	1.8	0.6
	65-74yrs	329	8.5	9.1	16.1	24.0	39.5	1.8	0.9
Muslim	12yrs	287	3.1	7.7	13.6	31.0	41.5	1.7	1.4
	15yrs	300	2.3	8.0	10.0	33.3	46.0	0.3	0.0
	35-44yrs	333	8.4	7.8	9.9	25.8	45.0	2.7	0.3
	65-74yrs	331	10.6	8.2	10.0	20.2	47.4	3.3	0.3
Urban	12yrs	568	2.6	7.7	13.2	33.3	40.8	2.3	0.0
	15yrs	571	3.2	6.8	10.9	27.3	49.7	2.1	0.0
	35-44yrs	553	10.5	8.3	11.0	25.5	41.4	3.1	0.2
	65-74yrs	554	14.8	9.2	13.5	24.9	34.7	2.3	0.5
Rural	12yrs	1428	2.5	7.2	15.9	34.1	36.9	2.6	0.8
	15yrs	1432	2.5	6.1	12.4	33.0	44.0	1.7	0.2
	35-44yrs	1429	8.0	9.3	11.5	25.5	43.9	1.6	0.2
	65-74yrs	1405	13.2	9.3	10.2	28.3	37.0	1.6	0.4

Among all age groups, a majority consumed the above food items 'every day', closely followed up by 'several times (2-6) a week' and this pattern was similar among all sub-categories as well.

3.2.2.3 Consumption of candy/toffee

Table 3.8: Percentage distribution of participants according to the consumption of candy/toffee

	Age group	N	Never/ Seldom (once a month or less)	Several (2-3) times a month	Once a week	Several (2-6) times a week	Every day	Several times a day	Not recorded
Sri Lanka	12yrs	1996	14.1	11.4	16.2	32.4	24.0	1.3	0.6
	15yrs	2003	19.2	12.9	15.1	30.0	21.5	1.2	0.1
	35-44yrs	1982	49.8	20.2	8.2	12.0	9.1	0.5	0.2
	65-74yrs	1959	61.6	13.3	6.4	11.3	6.7	0.3	0.5
Male	12yrs	999	13.2	11.7	17.0	31.3	25.0	1.3	0.4
	15yrs	1002	19.7	12.6	15.2	30.4	20.8	1.1	0.3
	35-44yrs	960	49.2	19.6	8.1	12.1	10.2	0.7	0.1
	65-74yrs	975	58.9	13.9	7.0	10.8	8.5	0.3	0.6
Female	12yrs	997	14.9	11.1	15.3	33.5	23.1	1.3	0.7
	15yrs	1001	18.7	13.3	15.0	29.6	22.2	1.3	0.0
	35-44yrs	1022	50.4	20.8	8.2	11.9	8.1	0.2	0.3
	65-74yrs	984	64.2	12.6	5.9	11.8	5.0	0.2	0.3
Sinhalese	12yrs	1399	16.7	11.2	15.6	34.2	20.9	1.1	0.4
	15yrs	1400	22.5	13.0	14.5	29.7	19.1	0.9	0.2
	35-44yrs	1320	53.9	18.5	6.6	12.3	8.3	0.4	0.1
	65-74yrs	1295	65.7	12.3	5.5	10.4	5.7	0.1	0.3
Tamil	12yrs	308	7.5	12.7	21.1	26.6	30.2	1.3	0.6
	15yrs	302	10.3	14.9	19.2	26.2	27.5	2.0	0.0
	35-44yrs	328	45.4	19.5	14.3	11.6	7.9	0.6	0.6
	65-74yrs	329	56.8	14.9	7.6	11.9	7.0	0.9	0.9
Muslim	12yrs	287	8.4	11.5	13.9	30.0	32.8	2.1	1.4
	15yrs	300	12.7	10.7	13.7	35.0	26.3	1.7	0.0
	35-44yrs	333	37.8	27.9	8.4	11.1	13.8	0.6	0.3
	65-74yrs	331	50.5	15.7	9.1	13.3	10.6	0.3	0.6
Urban	12yrs	568	15.7	15.1	14.3	28.9	24.6	1.4	0.0
	15yrs	571	20.3	14.0	14.4	26.1	23.3	1.9	0.0
	35-44yrs	553	48.5	17.5	8.1	13.9	11.0	0.7	0.2
	65-74yrs	554	59.2	10.6	8.7	13.0	7.4	0.5	0.5
Rural	12yrs	1428	13.4	9.9	16.9	33.8	23.8	1.3	0.8
	15yrs	1432	18.7	12.5	15.4	31.6	20.7	0.9	0.2
	35-44yrs	1429	50.3	21.3	8.2	11.3	8.4	0.3	0.2
	65-74yrs	1405	62.5	14.3	5.6	10.6	6.5	0.1	0.4

Compared to 35-44-year-olds and 65-74-year-olds, a high percentage of 12-year-olds and 15-year-olds consumed candy/toffee; 'every day' or 'several times a day' or 'once a week'. This pattern was similar in all sub-categories as well.

3.2.2.4 Consumption of fizzy-drinks

Table 3.9: Percentage distribution of participants according to the consumption of fizzy-drinks

	Age group	N	Never/ Seldom (once a month or less)	Several (2-3) times a month	Once a week	Several (2-6) times a week	Every day	Several times a day	Not recorded
Sri Lanka	12yrs	1996	30.1	26.1	16.1	17.6	8.7	0.5	1.0
	15yrs	2003	28.6	23.8	16.9	20.7	9.4	0.4	0.2
	35-44yrs	1982	50.2	19.5	9.3	13.4	7.0	0.5	0.2
	65-74yrs	1959	66.6	16.4	6.2	7.7	2.6	0.0	0.6
Male	12yrs	999	27.2	24.4	17.4	19.4	10.3	0.7	0.5
	15yrs	1002	22.9	24.7	17.9	22.5	11.3	0.6	0.3
	35-44yrs	960	43.1	18.6	10.2	17.4	9.9	0.6	0.1
	65-74yrs	975	63.7	17.1	6.6	8.5	3.4	0.0	0.7
Female	12yrs	997	32.9	27.7	14.8	15.7	7.1	0.3	1.4
	15yrs	1001	34.4	23.0	15.9	18.9	7.6	0.2	0.1
	35-44yrs	1022	56.8	20.3	8.5	9.6	4.2	0.4	0.3
	65-74yrs	984	69.5	15.7	5.8	6.8	1.8	0.0	0.4
Sinhalese	12yrs	1399	35.6	27.4	14.4	15.5	6.1	0.5	0.4
	15yrs	1400	33.1	24.0	15.7	19.6	6.9	0.4	0.2
	35-44yrs	1320	57.8	18.3	6.1	11.9	5.5	0.4	0.1
	65-74yrs	1295	74.0	14.3	3.6	6.7	1.2	0.0	0.3
Tamil	12yrs	308	17.2	26.0	22.7	18.8	13.3	1.0	1.0
	15yrs	302	17.9	25.8	22.8	17.5	14.6	1.0	0.3
	35-44yrs	328	30.2	26.5	17.7	15.9	8.2	0.9	0.6
	65-74yrs	329	52.0	21.6	11.9	9.7	3.6	0.0	1.2
Muslim	12yrs	287	17.1	19.9	17.1	26.1	16.4	0.0	3.5
	15yrs	300	18.3	20.7	16.3	28.7	16.0	0.0	0.0
	35-44yrs	333	39.3	17.4	14.1	16.8	11.4	0.6	0.3
	65-74yrs	331	52.3	19.3	10.9	9.4	7.3	0.0	0.9
Urban	12yrs	568	28.5	24.1	18.5	15.5	12.7	0.7	0.0
	15yrs	571	27.8	20.8	17.2	21.0	12.8	0.2	0.2
	35-44yrs	553	43.4	19.0	11.0	15.2	10.5	0.7	0.2
	65-74yrs	554	62.6	16.2	8.3	9.0	3.2	0.0	0.5
Rural	12yrs	1428	30.7	26.8	15.2	18.4	7.1	0.4	1.3
	15yrs	1432	28.9	25.0	16.8	20.5	8.1	0.5	0.2
	35-44yrs	1429	52.8	19.7	8.7	12.7	5.6	0.4	0.2
	65-74yrs	1405	68.2	16.4	5.3	7.1	2.3	0.0	0.6

A high percentage of 12-year-olds and 15-year-olds consumed fizzy-drinks 'once a week' or 'several times a week' compared to 35-44-year-olds and 65-74-year-olds. Similar pattern was observed among all sub groups as well.

3.2.3 Harmful habits

Four habits were considered; betel chewing, use of commercially available areca-nut in packets, alcohol consumption and smoking. Age groups considered were 15-year-olds, 35-44-year-olds and 65-74-year-olds. These habits were assessed using the criteria given by the WHO[23].

Question: *How often do/did you use any of the following HABITUALLY*?

When administering the questionnaire, the interviewers were instructed to specify the word *habitually.* If a person does not use it habitually, it was coded as no habit. For example: if a participant smoked **once or twice in a lifetime but not as a habit,** the habit was **coded as 0** (no habit).

3.2.3.1 Betel chewing

Table 3.10: Percentage distribution of participants according to the habit of betel chewing

	Age group	N	No habit	Past (not within last 12 months)	Seldom (once a month or less)	Several (2-3) times a month	Once a week	Several (2-6) times a week	Every day
Sri Lanka	15yrs	2003	86.0	4.3	5.3	1.7	1.0	0.8	0.8
	35-44yrs	1982	67.0	4.0	5.3	3.0	2.6	3.9	14.1
	65-74yrs	1959	52.7	8.5	4.3	2.5	1.9	3.5	26.6
Male	15yrs	1002	77.4	6.0	8.9	3.0	1.6	1.6	1.5
	35-44yrs	960	51.4	4.8	6.9	3.8	3.4	5.1	24.7
	65-74yrs	975	51.1	9.1	3.7	1.9	1.8	3.2	29.1
Female	15yrs	1001	94.5	2.7	1.7	0.4	0.5	0.0	0.2
	35-44yrs	1022	81.6	3.3	3.9	2.3	1.9	2.8	4.1
	65-74yrs	984	54.4	7.8	5.0	2.9	2.0	3.8	24.1
Sinhalese	15yrs	1400	80.9	5.6	7.4	2.4	1.4	1.1	1.1
	35-44yrs	1320	60.8	4.5	7.1	3.7	3.2	4.3	16.4
	65-74yrs	1295	48.5	8.1	5.4	2.7	2.7	4.4	28.2
Tamil	15yrs	302	97.0	2.0	0.3	0.0	0.7	0.0	0.0
	35-44yrs	328	65.9	4.6	3.0	2.7	2.4	5.2	16.2
	65-74yrs	329	45.0	11.6	3.0	2.4	0.6	2.1	35.3
Muslim	15yrs	300	98.3	0.7	0.3	0.0	0.0	0.3	0.3
	35-44yrs	333	92.5	1.8	0.6	0.6	0.6	1.2	2.7
	65-74yrs	331	76.4	6.9	1.5	1.5	0.3	1.2	12.1
Urban	15yrs	571	96.1	1.8	0.5	0.7	0.4	0.2	0.4
	35-44yrs	553	80.3	2.0	2.5	1.6	1.1	4.0	8.5
	65-74yrs	554	66.8	8.1	3.1	0.9	0.7	1.1	19.3
Rural	15yrs	1432	81.9	5.4	7.2	2.1	1.3	1.0	1.0
	35-44yrs	1429	61.8	4.8	6.4	3.6	3.2	3.9	16.2
	65-74yrs	1405	47.2	8.6	4.8	3.1	2.4	4.4	29.5

According to the Table 3.10, although a majority of participants did not chew betel as a habit, betel chewing habit increased with increasing age.

Table 3.11: Percentage distribution of participants according to the ingredients used in the betel-quid

	Age group	Number of betel chewers	Ingredients used in the betel-quid			
			Betel leaf + areca-nut + tobacco	Betel leaf + areca-nut but no tobacco	Betel leaf but no areca-nut or tobacco	Not specified
Sri Lanka	15yrs	281	20.6	65.1	6.0	8.2
	35-44yrs	655	39.4	56.8	2.3	1.5
	65-74yrs	921	49.6	43.5	3.1	3.8
Male	15yrs	226	23.9	65.0	4.9	6.2
	35-44yrs	467	49.3	48.0	1.5	1.3
	65-74yrs	477	60.8	32.3	2.1	4.8
Female	15yrs	55	7.3	65.5	10.9	16.4
	35-44yrs	188	14.9	78.7	4.3	2.1
	65-74yrs	449	37.6	55.5	4.2	2.7
Sinhalese	15yrs	267	21.3	64.8	5.6	8.2
	35-44yrs	518	38.0	58.5	2.1	1.4
	65-74yrs	667	45.1	49.3	2.2	3.3
Tamil	15yrs	9	0.0	88.9	0.0	11.1
	35-44yrs	112	43.8	50.9	2.7	2.7
	65-74yrs	181	61.9	30.4	3.9	3.9
Muslim	15yrs	5	20.0	40.0	40.0	0.0
	35-44yrs	25	48.0	48.0	4.0	0.0
	65-74yrs	78	59.0	24.4	9.0	7.7
Urban	15yrs	22	18.2	63.6	13.6	4.5
	35-44yrs	109	45.9	47.7	3.7	2.8
	65-74yrs	184	50.0	38.6	3.8	7.6
Rural	15yrs	259	20.8	65.3	5.4	8.5
	35-44yrs	546	38.1	58.6	2.0	1.3
	65-74yrs	742	49.5	44.7	3.0	2.8

Overall, a very few percentage of participants in all age groups and sub-categories chewed betel without areca-nut or tobacco. Those who added tobacco to the quid increased with increasing age. A majority of 65-74-year-olds used all ingredients in the quid.

3.2.3.2 Use of areca-nut in packet form

Table 3.12: Percentage distribution of participants according to the use of areca-nut in packet form

	Age group	N	No habit	Past (not within last 12 months)	Seldom (once a month or less)	Several (2-3) times a month	Once a week	Several (2-6) times a week	Every day
Sri Lanka	15yrs	2003	98.7	0.2	0.5	0.0	0.3	0.1	0.0
	35-44yrs	1982	97.9	0.6	0.4	0.2	0.1	0.2	0.7
	65-74yrs	1959	98.5	0.5	0.2	0.1	0.1	0.2	0.5
Male	15yrs	1002	97.9	0.2	1.0	0.0	0.5	0.3	0.1
	35-44yrs	960	96.9	0.8	0.6	0.1	0.1	0.1	1.4
	65-74yrs	975	97.8	1.0	0.3	0.1	0.1	0.1	0.5
Female	15yrs	1001	99.4	0.3	0.1	0.1	0.1	0.0	0.0
	35-44yrs	1022	98.9	0.4	0.2	0.2	0.0	0.2	0.1
	65-74yrs	984	99.2	0.0	0.1	0.0	0.0	0.2	0.5
Sinhalese	15yrs	1400	99.6	0.2	0.1	0.1	0.1	0.0	0.0
	35-44yrs	1320	98.3	0.7	0.3	0.0	0.1	0.1	0.6
	65-74yrs	1295	99.2	0.2	0.0	0.0	0.1	0.2	0.3
Tamil	15yrs	302	93.0	0.7	3.3	0.0	1.7	1.0	0.3
	35-44yrs	328	96.3	0.9	0.6	0.3	0.0	0.6	1.2
	65-74yrs	329	97.0	1.5	0.6	0.0	0.0	0.0	0.9
Muslim	15yrs	300	100.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	333	98.2	0.0	0.6	0.6	0.0	0.0	0.6
	65-74yrs	331	97.3	0.6	0.6	0.3	0.0	0.3	0.9
Urban	15yrs	571	98.9	0.0	0.2	0.2	0.4	0.2	0.2
	35-44yrs	553	97.6	0.4	0.5	0.4	0.0	0.2	0.9
	65-74yrs	554	98.6	0.7	0.4	0.0	0.0	0.2	0.2
Rural	15yrs	1432	98.5	0.3	0.7	0.0	0.3	0.1	0.0
	35-44yrs	1429	98.0	0.7	0.3	0.1	0.1	0.1	0.6
	65-74yrs	1405	98.5	0.4	0.1	0.1	0.1	0.1	0.6

A very few percentage of participants (<10%) used commercially-prepared areca-nut in packet form in all age groups and different sub-categories.

3.2.3.3 Consumption of alcohol

Table 3.13: Percentage distribution of participants according to the consumption of alcohol

	Age group	N	No habit	Past (not within past 12 months)	Seldom (once a month or less)	Several (2-3) times a month	Once a week	Several (2-6) times a week	Every day
Sri Lanka	15yrs	2003	99.5	0.4	0.1	0.0	0.0	0.0	0.0
	35-44yrs	1982	74.2	2.9	8.9	5.2	3.6	3.3	1.9
	65-74yrs	1959	77.5	4.7	6.1	3.8	2.3	2.6	3.0
Male	15yrs	1002	99.1	0.8	0.1	0.0	0.0	0.0	0.0
	35-44yrs	960	48.3	5.5	17.9	10.5	7.3	6.7	3.8
	65-74yrs	975	56.6	9.2	11.9	7.4	4.4	4.6	5.8
Female	15yrs	1001	99.8	0.1	0.1	0.0	0.0	0.0	0.0
	35-44yrs	1022	98.5	0.5	0.4	0.2	0.1	0.1	0.2
	65-74yrs	984	98.2	0.2	0.4	0.2	0.3	0.6	0.1
Sinhalese	15yrs	1400	99.2	0.6	0.1	0.0	0.0	0.0	0.0
	35-44yrs	1320	68.4	3.2	11.8	6.7	4.2	3.9	1.8
	65-74yrs	1295	75.2	5.2	7.7	3.9	2.4	2.5	3.2
Tamil	15yrs	302	100.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	328	75.9	4.3	4.9	4.0	4.0	3.4	3.7
	65-74yrs	329	67.8	4.6	5.8	7.0	4.6	5.5	4.9
Muslim	15yrs	300	100.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	333	95.5	0.6	1.2	0.6	0.9	0.6	0.6
	65-74yrs	331	96.4	2.7	0.3	0.0	0.0	0.3	0.3
Urban	15yrs	571	99.5	0.4	0.2	0.0	0.0	0.0	0.0
	35-44yrs	553	77.2	2.5	5.1	4.3	4.5	3.6	2.7
	65-74yrs	554	80.3	4.0	3.6	2.5	2.5	3.1	4.0
Rural	15yrs	1432	99.4	0.5	0.1	0.0	0.0	0.0	0.0
	35-44yrs	1429	73.1	3.1	10.4	5.5	3.2	3.1	1.6
	65-74yrs	1405	76.4	5.0	7.1	4.3	2.3	2.4	2.6

Consumption of alcohol was common among males. Considering ethnic differences, consumption of alcohol was common in Sinhalese, followed up by Tamils. Moreover, consumption of alcohol was common in rural participants than urban counterparts.

3.2.3.4 Smoking

Table 3.14: Percentage distribution of participants according to the habit of smoking

	Age group	N	No habit	Past (not within past 12 months	Seldom (once a month or less	Several (2-3) times a month	Once a week	Several (2-6) times a week	Every day
Sri Lanka	15yrs	2003	99.8	0.1	0.0	0.0	0.0	0.0	0.0
	35-44yrs	1982	84.7	2.3	1.7	0.8	0.7	1.4	8.5
	65-74yrs	1959	82.2	5.2	1.3	0.5	0.7	0.8	9.3
Male	15yrs	1002	99.6	0.3	0.0	0.0	0.0	0.0	0.1
	35-44yrs	960	69.1	4.6	3.3	1.6	1.4	2.7	17.4
	65-74yrs	975	65.4	10.1	2.7	1.0	1.2	1.5	18.1
Female	15yrs	1001	100.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	1022	99.3	0.1	0.2	0.0	0.0	0.2	0.2
	65-74yrs	984	98.9	0.3	0.0	0.0	0.1	0.1	0.6
Sinhalese	15yrs	1400	99.8	0.2	0.0	0.0	0.0	0.0	0.0
	35-44yrs	1320	83.2	2.6	2.2	1.1	0.7	1.7	8.6
	65-74yrs	1295	82.2	5.3	1.9	0.6	0.8	0.8	8.4
Tamil	15yrs	302	99.7	0.0	0.0	0.0	0.0	0.0	0.3
	35-44yrs	328	88.1	1.8	1.2	0.3	0.3	1.2	7.0
	65-74yrs	329	81.5	4.6	0.6	0.3	0.0	0.6	12.5
Muslim	15yrs	300	100.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	333	87.1	1.5	0.3	0.0	0.9	0.3	9.9
	65-74yrs	331	83.1	5.1	0.0	0.3	0.9	0.9	9.7
Urban	15yrs	571	99.8	0.0	0.0	0.0	0.0	0.0	0.2
	35-44yrs	553	85.2	1.3	0.5	0.4	0.7	1.3	10.7
	65-74yrs	554	81.6	3.6	0.4	0.9	0.4	1.1	12.1
Rural	15yrs	1432	99.8	0.2	0.0	0.0	0.0	0.0	0.0
	35-44yrs	1429	84.5	2.7	2.2	0.9	0.6	1.5	7.7
	65-74yrs	1405	82.5	5.8	1.7	0.4	0.8	0.7	8.2

A majority of the participants in all age groups reported that they do not smoke. Smoking habit increased with increasing age. Compared to females, smoking habit was common in males.

3.2.3.5 Other habits

Only few people had 'Other habits'. Namely: 'Areca-nut only' (5 people), 'Drugs' (1), 'Saravita' (2) 'Tobacco only' (3)

3.3 Oral and mucosal lesions

Table 3.15: Distribution of participants according to the presence of oral and mucosal lesions

Age group	N	No lesions	Malignant tumor	Leucoplakia	Lichen planus	Ulceration	Oral Submucous Fibrosis	Candidiasis /Denture stomatitis	Angular chelitis	Any other*	Total no. of lesions**
5yrs	1995	1970	0	0	0	8	0	1	1	14	26
12yrs	1996	1973	0	0	0	14	0	0	1	8	23
15yrs	2003	1971	0	0	2	20	0	0	1	9	32
35-44yrs	1982	1911	1	21	8	21	9	3	17	14	94
65-74yrs	1959	1845	1	19	13	18	21	7	32	26	138
Total	9935	9670	2	40	23	81	30	11	53	73	313

*Any other: Abscesses, Mucoceles, Chewer's mucosa, unspecified pigmentation and lumps
**Total number do not tally as some people have more than one lesion

A Total of 313 different mucosal lesions were identified in all age groups and the highest number (138) was observed in the 65-74-year-olds. Among all age groups, ulceration was the most common type of lesion observed (81) followed by angular chelitis (53).

Oral Potentially Malignant Disorders (OPMD) namely, Leucoplakia, Lichen planus and Oral Submucous Fibrosis (OSF) were observed only in 35-44-year-olds and 65-74-year-olds. Moreover, two malignancies were also observed; one each in a 35-44-year-old and a 65-74-year-old.

'Abscess' was the most common lesion (07) found in the 5-year-olds under 'any other' category. The other common mucosal lesions under 'any other' category in 5-year-olds, 12-year-olds and 15-year-olds were Mucoceles and 'Frictional keratotic' lesions. 'Chewer's mucosa' was the most common lesion observed under 'any other' category in 35-44-year-olds (03) and 65-74-year-olds (07). Two lesions of Erythroplakia were observed; one each in a 35-44-year-old and a 65-74-year-old.

Lesion and site relationship according to age group is given in Table 3.16.

Except in 5-year-olds, buccal mucosa and lips were the mostly affected sites in all age groups. Moreover, a substantial amount (34) of commissural lesions was also found in 65-74-year-olds. OSF, Leucoplakia and ulcerations were common lesions found in the buccal mucosa in 35-44-year-olds and 65-74-year-olds.

Table 3.16: Distribution of participants according to the type and site of oral mucosal lesions

Age group	N	No abnormality	Type of lesion	Vermillion border	Commissure	Lips	Sulci	Buccal mucosa	Tongue	Hard & soft palate	Alveolar ridge	Not specified	Total sites
5yrs	1995	1971	Malignancy	0	0	0	0	0	0	0	0	0	0
			Leucoplakia	0	0	0	0	0	0	0	0	0	0
			Lichen planus	0	0	0	0	0	0	0	0	0	0
			Ulceration	0	0	1	2	2	3	0	0	0	8
			OSF	0	0	0	0	0	0	0	0	0	0
			Candidiasis	0	0	0	0	0	0	0	0	1	1
			Angular chelitis	0	1	0	0	0	0	0	0	0	1
			Any other	1	0	2	0	3	2	0	8	0	16
			Total lesions	1	1	3	2	5	5	0	8	1	26
12yrs	1996	1973	Malignancy	0	0	0	0	0	0	0	0	0	0
			Leucoplakia	0	0	0	0	0	0	0	0	0	0
			Lichen planus	0	0	0	0	0	0	0	0	0	0
			Ulceration	0	0	7	3	4	0	0	0	0	14
			OSF	0	0	0	0	0	0	0	0	0	0
			Candidiasis	0	0	0	0	0	0	0	0	0	0
			Angular chelitis	0	1	0	0	0	0	0	0	0	1
			Any other	1	0	1	1	4	1	0	0	0	8
			Total lesions	1	1	8	4	8	1	0	0	0	23
15yrs	2003	1971	Malignancy	0	0	0	0	0	0	0	0	0	0
			Leucoplakia	0	0	0	0	0	0	0	0	0	0
			Lichen planus	0	0	0	0	1	0	0	1	0	2
			Ulceration	4	1	8	5	2	0	0	0	0	20
			OSF	0	0	0	0	0	0	0	0	0	0
			Candidiasis	0	0	0	0	0	0	0	0	0	0
			Angular chelitis	0	1	0	0	0	0	0	0	0	1
			Any other	0	1	2	0	2	0	0	4	0	9
			Total lesions	4	3	10	5	5	0	0	5	0	32
35-44yrs	1982	1899	Malignancy	0	0	0	0	0	0	0	0	1	1
			Leucoplakia	0	5	0	0	13	1	0	1	1	21
			Lichen planus	0	0	1	0	7	0	0	0	0	8
			Ulceration	1	0	5	1	11	1	0	2	0	21
			OSF	0	1	0	0	7	0	0	0	1	9
			Candidiasis	0	0	0	0	0	0	2	1	0	3
			Angular chelitis	2	11	4	0	0	0	0	0	0	17
			Any other	0	0	1	0	10*	0	1	1	1	14
			Total lesions	3	17	11	1	48	2	3	5	4	94
65-74yrs	1959	1833	Malignancy	0	0	0	0	1	0	0	0	0	1
			Leucoplakia	0	3	0	1	14	1	0	0	0	19
			Lichen planus	0	1	0	0	10	0	1	0	1	13
			Ulceration	1	0	5	2	6	1	0	3	0	18
			OSF	0	0	2	0	17	2	0	0	0	21
			Candidiasis	0	0	0	0	1	0	6	0	0	7
			Angular chelitis	2	28	3	0	0	0	0	0	0	33
			Any other	1	2	3	0	14*	2	1	2	1	26
			Total lesions	4	34	13	3	63	6	8	5	2	138

* include one Erythroplakia

Note: some participants have more than one lesion and some have one lesion more than a single site

3.4 Number of teeth present

Two indicators were generated. The mean number of teeth present in age groups is given in Table 3.17. The percentage distribution of participants according to number of teeth present is given in Table 3.18.

Table 3.17: Distribution of participants according to the number of teeth present

	Age group	N	Deciduous		Permanent		Total number of teeth	
			N	$\bar{x}$ (SD)	N	$\bar{x}$ (SD)	N	$\bar{x}$ (SD)
Sri Lanka	5yrs	1995	38674	19.4 (1.3)	3301	1.6 (2.2)	41975	21.0 (1.7)
	12yrs	1996	1443	0.7 (1.9)	5045	26.1 (3.2)	53488	26.8 (1.8)
	15yrs	2003	41	0.0 (0.2)	55962	27.9 (1.0)	56003	28.0 (0.9)
	35-44yrs	1982	11	0.0 (0.1)	54435	27.5 (4.0)	54446	28.0 (4.0)
	65-74yrs	1959	0	0.0 (0.0)	29938	15.3 (10.0)	29938	15.3 (10.0)
Male	5yrs	1043	20293	19.5 (1.2)	1511	1.4 (2.1)	21804	20.9 (1.6)
	12yrs	999	879	0.9 (2.1)	25616	25.6 (3.5)	26495	26.5 (2.0)
	15yrs	1002	21	0.0 (0.2)	28037	28.0 (1.1)	28058	28.0 (1.1)
	35-44yrs	960	3	0.0 (0.1)	26761	27.9 (3.8)	26764	27.9 (3.7)
	65-74yrs	975	0	0.0 (0.0)	15522	15.9 (10.1)	15522	15.9 (10.1)
Female	5yrs	952	18381	19.3 (1.4)	1790	1.9 (2.4)	20171	21.2 (1.7)
	12yrs	997	564	0.6 (1.6)	26429	26.5 (2.8)	26993	27.1 (1.6)
	15yrs	1001	20	0.0 (0.2)	27925	27.9 (0.8)	27945	27.9 (0.8)
	35-44yrs	1022	8	0.0 (0.1)	27674	27.1 (4.1)	27682	27.1 (4.1)
	65-74yrs	984	0	0.0 (0.0)	14416	14.7 (9.9)	14416	14.7 (9.9)
Sinhalese	5yrs	1394	27021	19.4 (1.3)	2257	1.6 (2.2)	29278	21.0 (1.6)
	12yrs	1399	1084	0.78(2.0)	36408	26.0 (3.3)	37492	26.8 (1.8)
	15yrs	1400	33	0.0 (0.2)	39141	28.0 (0.7)	39174	28.0 (0.7)
	35-44yrs	1320	10	0.0 (0.1)	36517	27.7 (3.8)	36527	27.7 (3.8)
	65-74yrs	1295	0	0.0 (0.0)	19711	15.2(10.0)	19711	15.2 (10.0)
Tamil	5yrs	302	5900	19.5 (1.0)	412	1.4 (2.0)	6312	20.9 (1.5)
	12yrs	308	197	0.6 (1.7)	8083	26.2 (3.0)	8280	26.9 (1.8)
	15yrs	302	8	0.0 (0.2)	8411	27.9 (1.5)	8419	27.9 (1.5)
	35-44yrs	328	1	0.0 (0.1)	9041	27.6 (4.1)	9042	27.6 (4.1)
	65-74yrs	329	0	0.0 (0.0)	5108	15.5 (10.7)	5108	15.5 (10.7)
Muslim	5yrs	297	5713	19.2 (1.4)	628	2.1 (2.4)	6341	21.4 (1.9)
	12yrs	287	162	0.6 (1.6)	7499	26.1 (3.0)	7661	26.7 (2.0)
	15yrs	300	0	0.0 (0.0)	8382	27.9 (1.1)	8382	27.9 (1.1)
	35-44yrs	333	0	0.0 (0.0)	8847	26.6 (4.5)	8847	26.6 (4.5)
	65-74yrs	331	0	0.0 (0.0)	5030	15.2 (9.4)	5030	15.2 (9.4)
Urban	5yrs	568	10972	19.3 (1.3)	1042	1.8 (2.3)	12014	21.2 (1.6)
	12yrs	568	403	0.7 (1.9)	14828	26.1 (3.1)	15231	26.8 (1.8)
	15yrs	571	10	0.0 (0.1)	15984	28.0 (1.3)	15994	28.0 (1.3)
	35-44yrs	553	5	0.0 (0.1)	15142	27.4 (3.9)	15147	27.4 (3.9)
	65-74yrs	554	0	0.0 (0.0)	8813	15.9 (9.8)	8813	15.9 (9.8)
Rural	5yrs	1427	27702	19.4 (1.3)	2259	1.6 (2.2)	29961	21.0 (1.7)
	12yrs	1428	1040	0.7 (1.9)	37217	26.1 (3.2)	38257	26.8 (1.8)
	15yrs	1432	31	0.0 (0.2)	39978	27.9 (0.8)	40009	27.9 (0.7)
	35-44yrs	1429	6	0.0 (0.1)	39293	27.5 (4.0)	39299	27.5 (4.0)
	65-74yrs	1405	0	0.0 (0.0)	21125	15.0 (10.1)	21125	15.0(10.1)

Note: $\bar{x}$: Mean; SD: Standard Deviation

Except in 65-74-year-olds, all other age groups on average had more than 20 teeth. Among 15-year-olds and 35-44-year-olds, the average number of teeth present was 28. In 5-year-olds, almost all the deciduous teeth were present with at least one permanent tooth erupted.

Table 3.18: Percentage distribution of participants according to the number of teeth present

	Age group	N	Number of teeth			
			>20 teeth	11-20 teeth	1-10 teeth	No teeth (edentulous)
Sri Lanka	5yrs	1995	39.4	60.5	0.1	0.0
	12yrs	1996	99.4	0.6	0.0	0.0
	15yrs	2003	100.0	0.0	0.0	0.0
	35-44yrs	1982	94.2	5.4	0.4	0.0
	65-74yrs	1959	37.0	27.2	24.6	11.3
Male	5yrs	1043	34.6	65.3	0.1	0.0
	12yrs	999	99.2	0.8	0.0	0.0
	15yrs	1002	99.9	0.0	0.1	0.0
	35-44yrs	960	95.2	4.6	0.2	0.0
	65-74yrs	975	40.3	25.8	23.5	10.4
Female	5yrs	952	44.7	55.3	0.0	0.0
	12yrs	997	99.7	0.3	0.0	0.0
	15yrs	1001	100.0	0.0	0.0	0.0
	35-44yrs	1022	93.3	6.2	0.5	0.0
	65-74yrs	984	33.6	28.6	25.6	12.2
Sinhalese	5yrs	1394	39.0	60.9	0.1	0.0
	12yrs	1399	99.6	0.4	0.0	0.0
	15yrs	1400	100.0	0.0	0.0	0.0
	35-44yrs	1320	95.2	4.6	0.2	0.0
	65-74yrs	1295	36.7	27.9	23.7	11.7
Tamil	5yrs	302	34.8	65.2	0.0	0.0
	12yrs	308	99.4	0.6	0.0	0.0
	15yrs	302	99.7	0.0	0.3	0.0
	35-44yrs	328	94.5	4.9	0.6	0.0
	65-74yrs	329	39.5	22.5	25.2	12.8
Muslim	5yrs	297	46.1	53.9	0.0	0.0
	12yrs	287	99.0	1.0	0.0	0.0
	15yrs	300	100.0	0.0	0.0	0.0
	35-44yrs	333	90.4	9.0	0.6	0.0
	65-74yrs	331	35.0	29.3	27.5	8.2
Urban	5yrs	568	46.0	54.0	0.0	0.0
	12yrs	568	99.5	0.5	0.0	0.0
	15yrs	571	99.8	0.0	0.2	0.0
	35-44yrs	553	94.2	5.6	0.2	0.0
	65-74yrs	554	39.0	28.9	22.0	10.1
Rural	5yrs	1427	36.9	63.1	0.1	0.0
	12yrs	1428	99.4	0.6	0.0	0.0
	15yrs	1432	100.0	0.0	0.0	0.0
	35-44yrs	1429	94.3	5.3	0.4	0.0
	65-74yrs	1405	36.2	26.5	25.6	11.7

Except in 65-74-year-olds, a majority of the participants had more than 20 permanent teeth. Edentulous participants were observed only in the 65-74-year-old age group. Among sub-categories, females, Tamils and rural participants had a higher percentage of edentulousness than their respective counterparts.

3.5 Dental caries

Dental caries was measured in all age groups according to the guidelines given by the WHO[23].

3.5.1 Prevalence of dental caries

The prevalence of dental caries among the participants is given in the Table 3.19.

Table 3.19: Percentage distribution of participants according to the prevalence of dental caries

	Age group	N		Total caries DMFT>0	Active caries DT>0	Missing teeth MT>0)	Filled teeth FT>0	Active caries to total caries (%DT/%DMFT)	Missing teeth to total caries (%MT/%DMFT)	Filled teeth to total caries (%FT/%DMFT)
Sri Lanka	5yrs	1995	Deci*	63.1	60.7	3.6	11.5	96.2	5.6	18.2
			Perm**	1.5	1.5	0.0	0.0	100.0	0.0	0.0
	12yrs	1996		30.4	24.2	3.3	8.8	79.6	10.9	29.0
	15yrs	2003		41.5	35.3	7.4	9.1	85.1	17.9	22.0
	35-44yrs	1982		92.5	63.8	82.4	23.7	69.0	89.1	25.6
	65-74yrs	1959		98.3	51.3	97.4	4.8	52.2	99.2	4.9
Male	5yrs	1043	Deci*	62.6	61.0	3.4	10.8	97.4	5.4	17.3
			Perm**	1.5	1.5	0.0	0.0	100.0	0.0	0.0
	12yrs	999		29.0	23.3	2.4	8.5	80.3	8.3	29.3
	15yrs	1002		38.6	33.1	6.8	7.4	85.8	17.6	19.1
	35-44yrs	960		90.0	58.1	81.0	24.6	64.6	90.0	27.3
	65-74yrs	975		81.6	47.7	97.0	4.4	58.4	118.8	5.4
Female	5yrs	952	Deci*	63.6	60.4	3.8	12.2	95.0	6.0	19.2
			Perm**	1.5	1.5	0.0	0.0	100.0	0.0	0.0
	12yrs	997		31.8	25.1	4.2	9.1	78.9	13.2	28.7
	15yrs	1001		44.5	37.6	8.1	10.9	84.5	18.2	24.5
	35-44yrs	1022		93.8	69.1	83.7	22.9	73.6	89.2	24.4
	65-74yrs	984		98.8	54.9	97.9	5.2	55.6	99.1	5.2
Sinhalese	5yrs	1394	Deci*	59.1	56.4	3.7	12.9	95.4	6.2	21.8
			Perm**	1.6	1.6	0.0	0.0	100.0	0.0	0.0
	12yrs	1399		28.8	22.1	2.1	9.5	76.7	7.4	33.0
	15yrs	1400		39.0	32.8	5.5	10.2	84.1	14.1	26.2
	35-44yrs	1320		92.5	62.7	81.5	29.2	67.8	88.1	31.6
	65-74yrs	1295		98.2	50.3	97.5	5.6	51.2	99.2	5.7
Tamil	5yrs	302	Deci*	71.2	70.5	1.7	6.3	99.1	2.3	8.8
			Perm**	1.0	1.0	0.0	0.0	100.0	0.0	0.0
	12yrs	308		29.5	27.6	3.9	3.2	93.4	13.2	11.0
	15yrs	302		44.7	40.1	8.6	5.3	89.6	19.3	11.9
	35-44yrs	328		91.2	66.5	81.7	6.4	72.9	89.6	7.0
	65-74yrs	329		97.3	47.4	96.4	1.8	48.8	99.1	1.9
Muslim	5yrs	297	Deci*	73.1	70.7	5.1	10.1	96.8	6.9	13.8
			Perm**	1.7	1.7	0.0	0.0	100.0	0.0	0.0
	12yrs	287		39.0	31.0	8.4	11.1	79.5	21.4	28.6
	15yrs	300		50.3	42.7	15.3	8.0	84.8	30.5	15.9
	35-44yrs	333		93.7	65.5	86.5	18.6	69.9	92.3	19.9
	65-74yrs	331		99.4	58.9	98.5	3.9	59.3	99.1	4.0
Urban	5yrs	568	Deci*	63.2	61.1	4.4	11.4	96.7	7.0	18.1
			Perm**	2.1	2.1	0.0	0.0	100.0	0.0	0.0
	12yrs	568		28.2	22.2	3.9	9.9	78.8	13.8	35.0
	15yrs	571		38.9	31.2	6.3	11.4	80.2	16.2	29.3
	35-44yrs	553		92.6	64.4	82.8	21.7	69.5	89.5	23.4
	65-74yrs	554		98.6	54.7	97.8	6.7	55.5	99.3	6.8
Rural	5yrs	1427	Deci*	63.0	60.5	3.2	11.5	96.1	5.1	18.2
			Perm**	1.3	1.3	0.0	0.0	100.0	0.0	0.0
	12yrs	1428		31.3	25.0	3.1	8.4	79.9	9.8	26.8
	15yrs	1432		42.6	37.0	7.9	8.2	86.9	18.5	19.3
	35-44yrs	1429		92.4	63.5	82.2	24.5	68.7	88.9	26.5
	65-74yrs	1405		98.1	50.0	97.3	4.1	50.9	99.1	4.1

*Deci: Deciduous teeth; **Perm: Permanent teeth Note: For deciduous teeth in 5-year-olds, d,m,f and dmft values were given instead of D,M,F and DMFT

According to the Table 3.19, the caries prevalence in 5-year-old age group was 63% and the prevalence of active (untreated) caries was 60.7%**.** Out of 5-year-olds who had experienced dental caries, 96.2% had active caries. In this age group, the prevalence of missing teeth and filled teeth were 3.6% and 11.5% respectively. In 5-year-olds, Sinhalese had lower caries prevalence than the other two ethnic groups. The percentage with filled teeth was lower in Tamils compared to other two ethnic categories.

Caries prevalence in 12-year-olds and 15-year-olds were 30.4% and 41.5% respectively while the prevalence of active caries was 24.2% and 35.3% respectively. The proportions of 12-year-olds and 15-year-olds with active caries to total caries experience were 79.6% and 85.1% respectively. In the 12-year-olds and 15-year-olds, the caries prevalence was lower in males, Sinhalese and urban participants compared to females, Tamils and Muslims and rural participants respectively. In the same age groups, Tamils and rural participants had relatively a lower percentage of filled teeth despite high caries prevalence.

In 35-44-year-olds, the caries prevalence was 92.5%. Eighty two percent had missing teeth and nearly 24% had filled teeth. The proportion of 35-44-year-olds with missing teeth to total caries experience was 89.1%. In this age group the caries prevalence was higher in females and Muslims compared to males, Sinhalese and Tamils.

In 65-74-year-olds, 98.3% had caries while the prevalence of missing and filled teeth was 97.4% and 4.8% respectively. The proportion of 65-74-year-olds with missing teeth out of who had experienced dental caries was 99.2%. In this group, the caries prevalence was higher in females and Muslims compared to males and other ethnic groups (Sinhalese and Tamils) respectively.

3.5.2 Severity of dental caries

3.5.2.1 Severity of dental caries: socio-demographic variation

Table 3.20 depicts the severity of dental caries among the participants.

In 5-year-olds, the mean dmft was 3.0 with a mean of 2.7 decayed, 0.1 missing and 0.2 filled teeth. Sinhalese had a lower dmft score than the other two ethnic groups.

In 12-year-olds and 15-year-olds, mean DMFT scores were 0.6 and 1.0 respectively and the decayed component was the highest, 0.4 and 0.8 respectively. In this group, caries severity was lower in Sinhalese when compared to other two ethnic groups.

In 35-44-year-olds, the mean DMFT was 6.5 with a higher missing (4.0) followed up by decayed (2.0) and filled (0.5) components. This pattern was similar in sub-categories as well. Moreover, in this age group, the mean DMFT was lower in males and Sinhalese than females and other two ethnic groups respectively.

In 65-74-year-olds, the mean DMFT was 18.4. The missing component was higher (16.5) followed by the decayed (1.8) and filled (0.1) components. This pattern was similar in all sub-categories as well.

Table 3.20: Distribution of participants according to the severity of dental caries

	Age group	N		Total no. of teeth		DT (dt)	MT (mt)	FT (ft)	DMFT (dmft)
				N	$\bar{x}$ (SD)	$\bar{x}$ (SD)	$\bar{x}$ (SD)	$\bar{x}$ (SD)	$\bar{x}$ (SD)
Sri Lanka	5yrs	1995	Deci*	38674	19.4 (1.3)	2.7 (3.4)	0.1 (0.5)	0.2 (0.7)	3.0 (3.5)
			Perm**	3301	1.6 (2.2)	0.02 (0.2)	0.0 (0.0)	0.0 (0.0)	0.02 (0.2)
	12yrs	1996		5045	26.1 (3.2)	0.4 (0.9)	0.1 (0.2)	0.1 (0.5)	0.6 (1.1)
	15yrs	2003		55962	27.9 (1.0)	0.8 (1.4)	0.1 (0.4)	0.1 (0.5)	1.0 (1.6)
	35-44yrs	1982		54435	27.5 (4.0)	2.0 (2.7)	4.0 (4.0)	0.5 (1.2)	6.5 (5.2)
	65-74yrs	1959		29938	15.3 (10.0)	1.8 (2.9)	16.5 (10.2)	0.1 (0.5)	18.4 (9.8)
Male	5yrs	1043	Deci*	20293	19.5 (1.2)	2.8 (3.4)	0.1 (0.5)	0.2 (0.7)	3.1 (3.6)
			Perm**	1511	1.4 (2.1)	0.02 (0.2)	0.0 (0.0)	0.0 (0.0)	0.02 (0.2)
	12yrs	999		25616	25.6 (3.5)	0.4 (0.8)	0.0 (0.3)	0.1 (0.4)	0.5 (1.0)
	15yrs	1002		28037	28.0 (1.1)	0.7 (1.3)	0.1 (0.3)	0.1 (0.5)	0.9 (1.5)
	35-44yrs	960		26761	27.9 (3.8)	1.6 (2.2)	3.7 (3.8)	0.5 (1.2)	5.7 (4.8)
	65-74yrs	975		15522	15.9 (10.1)	1.7 (3.0	15.9 (10.3)	0.1 (0.5)	17.7 (10.0)
Female	5yrs	952	Deci*	18381	19.3 (1.4)	2.7 (3.3)	0.1 (0.4)	0.2 (0.7)	3.0 (3.5)
			Perm**	1790	1.9 (2.4)	0.02 (0.2)	0.0 (0.0)	0.0 (0.0)	0.02 (0.2)
	12yrs	997		26429	26.5 (2.8)	0.5 (1.0)	0.1 (0.2)	0.1 (0.5)	0.6 (1.2)
	15yrs	1001		27925	27.9 (0.8)	0.8 (1.4)	0.1 (0.4)	0.2 (0.6)	1.1 (1.7)
	35-44yrs	1022		27674	27.1 (4.1)	2.3 (3.0)	4.4 (4.2)	0.5 (1.1)	7.2 (5.5)
	65-74yrs	984		14416	14.7 (9.9)	1.9 (2.8)	17.1 (10.0)	0.1 (0.5)	19.0 (9.6)
Sinhalese	5yrs	1394	Deci*	27021	19.4 (1.3)	2.5 (3.2)	0.1 (0.4)	0.2 (0.7)	2.8 (3.4)
			Perm**	2257	1.6 (2.2)	0.02 (0.2)	0.0 (0.0)	0.0 (0.0)	0.02 (0.2)
	12yrs	1399		36408	26.0 (3.3)	0.4 (0.8)	0.0 (0.2)	0.1 (0.5)	0.5 (1.1)
	15yrs	1400		39141	28.0 (0.7)	0.6 (1.2)	0.1 (0.3)	0.2 (0.6)	0.9 (1.5)
	35-44yrs	1320		36517	27.7 (3.8)	1.8 (2.4)	3.8 (3.8)	0.6 (1.3)	6.2 (4.9)
	65-74yrs	1295		19711	15.2 (10.0)	1.7 (2.8)	16.5 (10.2)	0.1 (0.6)	18.3 (9.8)
Tamil	5yrs	302	Deci*	5900	19.5 (1.0)	3.3 (3.6)	0.0 (0.4)	0.1 (0.5)	3.4 (3.7)
			Perm**	412	1.4 (2.0)	0.01 (0.1)	0.0 (0.0)	0.0 (0.0)	0.01 (0.1)
	12yrs	308		8083	26.2 (3.0)	0.5 (1.1)	0.0 (0.2)	0.1 (0.2)	0.6 (1.2)
	15yrs	302		8411	27.9 (1.5)	1.0 (1.7)	0.1 (0.4)	0.1 (0.3)	1.2 (1.9)
	35-44yrs	328		9041	27.6 (4.1)	2.8 (3.6)	4.1 (4.1)	0.1 (0.5)	7.0 (5.7)
	65-74yrs	329		5108	15.5 (10.7)	1.7 (3.0)	16.3 (10.8)	0.0 (0.2)	18.0 (10.5)
Muslim	5yrs	297	Deci*	5713	19.2 (1.4)	3.6 (3.6)	0.1 (0.6)	0.2 (0.7)	3.9 (3.7)
			Perm**	628	2.1 (2.4)	0.02 (0.2)	0.0 (0.0)	0.0 (0.0)	0.02 (0.2)
	12yrs	287		7499	26.1 (3.0)	0.6 (1.1)	0.1 (0.5)	0.1 (0.5)	0.8 (1.4)
	15yrs	300		8382	27.9 (1.1)	1.0 (1.6)	0.2 (0.6)	0.1 (0.6)	1.3 (1.9)
	35-44yrs	333		8847	26.6 (4.5)	1.9 (2.5)	5.0 (4.5)	0.3 (1.0)	7.2 (5.6)
	65-74yrs	331		5030	15.2 (9.4)	2.3 (3.2)	16.6 (9.5)	0.1 (0.5)	19.0 (9.2)
Urban	5yrs	568	Deci*	10972	19.3 (1.3)	2.7 (3.2)	0.1 (0.3)	0.2 (0.8)	3.0 (3.5)
			Perm**	1042	1.8 (2.3)	0.02 (0.2)	0.0 (0.0)	0.0 (0.0)	0.02 (0.2)
	12yrs	568		14828	26.1 (3.1)	0.4 (0.9)	0.1 (0.2)	0.1 (0.5)	0.6 (1.2)
	15yrs	571		15984	28.0 (1.3)	0.7 (1.4)	0.1 (0.3)	0.2 (0.7)	1.0 (1.7)
	35-44yrs	553		15142	27.4 (3.9)	2.0 (2.8)	4.1 (3.9)	0.5 (1.2)	6.6 (5.2)
	65-74yrs	554		8813	15.9 (9.8)	1.9 (2.9)	15.8 (9.9)	0.1 (0.7)	17.8 (9.6)
Rural	5yrs	1427	Deci*	27702	19.4 (1.3)	2.7 (3.4)	0.1 (0.5)	0.2 (0.6)	3.0 (3.6)
			Perm**	2259	1.6 (2.2)	0.02 (0.2)	0.0 (0.0)	0.0 (0.0)	0.02 (0.2)
	12yrs	1428		37217	26.1 (3.2)	0.4 (0.9)	0.1 (0.3)	0.1 (0.4)	0.6 (1.1)
	15yrs	1432		39978	27.9 (0.8)	0.8 (1.4)	0.1 (0.4)	0.1 (0.5)	1.0 (1.6)
	35-44yrs	1429		39293	27.5 (4.0)	1.9 (2.7)	4.0 (4.0)	0.5 (1.1)	6.4 (5.2)
	65-74yrs	1405		21125	15.0 (10.1)	1.8 (2.9)	16.7 (10.3)	0.1 (0.4)	18.6 (9.9)

*Deci: Deciduous teeth; **Perm: Permanent teeth Note: $\bar{x}$: Mean; SD: Standard Deviation

3.6.2.1 Severity of dental caries: district variations

Figure 3.1: Mean dmft according to districts: 5-year-olds

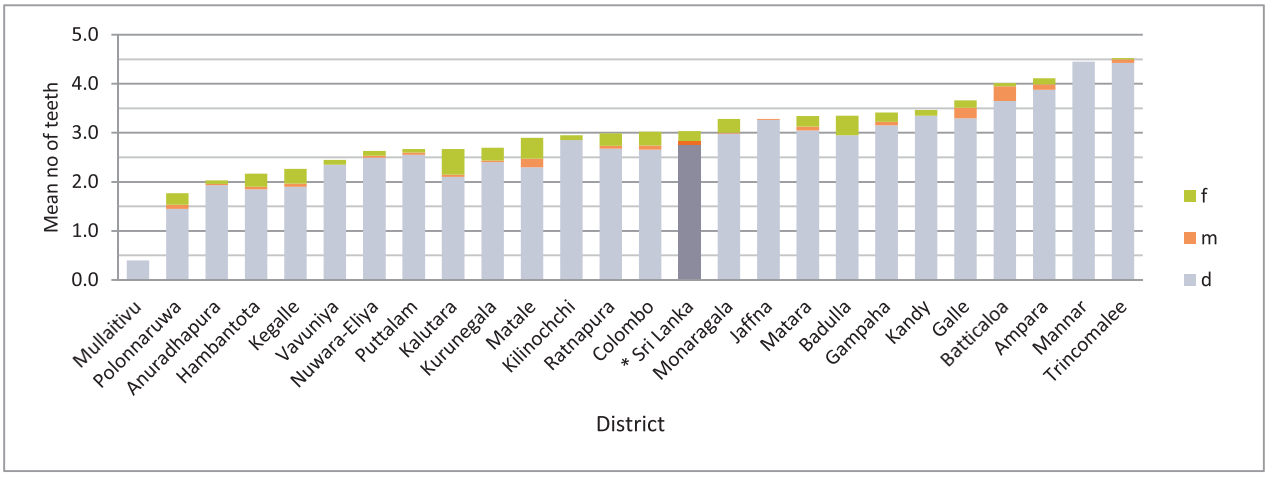


Figure 3.2: Mean DMFT according to districts: 12-year-olds

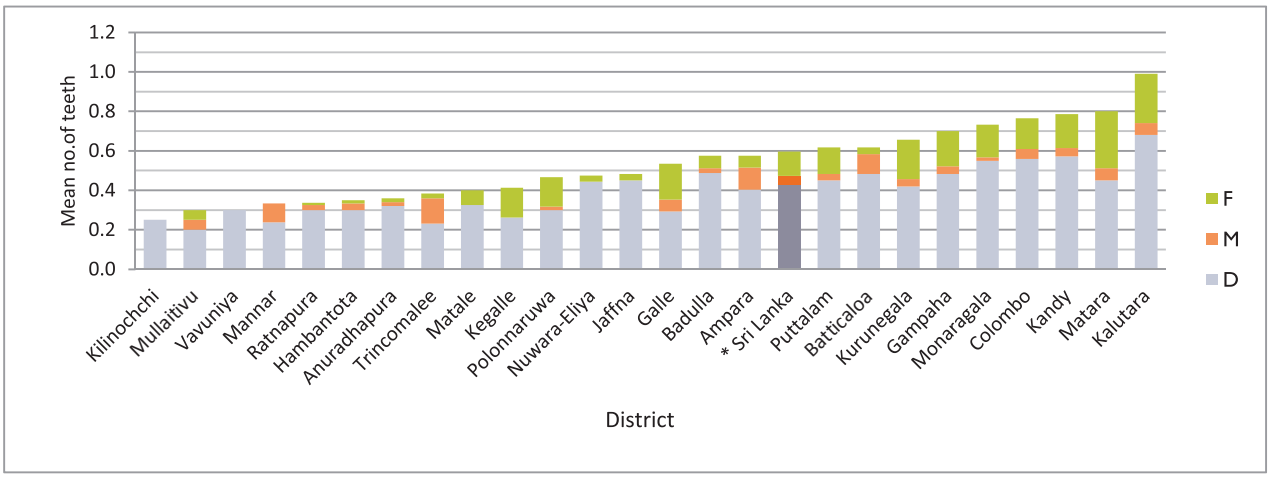


Figure 3.3: Mean DMFT according to districts: 15-year-olds

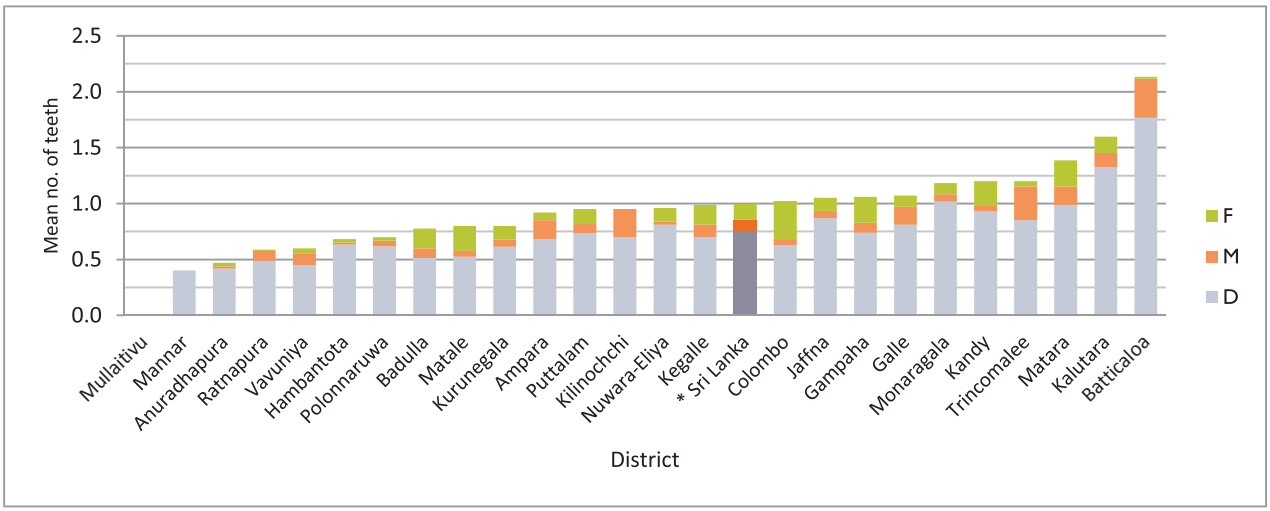


Figure 3.4: Mean DMFT according to districts: 35-44-year-olds

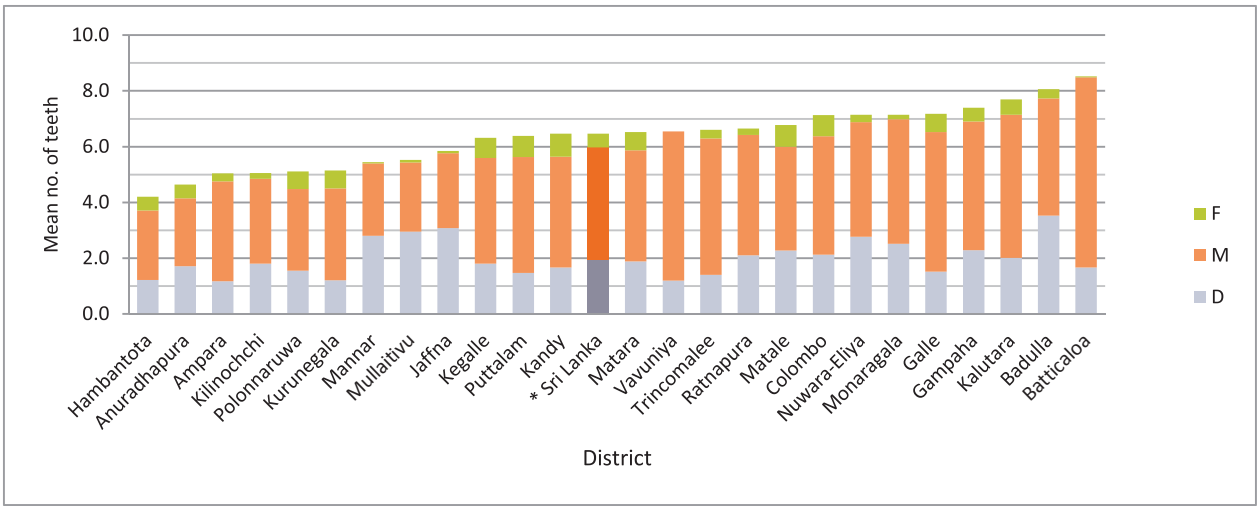
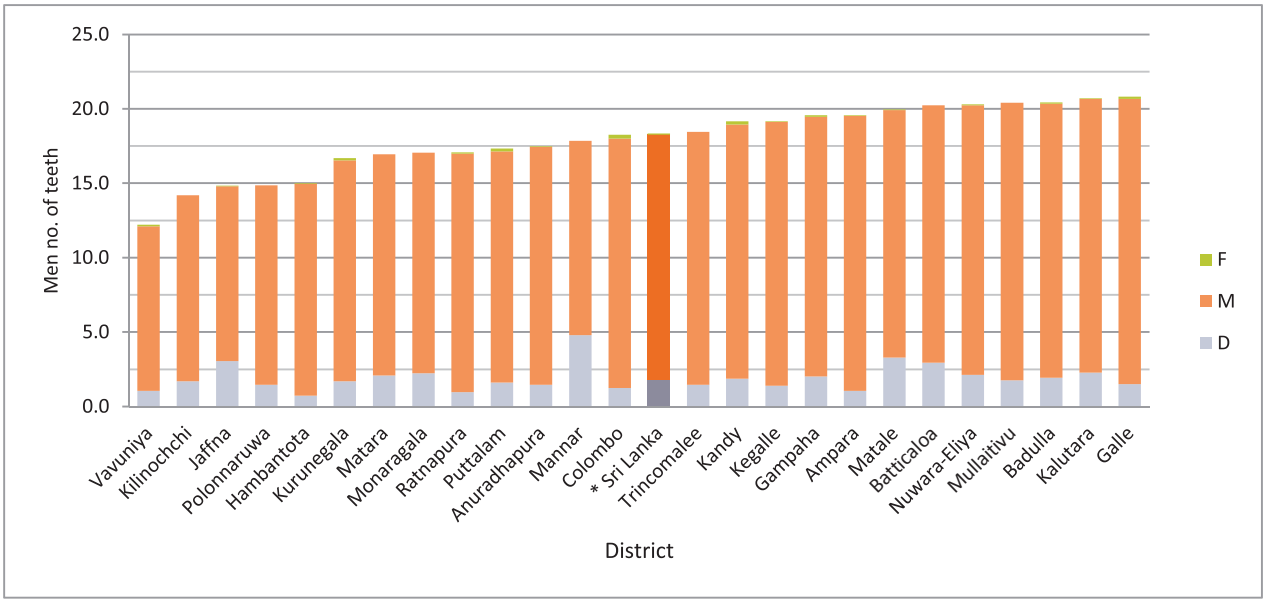


Figure 3.5: Mean DMFT according to districts: 65-74-year-olds



According to the above Figures 3.1 to 3.5, the pattern of dental caries severity across districts was similar to the national pattern; 5-year-olds, 12-year-olds and 15-year-olds had more untreated caries and 35-44-year-olds and 65-74-year-olds had more 'missing' teeth.

However, compared to other districts, relatively high proportion of participants in Mannar, Mulltivu, Jaffna districts had untreated caries.

3.5.2.3 Severity of dental caries: according to WHO recommendations

The severity of dental caries in 12-year-olds and 35-44-year-olds was presented according to the classification recommended by the WHO[23]

Table 3.21: Percentage distribution of participants of selected index age groups according to the severity of dental caries

	% of participants with DMFT: 12-year-olds					% of participants with DMFT: 35-44-year-olds			
	Very low <1.2	Low 1.2-2.6	Moderate 2.7-4.4	High 4.5-6.5	Very high >6.5	Very low <5.0	Low 5.0-8.9	Moderate 9.0-13.9	High >13.9
Sri Lanka	84.5	7.6	6.6	1.1	0.3	42.4	29.0	18.5	10.1
Male	84.7	9.0	5.4	0.8	0.1	47.3	29.2	17.0	6.6
Female	84.4	6.1	7.7	1.4	0.4	37.8	28.8	20.0	13.5
Sinhalese	86.4	6.8	5.8	0.9	0.1	43.6	30.0	18.0	8.4
Tamil	83.1	8.1	6.5	2.3	0.0	42.4	24.4	18.9	14.3
Muslim	76.7	10.8	10.5	0.7	1.4	37.5	29.4	20.1	12.9
Urban	83.8	7.4	7.6	0.9	0.4	40.9	30.7	18.3	10.1
Rural	84.8	7.6	6.2	1.2	0.2	43.0	28.3	18.6	10.1

Table 3.21 depicts the percentage distribution of participants according to the severity of dental caries based on the WHO recommendation. The WHO uses this data to classify the risk status of a country in terms of dental caries status for index age groups.

According to Table 3.21, the majority of 12-year-olds Sri Lankans had less than 1.2 DMFT. Hence considering 12-year-olds, Sri Lanka could be considered as a country with a 'very low' prevalence of dental caries. However, in terms of 35-44-year-olds, the country belongs into 'low to moderate' category.

3.6 Root exposure (presence of gingival recession) and root caries

Root exposure status and root caries status were measured according to the WHO survey guidelines[23].

3.6.1 Root exposure (presence of gingival recession)

Table 3.22: Percentage distribution of participants according to the status of root exposure

	Age group	N	Root exposed (%)			
			No root exposed teeth	1- 10 teeth	11-19 teeth	≥20 teeth
Sri Lanka	15yrs	2003	97.4	2.4	0.1	0.0
	35-44yrs	1982	51.5	25.6	9.2	13.7
	65-74yrs	1959	28.5	35.2	21.2	15.1
Male	15yrs	1002	97.1	2.7	0.1	0.1
	35-44yrs	960	47.4	26.3	10.1	16.3
	65-74yrs	975	26.7	33.4	22.2	17.7
Female	15yrs	1001	97.6	2.2	0.2	0.0
	35-44yrs	1022	55.4	25.0	8.4	11.3
	65-74yrs	984	30.4	36.9	20.3	12.4
Sinhalese	15yrs	1400	97.2	2.7	0.0	0.1
	35-44yrs	1320	52.0	25.7	10.2	12.1
	65-74yrs	1295	28.9	36.1	21.9	13.2
Tamil	15yrs	302	98.0	1.3	0.7	0.0
	35-44yrs	328	56.1	22.6	4.9	16.5
	65-74yrs	329	35.0	29.8	17.3	17.9
Muslim	15yrs	300	97.3	2.3	0.3	0.0
	35-44yrs	333	44.7	28.2	9.9	17.1
	65-74yrs	331	20.2	37.2	23.0	19.6
Urban	15yrs	571	97.7	2.3	0.0	0.0
	35-44yrs	553	50.8	25.9	8.9	14.5
	65-74yrs	554	26.2	33.9	22.6	17.3
Rural	15yrs	1432	97.2	2.5	0.2	0.1
	35-44yrs	1429	51.8	25.5	9.4	13.4
	65-74yrs	1405	29.5	35.7	20.7	14.2

The percentage of participants with root exposed teeth increased with age. This pattern was similar in all sub-categories. Root exposure was higher in males, Muslims and urban people when compared to females, Sinhalese, Tamils and rural people respectively.

3.6.2 Root caries

Table 3.23: Distribution of participants according to the status of root caries

	Age group	N	Total no. of teeth		Root exposed teeth	R-D	R-F	R-DFT	% of participants with root caries (R-DFT>0)
			N	$\bar{x}$ (SD)	$\bar{x}$ (SD)	$\bar{x}$ (SD)	$\bar{x}$ (SD)	$\bar{x}$ (SD)	
Sri Lanka	15yrs	2003	55962	27.9 (1.0)	0.1 (0.9)	0.0 (0.1)	0.0 (0.0)	0.0 (0.1)	0.1
	35-44yrs	1982	54435	27.5 (4.0)	5.8 (9.2)	0.1 (0.9)	0.0 (0.0)	0.1 (0.9)	3.1
	65-74yrs	1959	29938	15.3 (10.0)	8.4 (8.9)	0.2 (0.8)	0.0 (0.0)	0.2 (0.8)	7.6
Male	15yrs	1002	28037	28.0 (1.1)	0.1 (1.0)	0.0 (0.1)	0.0 (0.0)	0.0 (0.1)	0.3
	35-44yrs	960	26761	27.9 (3.8)	6.7 (9.8)	0.1 (0.8)	0.0 (0.0)	0.1 (0.8)	3.4
	65-74yrs	975	15522	15.9 (10.1)	9.3 (9.3)	0.1 (0.6)	0.0 (0.0)	0.1 (0.6)	7.2
Female	15yrs	1001	27925	27.9 (0.8)	0.1 (0.6)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0
	35-44yrs	1022	27674	27.1 (4.1)	5.0 (8.6)	0.1 (0.9)	0.0 (0.0)	0.1 (0.9)	2.7
	65-74yrs	984	14416	14.7 (9.9)	7.6 (8.5)	0.2 (0.9)	0.0 (0.0)	0.2 (0.9)	7.9
Sinhalese	15yrs	1400	39141	28.0 (0.7)	0.1 (0.9)	0.0 (0.1)	0.0 (0.0)	0.0 (0.1)	0.2
	35-44yrs	1320	36517	27.7 (3.8)	5.5 (8.8)	0.1 (0.9)	0.0 (0.0)	0.1 (0.9)	2.7
	65-74yrs	1295	19711	15.2 (10.0)	8.1 (8.7)	0.2 (0.8)	0.0 (0.0)	0.2 (0.8)	7.4
Tamil	15yrs	302	8411	27.9 (1.5)	0.1 (1.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0
	35-44yrs	328	9041	27.6 (4.1)	6.0 (10.5)	0.1 (0.9)	0.0 (0.0)	0.1 (0.9)	2.7
	65-74yrs	329	5108	15.5 (10.7)	8.5 (9.7)	0.1 (0.5)	0.0 (0.0)	0.1 (0.5)	8.2
Muslim	15yrs	300	8382	27.9 (1.1)	0.1 (0.7)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0
	35-44yrs	333	8847	26.6 (4.5)	6.9 (9.7)	0.1 (0.5)	0.0 (0.0)	0.1 (0.5)	4.8
	65-74yrs	331	5030	15.2 (9.4)	9.8 (9.1)	0.2 (0.9)	0.0 (0.0)	0.2 (0.9)	7.3
Urban	15yrs	571	15984	28.0 (1.3)	0.0 (0.2)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0
	35-44yrs	553	15142	27.4 (3.9)	6.0 (9.3)	0.1 (0.5)	0.0 (0.0)	0.1 (0.5)	3.3
	65-74yrs	554	8813	15.9 (9.8)	9.1 (9.2)	0.2 (0.7)	0.0 (0.0)	0.2 (0.7)	9.4
Rural	15yrs	1432	39978	27.9 (0.8)	0.1 (1.0)	0.0 (0.1)	0.0 (0.0)	0.0 (0.1)	0.2
	35-44yrs	1429	39293	27.5 (4.0)	5.7 (9.2)	0.1 (1.0)	0.0 (0.0)	0.1 (1.0)	3.0
	65-74yrs	1405	21125	15.0 (10.1)	8.2 (8.8)	0.2 (0.8)	0.0 (0.0)	0.2 (0.8)	6.8

Note: $\bar{x}$: Mean; SD: Standard Deviation

The prevalence and severity of root caries increased with age. Fifteen-year-olds had the lowest and the 65-74-year-olds had the highest prevalence of root caries. This pattern was similar in all sub-categories.

3.7 Periodontal condition

Periodontal condition was measured according to the guidelines given by the WHO[23] and the data presented as three indicators: gingival bleeding-on-probing, periodontal pockets and loss of periodontal attachment (LOA). In addition, presence of calculus was also measured. Gingival bleeding-on-probing and calculus were measured among all age groups while periodontal pockets and LOA were measured in 15-year-old, 35-44-year-old and 65-74-year-old age groups.

3.7.1 Gingival bleeding-on-probing

3.7.1.1 Prevalence of gingival bleeding-on-probing

Table 3.24: Percentage distribution of participants according to the prevalence of gingival bleeding-on-probing

	Age group	N	Gingival bleeding-on-probing (%)			
			0 teeth (Healthy)	1-10 teeth	11-20 teeth	>20 teeth
Sri Lanka	5yrs	1995	81.7	17.1	1.2	0.0
	12yrs	1996	55.3	34.9	7.0	2.8
	15yrs	2003	53.5	34.3	8.2	4.0
	35-44yrs	1982	47.4	37.0	10.1	5.4
	65-74yrs	1959	49.6	36.2	9.3	4.8
Male	5yrs	1043	81.3	17.7	1.0	0.0
	12yrs	999	54.2	35.1	7.8	2.9
	15yrs	1002	52.6	36.5	7.7	3.2
	35-44yrs	960	50.7	35.4	9.0	4.9
	65-74yrs	975	50.7	35.4	9.1	4.8
Female	5yrs	952	82.1	16.5	1.4	0.0
	12yrs	997	56.5	34.6	6.2	2.7
	15yrs	1001	54.3	32.1	8.8	4.8
	35-44yrs	1022	44.3	38.6	11.2	6.0
	65-74yrs	984	48.5	37.1	9.6	4.9
Sinhalese	5yrs	1394	82.5	16.6	0.9	0.0
	12yrs	1399	56.3	35.9	6.0	1.8
	15yrs	1400	55.6	35.3	6.9	2.2
	35-44yrs	1320	52.9	36.6	8.0	2.5
	65-74yrs	1295	53.0	34.9	8.5	3.6
Tamil	5yrs	302	76.2	21.2	2.6	0.0
	12yrs	308	47.7	34.7	12.3	5.2
	15yrs	302	45.0	33.8	12.9	8.3
	35-44yrs	328	30.2	38.1	16.8	14.9
	65-74yrs	329	43.5	34.0	13.4	9.1
Muslim	5yrs	297	83.5	15.5	1.0	0.0
	12yrs	287	58.5	30.0	6.3	5.2
	15yrs	300	52.3	30.0	9.7	8.0
	35-44yrs	333	42.6	37.8	11.7	7.8
	65-74yrs	331	42.9	43.2	8.5	5.4
Urban	5yrs	568	79.6	19.2	1.2	0.0
	12yrs	568	54.9	35.6	6.0	3.5
	15yrs	571	52.7	33.1	9.1	5.1
	35-44yrs	553	44.3	39.6	9.6	6.5
	65-74yrs	554	44.2	39.2	11.4	5.2
Rural	5yrs	1427	82.6	16.3	1.1	0.0
	12yrs	1428	55.5	34.6	7.4	2.5
	15yrs	1432	53.8	34.8	7.9	3.6
	35-44yrs	1429	48.6	36.0	10.3	5.0
	65-74yrs	1405	51.7	35.1	8.5	4.7

In general, the percentage of participants with gingival bleeding-on-probing increased with the age despite a small reduction observed in 65-74-year-olds. This pattern was similar in all sub-categories. Among sub-categories, gingival bleeding-on-probing was higher in females and Tamils compared to males and other two ethnic groups respectively.

3.7.1.2: Mean and the percentage of teeth with gingival bleeding-on-probing

Table 3.25: Distribution of participants according to the mean and the percentage of teeth with gingival bleeding-on-probing

	Age group	N	Total no. of teeth		Teeth with gingival bleeding-on-probing					
					No bleeding		Bleeding		Excluded teeth	
			N	$\bar{x}$ (SD)	$\bar{x}$ (SD)	%*	$\bar{x}$ (SD)	%*	$\bar{x}$ (SD)	%**
Sri Lanka	5yrs	1995	41975	21.0 (1.7)	20.3 (2.7)	96.3	0.7 (2.1)	3.5	0.0 (0.5)	0.2
	12yrs	1996	53488	26.8 (1.8)	23.5 (5.9)	87.5	3.3 (5.6)	12.4	0.0 (0.2)	0.1
	15yrs	2003	56003	28.0 (0.9)	24.0 (6.4)	85.9	3.9 (6.3)	14.0	0.0 (0.3)	0.1
	35-44yrs	1982	54446	27.5 (4.0)	22.5 (8.3)	81.9	4.6 (7.0)	16.9	0.3 (1.8)	1.3
	65-74yrs	1959	29938	15.3 (10.0)	10.4 (9.9)	67.8	4.2 (6.6)	27.7	0.7 (2.4)	4.5
Male	5yrs	1043	21804	20.9 (1.6))	20.1 (2.7)	96.3	0.7 (2.1)	3.5	0.0 (0.3)	0.1
	12yrs	999	26495	26.5 (2.0)	23.1 (6.0)	87.2	3.4 (5.6)	12.8	0.0 (0.1)	0.0
	15yrs	1002	28058	28.0 (1.1)	24.3 (5.9)	86.6	3.7 (5.8)	13.3	0.0 (0.3)	0.2
	35-44yrs	960	26764	27.9 (3.7)	23.3 (8.1)	83.4	4.3 (6.9)	15.4	0.3 (2.0)	1.2
	65-74yrs	975	15522	15.9 (10.1)	11.0 (10.2)	69.4	4.2 (6.7)	26.1	0.7 (2.7)	4.5
Female	5yrs	952	20171	21.2 (1.7)	20.4 (2.7)	96.2	0.7 (2.1)	3.5	0.1 (0.7)	0.2
	12yrs	997	26993	27.1 (1.6)	23.8 (5.9)	87.9	3.3 (5.6)	12.0	0.0 (0.2)	0.1
	15yrs	1001	27945	27.9 (0.8)	23.8 (6.8)	85.2	4.1 (6.8)	14.7	0.0 (0.2)	0.1
	35-44yrs	1022	27682	27.1 (4.1)	21.8 (8.4)	80.4	5.0 (7.2)	18.3	0.4 (1.6)	1.3
	65-74yrs	984	14416	14.7 (9.9)	9.7 (9.5)	66.1	4.3 (6.6)	29.4	0.7 (2.1)	4.6
Sinhalese	5yrs	1394	29278	21.0 (1.6)	20.3 (2.5)	96.7	0.7 (1.9)	3.2	0.0 (0.4)	0.1
	12yrs	1399	37492	26.8 (1.8)	23.8 (5.4)	89.0	2.9 (5.0)	11.0	0.0 (0.2)	0.1
	15yrs	1400	39174	28.0 (0.7)	24.7 (5.4)	88.3	3.2 (5.3)	11.6	0.0 (0.3)	0.1
	35-44yrs	1320	36527	27.7 (3.8)	23.9 (7.2)	86.2	3.5 (5.7)	12.7	0.3 (1.6)	1.1
	65-74yrs	1295	19711	15.2 (10.0)	10.9 (9.9)	71.6	3.7 (6.1)	24.0	0.7 (2.4)	4.4
Tamil	5yrs	302	6312	20.9 (1.5)	19.8 (2.9)	94.9	1.0 (2.6)	4.9	0.0 (0.3)	0.2
	12yrs	308	8280	26.9 (1.8)	22.2 (7.0)	82.5	4.7 (6.8)	17.4	0.0 (0.1)	0.0
	15yrs	302	8419	27.9 (1.5)	22.0 (8.1)	79.0	5.8 (8.0)	20.8	0.0 (0.2)	0.1
	35-44yrs	328	9042	27.6 (4.1)	18.6 (10.4)	67.4	8.3 (9.6)	30.2	0.7 (2.8)	2.4
	65-74yrs	329	5108	15.5 (10.7)	8.9 (10.0)	57.0	5.9 (8.1)	38.1	0.8 (2.9)	4.9
Muslim	5yrs	297	6341	21.4 (1.9	20.4 (3.0)	95.8	0.8 (2.1)	3.6	0.1 (1.1)	0.6
	12yrs	287	7661	26.7 (2.0)	22.9 (7.0)	85.9	3.8 (6.8)	14.1	0.0 (0.1)	0.0
	15yrs	300	8382	27.9 (1.1)	22.9 (7.9)	81.8	5.1 (7.8)	18.1	0.0 (0.2)	0.1
	35-44yrs	333	8847	26.6 (4.5)	20.9 (8.8)	78.6	5.5 (7.7)	20.5	0.2 (1.0)	0.8
	65-74yrs	331	5030	15.2 (9.4)	9.7 (9.5)	64.0	4.8 (6.8)	33.5	0.7 (1.9)	4.6
Urban	5yrs	568	12014	21.2 (1.6)	20.3 (2.7)	96.0	0.8 (2.1)	3.7	0.1 (0.6)	0.3
	12yrs	568	15231	26.8 (1.8)	23.5 (6.0)	87.8	3.3 (5.8)	12.1	0.0 (0.2)	0.1
	15yrs	571	15994	28.0 (1.3)	23.8 (6.8)	85.1	4.2 (6.7)	14.8	0.0 (0.2)	0.1
	35-44yrs	553	15147	27.4 (3.9)	22.0 (8.6)	80.3	5.0 (7.4)	18.2	0.4 (2.2)	1.5
	65-74yrs	554	8813	15.9 (9.8)	10.3 (9.8)	65.0	4.9 (6.9)	30.6	0.7 (2.8)	4.4
Rural	5yrs	1427	29961	21.0 (1.7)	20.2 (2.7)	96.4	0.7 (2.1)	3.4	0.0 (0.5)	0.2
	12yrs	1428	38257	26.8 (1.8)	23.4 (5.9)	87.4	3.4 (5.6)	12.5	0.0 (0.2)	0.1
	15yrs	1432	40009	27.9 (0.7)	24.1 (6.2)	86.3	3.8 (6.1)	13.6	0.0 (0.3)	0.1
	35-44yrs	1429	39299	27.5 (4.0)	22.7 (8.2)	82.5	4.5 (6.9)	16.4	0.3 (1.6)	1.2
	65-74yrs	1405	21125	15.0 (10.1)	10.4 (9.9)	69.0	4.0 (6.5)	26.5	0.7 (2.3)	4.6

*% of teeth with bleeding/healthy = (teeth with bleeding/healthy/total no. of teeth) x 100 **% excluded teeth = (excluded teeth/ total no. of teeth) x 100
Note: $\bar{x}$: Mean; SD: Standard Deviation

The percentage of teeth with gingival bleeding-on-probing and the mean number of teeth with gingival bleeding-on-probing increased with age. This pattern was similar across all sub-categories.

3.7.2 Calculus

Table 3.26: Percentage distribution of participants according to the presence of calculus

	Age group	N	Calculus (%)		
			Absent	Present	Not recorded
Sri Lanka	5yrs	1995	86.3	13.7	0.0
	12yrs	1996	53.0	47.0	0.0
	15yrs	2003	50.7	49.3	0.0
	35-44yrs	1982	29.3	70.7	0.0
	65-74yrs	1959	17.1	71.6	11.3
Male	5yrs	1043	85.0	15.0	0.0
	12yrs	999	50.8	49.2	0.0
	15yrs	1002	49.4	50.6	0.0
	35-44yrs	960	27.2	72.8	0.0
	65-74yrs	975	17.2	72.4	10.4
Female	5yrs	952	87.6	12.4	0.0
	12yrs	997	55.3	44.7	0.0
	15yrs	1001	51.9	48.1	0.0
	35-44yrs	1022	31.2	68.8	0.0
	65-74yrs	984	17.1	70.7	12.2
Sinhalese	5yrs	1394	88.4	11.6	0.0
	12yrs	1399	56.3	43.7	0.0
	15yrs	1400	54.4	45.6	0.0
	35-44yrs	1320	31.4	68.6	0.0
	65-74yrs	1295	18.8	69.5	11.7
Tamil	5yrs	302	80.1	19.9	0.0
	12yrs	308	45.5	54.5	0.0
	15yrs	302	41.7	58.3	0.0
	35-44yrs	328	20.4	79.6	0.0
	65-74yrs	329	14.6	72.6	12.8
Muslim	5yrs	297	82.5	17.5	0.0
	12yrs	287	44.9	55.1	0.0
	15yrs	300	42.0	58.0	0.0
	35-44yrs	333	29.4	70.6	0.0
	65-74yrs	331	13.6	78.2	8.2
Urban	5yrs	568	85.9	14.1	0.0
	12yrs	568	55.1	44.9	0.0
	15yrs	571	53.8	46.2	0.0
	35-44yrs	553	27.8	72.2	0.0
	65-74yrs	554	15.3	74.5	10.1
Rural	5yrs	1427	86.4	13.6	0.0
	12yrs	1428	52.2	47.8	0.0
	15yrs	1432	49.4	50.6	0.0
	35-44yrs	1429	29.8	70.2	0.0
	65-74yrs	1405	17.9	70.4	11.7

The percentage of participants with calculus increased with age. This pattern was similar in all sub-categories. Among sub-categories, the prevalence of calculus was lower in females and Sinhalese than males and other tooth ethnic groups respectively.

3.7.3 Periodontal pockets

Periodontal pockets were measured in 15-year-old, 35-44-year-old and 65-74-year-old age groups using the WHO guidelines[23]. Percentage and the mean number of teeth affected are given below.

3.7.3.1 Prevalence of periodontal pockets: socio-demographic variation

Table 3.27: Percentage distribution of participants according to the prevalence of periodontal pockets

	Age group	N	Periodontal pockets (%)			
			No pockets	4-5mm	≥6mm	Any (≥4mm)*
Sri Lanka	15yrs	2003	94.6	5.3	0.1	5.4
	35-44yrs	1982	74.7	24.4	4.2	25.3
	65-74yrs	1959	55.6	41.1	11.9	44.4
Male	15yrs	1002	93.9	6.1	0.0	6.1
	35-44yrs	960	71.8	27.0	4.8	28.2
	65-74yrs	975	52.9	43.3	13.1	47.1
Female	15yrs	1001	95.3	4.6	0.1	4.7
	35-44yrs	1022	77.4	21.9	3.6	22.6
	65-74yrs	984	58.2	39.0	10.7	41.8
Sinhalese	15yrs	1400	94.4	5.6	0.0	5.6
	35-44yrs	1320	76.4	22.6	4.0	23.6
	65-74yrs	1295	56.3	39.8	11.4	43.7
Tamil	15yrs	302	97.4	2.6	0.0	2.6
	35-44yrs	328	64.6	34.8	6.4	35.4
	65-74yrs	329	53.5	44.7	14.0	46.5
Muslim	15yrs	300	93.0	6.7	0.3	7.0
	35-44yrs	333	77.5	21.3	2.7	22.5
	65-74yrs	331	55.3	42.6	11.5	44.7
Urban	15yrs	571	93.5	6.3	0.2	6.5
	35-44yrs	553	74.0	25.1	4.0	26.0
	65-74yrs	554	51.6	45.3	11.7	48.4
Rural	15yrs	1432	95.0	5.0	0.0	5.0
	35-44yrs	1429	74.9	24.1	4.3	25.1
	65-74yrs	1405	57.2	39.5	12.0	42.8

*Any (≥4mm) = either 4-5mm or ≥6mm

Note: Since the possibility of presence of 4-5mm and ≥6mm pockets simultaneously in a person, totals of '4-5mm' and '≥6mm' might not add up to 'Any (≥4mm)'

The percentage of participants with periodontal pockets increased with age. This pattern was similar across all sub-categories. Among sub-categories, a higher percentage of males had periodontal pockets than females.

3.7.3.2 Prevalence of periodontal pockets: district variation

District variations of prevalence of periodontal pockets by age groups are given in following Figures 3.6 to 3.8. In general, Mannar and Vavuniya districts had a higher prevalence of periodontal pockets than other districts.

Figure 3.6: Percentage distribution of participants with periodontal pockets ≥4mm according to districts: 15-year-olds

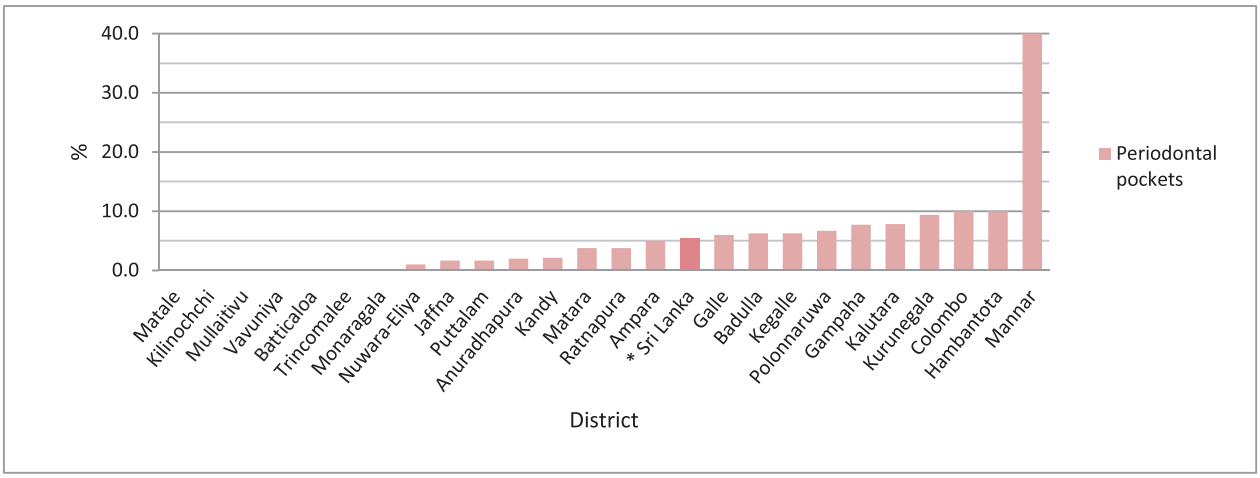


Figure 3.7: Percentage distribution of participants with periodontal pockets ≥4mm according to districts: 35-44-year-olds

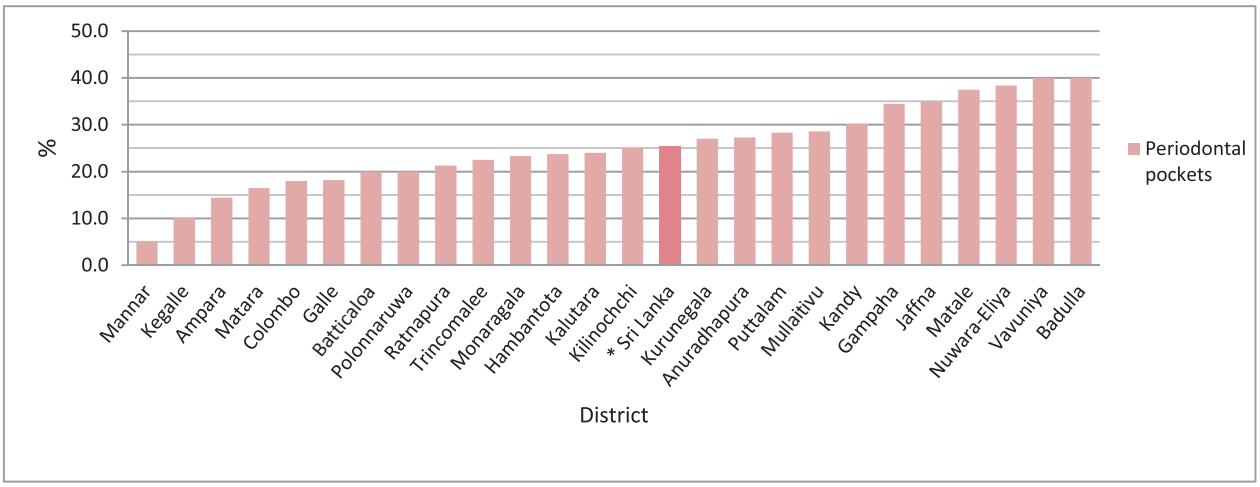
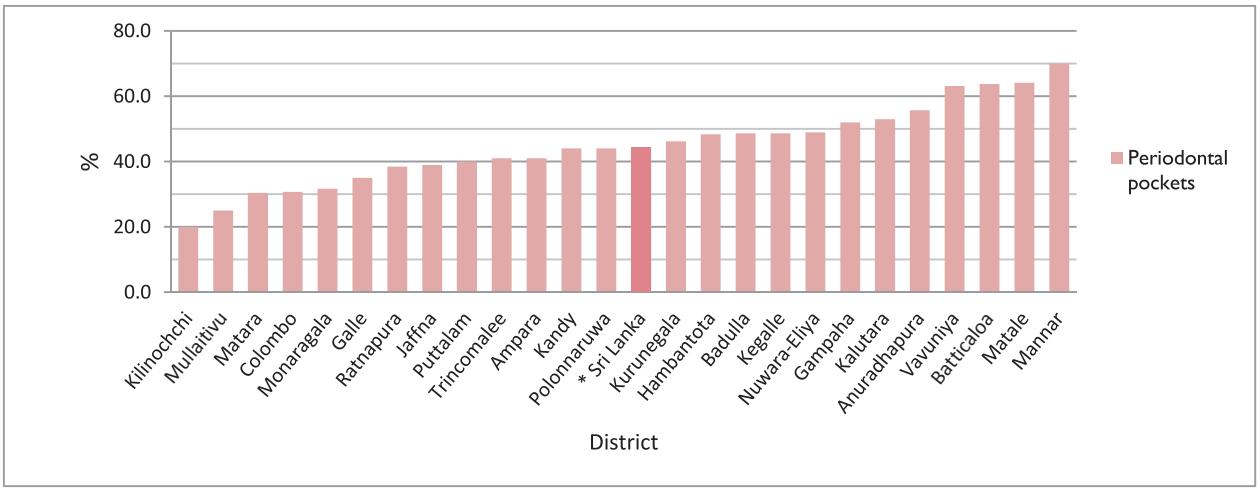


Figure 3.8: Percentage distribution of participants with periodontal pockets ≥4mm according to districts: 65-74-year-olds



3.7.3.3 Mean number of teeth with periodontal pockets

Table 3.28: Distribution of participants according to the mean and the percentage of teeth with periodontal pockets

	Age group	N	Total no. of teeth		Teeth with periodontal pockets							
					No pockets		4-5mm		≥6mm		Excluded	
			N	$\bar{x}$ (SD)	$\bar{x}$ (SD)	%*	$\bar{x}$ (SD)	%*	$\bar{x}$ (SD)	%*	$\bar{x}$ (SD)	%**
Sri Lanka	15yrs	2003	56003	28.0 (0.9)	27.7 (1.6)	99.1	0.2 (1.2)	0.7	0.0 (0.0)	0.0	0.0 (0.3)	0.2
	35-44yrs	1982	54446	27.5 (4.0)	25.6 (6.2)	93.3	1.4 (3.7)	4.8	0.1 (1.0)	0.5	0.4 (1.8)	1.3
	65-74yrs	1959	29938	15.3 (10.0)	11.9 (10.0)	77.7	2.3 (4.4)	14.7	0.4 (1.7)	2.8	0.7 (2.6)	4.8
Male	15yrs	1002	28058	28.0 (1.1)	27.7 (1.6)	99.0	0.2 (1.2)	0.8	0.0 (0.0)	0.0	0.1 (0.4)	0.2
	35-44yrs	960	26764	27.9 (3.7)	25.9 (6.2)	92.8	1.5 (3.9)	5.4	0.2 (1.0)	0.6	0.3 (2.0)	1.2
	65-74yrs	975	15522	15.9 (10.1)	12.2 (10.2)	76.7	2.5 (4.6)	15.4	0.5 (1.9)	3.0	0.8 (2.9)	4.8
Female	15yrs	1001	27945	27.9 (0.8)	27.7 (1.5)	99.2	0.2 (1.3)	0.6	0.0 (0.1)	0.0	0.0 (0.3)	0.2
	35-44yrs	1022	27682	27.1 (4.1)	25.4 (6.1)	93.8	1.1 (3.4)	4.2	0.1 (0.9)	0.5	0.4 (1.7)	1.5
	65-74yrs	984	14416	14.7 (9.9)	11.5 (9.8)	78.7	2.1 (4.1)	14.0	0.4 (1.5)	2.5	0.7 (2.2)	4.8
Sinhalese	15yrs	1400	39174	28.0 (0.7)	27.7 (1.5)	99.3	0.2 (1.4)	0.7	0.0 (0.0)	0.0	0.1 (0.3)	0.2
	35-44yrs	1320	36527	27.7 (3.8)	26.1 (5.7)	94.3	1.1 (3.2)	4.0	0.1 (1.0)	0.5	0.3 (1.7)	1.2
	65-74yrs	1259	19711	15.2 (10.0)	11.9 (10.0)	78.5	2.2 (4.4)	14.5	0.3 (1.4)	2.3	0.7 (2.6)	4.8
Tamil	15yrs	302	8419	27.9 (1.5)	27.7 (1.6)	99.5	0.1 (0.6)	0.3	0.0 (0.0)	0.0	0.0 (0.2)	0.1
	35-44yrs	328	9042	27.6 (4.1)	24.3 (7.7)	88.2	2.3 (5.3)	8.5	0.2 (1.2)	0.8	0.7 (2.8)	2.4
	65-74yrs	329	5108	15.5 (10.7)	11.6 (10.3)	74.5	2.5 (4.4)	16.0	0.7 (2.6)	4.5	0.8 (3.1)	5.0
Muslim	15yrs	300	8382	27.9 (1.1)	27.6 (1.6)	98.9	0.3 (1.2)	0.9	0.0 (0.1)	0.0	0.0 (0.2)	0.1
	35-44yrs	333	8847	26.6 (4.50	25.2 (5.9)	94.8	1.1 (3.4)	4.2	0.0 (0.3)	0.2	0.2 (1.0)	0.8
	65-74yrs	331	5030	15.2 (9.4)	11.8 (9.8)	77.9	2.2 (3.9)	14.2	0.5 (1.8)	3.1	0.7 (1.9)	4.9
Urban	15yrs	571	15994	28.0 (1.3)	27.7 (1.9)	99.0	0.2 (1.3)	0.9	0.0 (0.1)	0.0	0.0 (0.3)	0.2
	35-44yrs	553	15147	27.4 (3.9)	25.6 (6.2)	93.3	1.3 (3.5)	4.6	0.1 (0.8)	0.5	0.4 (2.2)	1.6
	65-74yrs	554	8813	15.9 (9.8)	12.4 (9.9)	78.2	2.3 (4.1)	14.5	0.4 (1.6)	2.4	0.8 (3.0)	4.9
Rural	15yrs	1432	40009	27.9 (0.7	27.7 (1.4)	99.2	0.2 (1.2)	0.6	0.0 (0.0)	0.0	0.1 (0.3)	0.2
	35-44yrs	1429	39299	27.5 (4.0)	25.7 (6.2)	93.3	1.3 (3.7)	4.8	0.1 (1.0)	0.5	0.3 (1.7)	1.3
	65-74yrs	1405	21125	15.0 (10.1)	11.6 (10.0)	77.5	2.2 (4.5)	14.8	0.4 (1.8)	2.9	0.7 (2.4)	4.8

*% of teeth with periodontal pockets = (no. of teeth with pockets/total no. of teeth) x 100 **% excluded teeth = (no. of excluded teeth/total no. of teeth) x 100
Note: $\bar{x}$: Mean; SD: Standard Deviation

The mean number of teeth with periodontal pockets increased with age. This pattern was similar across all sub-categories.

In 35-44-year-olds and 65-74-year-olds, males, Tamils and rural participants had a higher percentage of teeth with periodontal pockets compared to females, other two ethnic groups and urban participants respectively.

3.7.4. Loss of periodontal attachment

Loss of periodontal attachment (LOA) was assessed in three age groups; 15-year-old, 35-44-year-old and 65-74-year-old age groups and measured in six sextants. Two indicators were calculated; percentage of subjects with LOA and mean number of sextant with LOA per person.

3.7.4.1 Prevalence of loss of periodontal attachment

Table 3.29: Percentage distribution of participants according to the loss of periodontal attachment

	Age group	N	Loss of periodontal attachment (%)						
			0-3mm	4-5mm	6-8mm	9-11mm	≥12mm	Excluded	Not recorded
Sri Lanka	15yrs	2003	99.3	0.7	0.0	0.0	0.0	0.0	0.0
	35-44yrs	1982	76.5	17.7	4.0	1.2	0.4	0.2	0.1
	65-74yrs	1959	22.7	31.3	20.9	7.9	2.7	13.8	0.7
Male	15yrs	1002	99.1	0.9	0.0	0.0	0.0	0.0	0.0
	35-44yrs	960	72.2	20.9	4.9	1.3	0.4	0.2	0.1
	65-74yrs	975	20.1	31.8	21.8	8.9	3.1	13.1	1.1
Female	15yrs	1001	99.5	0.5	0.0	0.0	0.0	0.0	0.0
	35-44yrs	1022	80.5	14.6	3.2	1.2	0.3	0.1	0.1
	65-74yrs	984	25.2	30.9	19.9	6.9	2.2	14.5	0.3
Sinhalese	15yrs	1400	99.4	0.6	0.0	0.0	0.0	0.0	0.0
	35-44yrs	1320	77.3	17.3	3.8	1.0	0.5	0.2	0.1
	65-74yrs	1295	22.7	31.3	21.1	7.8	2.2	14.1	0.8
Tamil	15yrs	302	98.3	1.7	0.0	0.0	0.0	0.0	0.0
	35-44yrs	328	70.4	21.6	5.8	1.5	0.0	0.3	0.3
	65-74yrs	329	20.4	26.4	20.1	10.6	3.6	17.6	1.2
Muslim	15yrs	300	99.7	0.3	0.0	0.0	0.0	0.0	0.0
	35-44yrs	333	79.3	15.3	3.3	1.8	0.3	0.0	0.0
	65-74yrs	331	24.5	36.3	21.1	5.7	3.3	9.1	0.0
Urban	15yrs	571	99.8	0.2	0.0	0.0	0.0	0.0	0.0
	35-44yrs	553	76.5	18.8	3.1	1.1	0.2	0.2	0.2
	65-74yrs	554	24.5	31.8	20.0	8.5	2.2	12.1	0.9
Rural	15yrs	1432	99.1	0.9	0.0	0.0	0.0	0.0	0.0
	35-44yrs	1429	76.5	17.2	4.4	1.3	0.4	0.1	0.1
	65-74yrs	1405	21.9	31.2	21.2	7.7	2.8	14.5	0.6

The percentage of participants with LOA increased with increasing age. This pattern was similar in all sub-categories. In general, LOA was higher in males and Tamils compared to females and other two ethnic categories respectively.

3.7.4.2 Mean number of sextants with loss of periodontal attachment per person

Table 3.30: Distribution of participants according to the mean number of sextants with loss of periodontal attachment per person

	Age group	N	Loss of periodontal attachment						
			0-3mm	4-5mm	6-8mm	9-11mm	≥12mm	Excluded	Not recorded
			$\bar{x}$ (SD)	$\bar{x}$ (SD)	$\bar{x}$ (SD)	$\bar{x}$ (SD)	$\bar{x}$ (SD)	$\bar{x}$ (SD)	$\bar{x}$ (SD)
Sri Lanka	15yrs	2003	6.0 (0.2)	0.0 (0.2)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.1)	0.0 (0.0)
	35-44yrs	1982	5.4 (1.3)	0.4 (1.1)	0.1 (0.3)	0.0 (0.2)	0.0 (0.1)	0.1 (0.5)	0.0 (0.2)
	65-74yrs	1959	2.2 (2.2)	1.1 (1.5)	0.5 (0.9)	0.1 (0.5)	0.0 (0.3)	2.0 (2.2)	0.1 (0.4)
Male	15yrs	1002	6.0 (0.3)	0.0 (0.2)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.1)	0.0 (0.0)
	35-44yrs	960	5.3 (1.5)	0.5 (1.2)	0.1 (0.3)	0.0 (0.2)	0.0 (0.1)	0.1 (0.5)	0.0 (0.2)
	65-74yrs	975	2.1 (2.2)	1.2 (1.6)	0.5 (1.0)	0.2 (0.5)	0.0 (0.3)	1.9 (2.2)	0.1 (0.5)
Female	15yrs	1001	6.0 (0.1)	0.0 (0.1)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.1)
	35-44yrs	1022	5.5 (1.2)	0.3 (0.9)	0.1 (0.3)	0.0 (0.2)	0.0 (0.1)	0.1 (0.5)	0.0 (0.2)
	65-74yrs	984	2.3 (2.3)	1.0 (1.5)	0.4 (0.9)	0.1 (0.5)	0.0 (0.2)	2.1 (2.3)	0.0 (0.3)
Sinhalese	15yrs	1400	6.0 (0.1)	0.0 (0.1)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.1)	0.0 (0.0)
	35-44yrs	1320	5.4 (1.2)	0.4 (1.0)	0.1 (0.3)	0.0 (0.1)	0.0 (0.1)	0.1 (0.5)	0.0 (0.2)
	65-74yrs	1295	2.3 (2.2)	1.1 (1.4)	0.5 (0.9)	0.1 (0.5)	0.0 (0.2)	2.0 (2.2)	0.1 (0.4)
Tamil	15yrs	302	6.0 (0.4)	0.0 (0.4)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.2)	0.0 (0.0)
	35-44yrs	328	5.1 (1.6)	0.6 (1.3)	0.1 (0.4)	0.0 (0.1)	0.0 (0.0)	0.1 (0.5)	0.0 (0.3)
	65-74yrs	329	1.9 (2.2)	1.1 (1.6)	0.5 (1.1)	0.2 (0.7)	0.1 (0.4)	2.1 (2.3)	0.1 (0.6)
Muslim	15yrs	300	6.0 (0.1)	0.0 (0.1)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
	35-44yrs	333	5.3 (1.5)	0.5 (1.2)	0.1 (0.4)	0.0 (0.4)	0.0 (0.1)	0.1 (0.5)	0.0 (0.2)
	65-74yrs	331	2.2 (2.2)	1.4 (1.8)	0.4 (0.8)	0.1 (0.5)	0.0 (0.2)	1.9 (2.0)	0.0 (0.2)
Urban	15yrs	571	6.0 (0.2)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.2)	0.0 (0.0)
	35-44yrs	553	5.4 (1.4)	0.5 (1.1)	0.0 (0.3)	0.0 (0.1)	0.0 (0.1)	0.1 (0.4)	0.0 (0.3)
	65-74yrs	554	2.4 (2.3)	1.2 (1.6)	0.4 (0.8)	0.1 (0.5)	0.0 (0.2)	1.8 (2.1)	0.1 (0.6)
Rural	15yrs	1432	6.0 (0.2)	0.0 (0.2)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.1)	0.0 (0.0)
	35-44yrs	1429	5.4 (1.3)	0.4 (1.1)	0.1 (0.3)	0.0 (0.2)	0.0 (0.1)	0.1 (0.5)	0.0 (0.2)
	65-74yrs	1405	2.1 (2.2)	1.1 (1.5)	0.5 (1.0)	0.1 (0.5)	0.0 (0.3)	2.1 (2.2)	0.0 (0.4)

Note: $\bar{x}$: Mean; SD: Standard Deviation

The mean number of sextants with LOA per person increased with age. This pattern was similar in all sub-categories.

3.8 Dento-facial anomalies

The presence of malocclusion was considered under dento-facial abnormalities and it was assessed only in 12-year-old and 15-year-old age groups.

Criteria for assessment of malocclusion were as follows:

0 No malocclusion

1 Mild malocclusion: slight anomalies which do not need treatment such as;

- One or more rotated or titled teeth
- Slight crowding or spacing that disturbs the regular alignment of teeth

2 Severe malocclusion: which need treatment based on the presence of one or more of the following conditions of the four anterior incisors.

- Maxillary Over–jet ≥9mm
- Mandibular Over–jet
- Cross-bite equal to or greater than full tooth depth.
- Open bite
- Spacing of >4mm in the upper or lower anterior region, between any two teeth
- Overlapping of teeth > 2mm in upper jaw.

Table 3.31: Percentage distribution of participants according to the presence of malocclusion

	Age group	N	Malocclusion (%)		
			None	Mild	Severe
Sri Lanka	12yrs	1996	66.2	18.1	15.7
	15yrs	2003	71.1	15.8	13.1
Male	12yrs	999	66.9	15.8	17.3
	15yrs	1002	69.2	17.4	13.5
Female	12yrs	997	65.5	20.4	14.1
	15yrs	1001	73.0	14.3	12.7
Sinhalese	12yrs	1399	65.8	17.4	16.8
	15yrs	1400	71.2	15.1	13.7
Tamil	12yrs	308	67.9	17.5	14.6
	15yrs	302	71.2	15.9	12.9
Muslim	12yrs	287	66.6	22.0	11.5
	15yrs	300	70.3	19.3	10.3
Urban	12yrs	568	72.0	13.6	14.4
	15yrs	571	73.2	14.0	12.8
Rural	12yrs	1428	63.9	19.9	16.2
	15yrs	1432	70.3	16.6	13.2

The prevalence of mild and severe malocclusion was almost similar in both age groups.

3.9 Enamel fluorosis

Enamel fluorosis was recorded only for 12-year-old, 15-year-old and 35-44-year-old age groups. The Dean's index was used to assess the condition[23].

3.9.1 Prevalence of enamel fluorosis: socio-demographic variation

Table 3.32: Percentage distribution of participants according to the presence of enamel fluorosis

	Age group	N	Enamel fluorosis (%)						
			Normal	Questionable	Very mild	Mild	Moderate	Severe	Not recorded
Sri Lanka	12yrs	1996	86.5	4.4	3.3	4.0	1.5	0.4	0.1
	15yrs	2003	88.3	3.7	3.2	3.2	1.4	0.1	0.0
	35-44yrs	1982	93.8	1.9	1.2	1.3	1.4	0.2	0.3
Male	12yrs	999	85.4	4.9	3.3	4.5	1.7	0.2	0.0
	15yrs	1002	89.3	3.6	2.6	3.0	1.4	0.1	0.0
	35-44yrs	960	94.2	1.4	0.9	1.4	1.7	0.1	0.4
Female	12yrs	997	87.6	3.8	3.2	3.4	1.3	0.5	0.2
	15yrs	1001	87.2	3.9	3.9	3.5	1.4	0.1	0.0
	35-44yrs	1022	93.4	2.4	1.5	1.2	1.1	0.2	0.2
Sinhalese	12yrs	1399	85.4	4.4	3.7	4.3	1.5	0.5	0.1
	15yrs	1400	87.7	4.2	3.3	3.1	1.5	0.1	0.0
	35-44yrs	1320	92.3	2.2	1.7	1.7	1.9	0.1	0.1
Tamil	12yrs	308	85.1	5.8	3.2	3.9	1.9	0.0	0.0
	15yrs	302	85.4	4.3	5.3	4.0	1.0	0.0	0.0
	35-44yrs	328	97.6	0.6	0.3	0.9	0.3	0.0	0.3
Muslim	12yrs	287	93.0	2.4	1.0	2.4	1.0	0.0	0.0
	15yrs	300	93.7	1.0	1.0	3.0	1.3	0.0	0.0
	35-44yrs	333	95.8	2.1	0.0	0.0	0.3	0.6	1.2
Urban	12yrs	568	93.7	2.8	1.2	1.2	1.1	0.0	0.0
	15yrs	571	95.1	2.1	1.8	0.7	0.4	0.0	0.0
	35-44yrs	553	98.0	1.3	0.0	0.0	0.2	0.2	0.4
Rural	12yrs	1428	83.6	5.0	4.1	5.0	1.7	0.5	0.1
	15yrs	1432	85.5	4.4	3.8	4.3	1.8	0.1	0.0
	35-44yrs	1429	92.2	2.2	1.7	1.7	1.8	0.1	0.3

The prevalence of enamel fluorosis was low. However, there were district variations. In general, the prevalence of enamel fluorosis was high in Anuradhapura, Vavuniya, Mullaitivu, Monaragala, Hambantota, Kurunegala and Polonnaruwa districts; ranging from 20-70%. (Figures 3.9-3.11)

3.9.2 Prevalence of enamel fluorosis: district variation

Figure 3.9: Percentage distribution of participants with enamel fluorosis according to districts: 12-year-olds

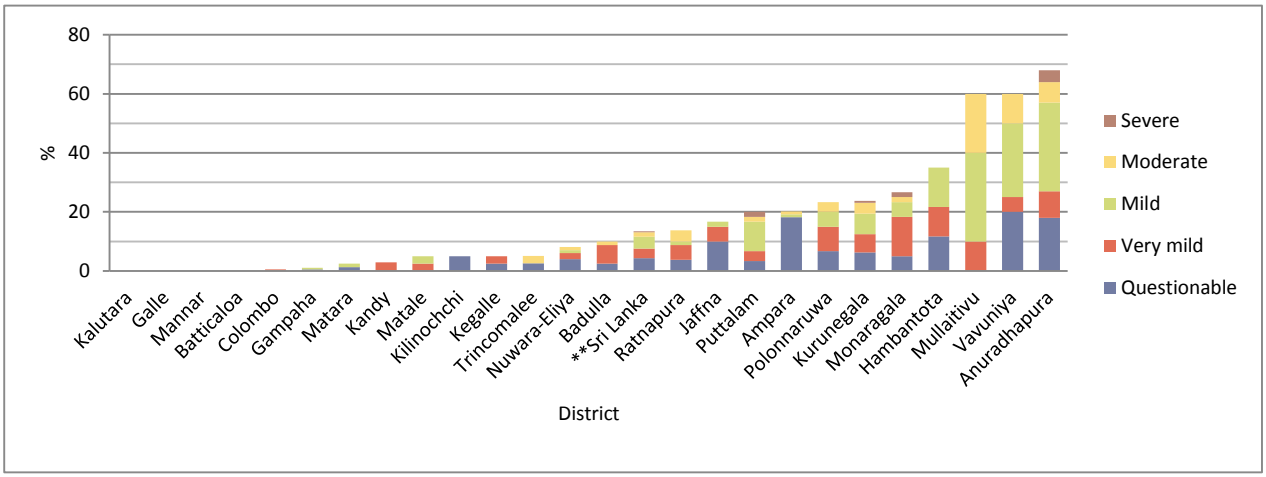


Figure 3.10: Percentage distribution of participants with enamel fluorosis according to districts: 15-year-olds

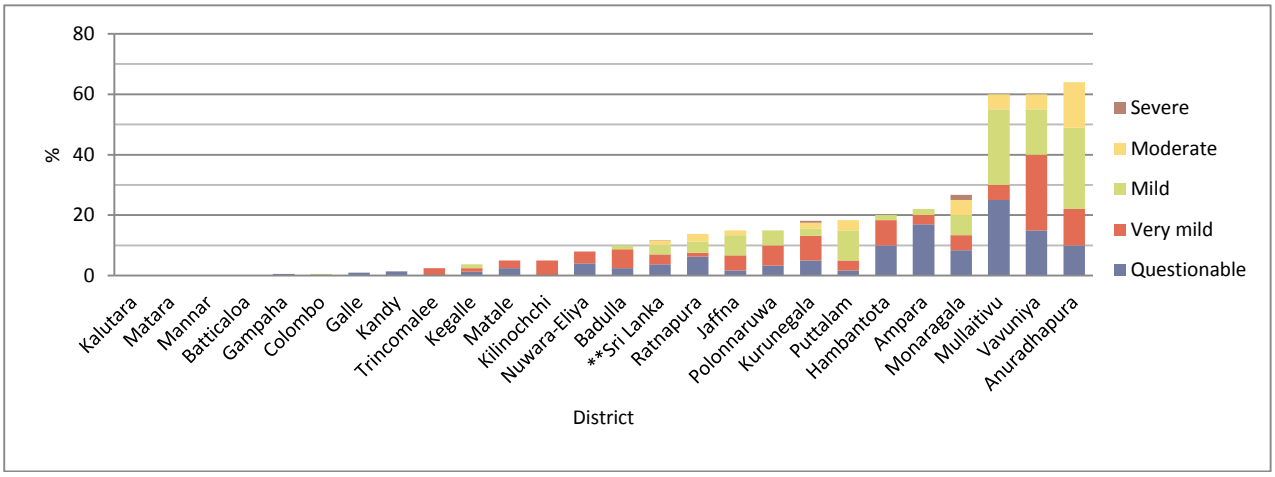
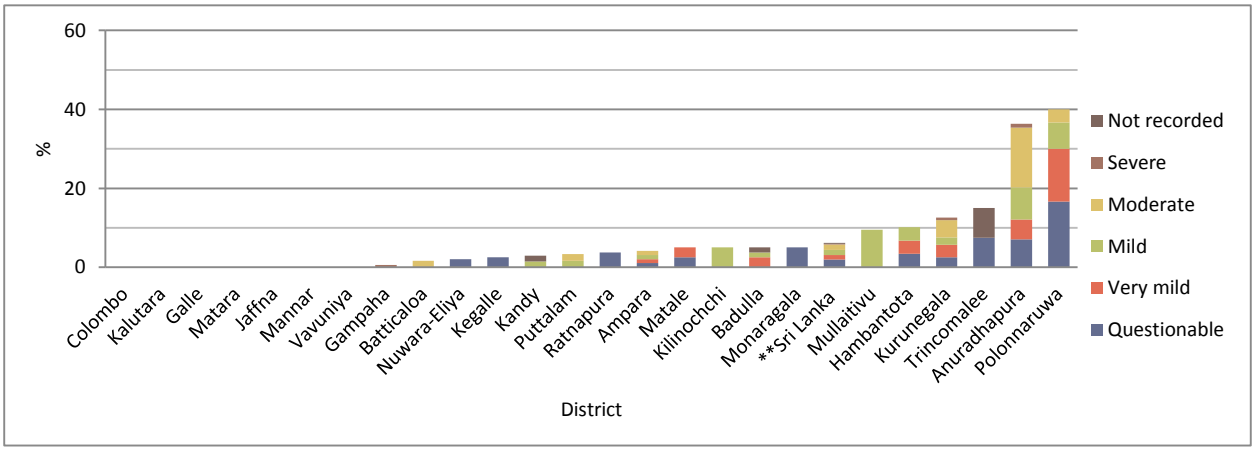


Figure 3.11: Percentage distribution of participants with enamel fluorosis according to districts: 35-44-year-olds



3.10 Presence of tooth-wear

The presence of tooth-wear was recorded only for 12-year-old, 15-year-old, and 35-44-year-old age groups.

The definition of tooth-wear was based on WHO recommendation for oral health surveys[23], as 'the surface loss of hard tissue on incisal edge / occlusal, labial or buccal surface of teeth to the extent of exposing dentine or pulp'.

Table 3.33: Percentage distribution of participants according to the presence of tooth-wear

	Age group	N	Tooth-wear (%)			
			No signs of tooth-wear	1-5 teeth	6-10 teeth	>10 teeth
Sri Lanka	12yrs	1996	97.7	2.0	0.2	0.1
	15yrs	2003	94.9	4.4	0.5	0.1
	35-44yrs	1982	51.8	27.9	15.9	4.4
Male	12yrs	999	97.9	1.8	0.2	0.1
	15yrs	1002	95.3	4.1	0.5	0.1
	35-44yrs	960	46.8	25.8	20.7	6.7
Female	12yrs	997	97.7	2.2	0.1	0.0
	15yrs	1001	94.5	4.8	0.5	0.2
	35-44yrs	1022	56.5	29.7	11.4	2.3
Sinhalese	12yrs	1399	97.6	2.1	0.2	0.0
	15yrs	1400	94.0	5.3	0.6	0.1
	35-44yrs	1320	48.3	29.5	17.1	5.1
Tamil	12yrs	308	99.4	0.6	0.0	0.0
	15yrs	302	98.3	1.3	0.3	0.0
	35-44yrs	328	55.8	26.5	14.3	3.4
Muslim	12yrs	287	96.9	2.8	0.0	0.3
	15yrs	300	95.7	3.7	0.3	0.3
	35-44yrs	333	61.6	22.5	12.9	3.0
Urban	12yrs	568	99.1	0.9	0.0	0.0
	15yrs	571	97.0	2.8	0.0	0.2
	35-44yrs	553	54.6	27.8	14.5	3.1
Rural	12yrs	1428	97.3	2.5	0.2	0.1
	15yrs	1432	94.1	5.1	0.7	0.1
	35-44yrs	1429	50.7	27.9	16.5	5.0

Tooth-wear increased with age. Only 2.3% of 12-year-olds had tooth-wear while 5.1% and 48.2% of 15-year-olds and 35-44-year-olds had tooth wear respectively. In general, tooth wear-was higher in rural participants than urban participants.

3.11 Denture-wearing status

Denture-wearing status of the participants was assessed in three groups; 15-year-olds, 35-44-year-olds and 65-74-year-olds.

Table 3.34: Percentage distribution of participants according to the denture-wearing status

	Age group	N	% with missing teeth	No denture (%)	Partial denture (%)			Full denture (%)			Mixed (%)			Not recorded (%)
					Upper only	Lower only	Upper & lower	Upper only	Lower only	Upper & lower	Upper partial & lower full	Upper full & lower partial	Upper partial, lower not recorded	
Sri Lanka	15yrs	2003	7.4	99.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	1982	82.4	92.2	4.1	1.4	1.9	0.0	0.1	0.1	0.1	0.0	0.2	0.1
	65-74yrs	1959	97.4	82.3	5.2	0.8	5.6	1.6	0.1	3.1	0.7	0.4	0.2	0.2
Male	15yrs	1002	6.8	99.8	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	960	81.0	92.7	3.8	1.1	1.8	0.0	0.1	0.1	0.1	0.0	0.2	0.1
	65-74yrs	975	97.0	86.5	2.9	0.8	4.5	1.1	0.1	3.0	0.2	0.5	0.2	0.2
Female	15yrs	1001	8.1	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	1022	83.7	91.8	4.4	1.7	2.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0
	65-74yrs	984	97.9	78.3	7.5	0.8	6.6	2.0	0.0	3.3	1.1	0.2	0.1	0.1
Sinhalese	15yrs	1400	5.5	99.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	1320	81.5	92.5	3.6	1.9	1.7	0.0	0.0	0.2	0.0	0.0	0.1	0.1
	65-74yrs	1295	97.5	81.5	5.8	0.8	5.4	1.6	0.0	3.5	0.5	0.5	0.2	0.2
Tamil	15yrs	302	8.6	99.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	328	81.7	94.8	4.3	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.3	0.0
	65-74yrs	329	96.4	90.3	2.4	0.3	1.8	1.5	0.3	2.4	0.6	0.0	0.3	0.0
Muslim	15yrs	300	15.3	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	333	86.5	88.6	5.7	0.9	3.9	0.0	0.3	0.0	0.3	0.0	0.3	0.0
	65-74yrs	331	98.5	77.9	5.4	1.2	10.0	1.5	0.0	2.4	1.2	0.3	0.0	0.0
Urban	15yrs	571	6.3	99.8	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	553	82.8	90.8	5.1	2.0	1.3	0.0	0.0	0.4	0.2	0.0	0.4	0.0
	65-74yrs	554	97.8	79.1	5.4	1.4	7.4	1.3	0.0	3.6	0.9	0.2	0.4	0.4
	15yrs	1432	7.9	99.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	1429	82.2	92.8	3.7	1.2	2.1	0.0	0.1	0.0	0.0	0.0	0.1	0.1
	65-74yrs	1405	97.3	83.6	5.1	0.6	4.8	1.7	0.1	2.9	0.6	0.4	0.1	0.1

Although a high percentage of participants had missing teeth, the percentage of denture wearers was very low in all age groups. Denture-wearing status was higher in 65-74-year-olds compared to 35-44-year-olds.

When calculated the percentages, 7.9% and 0.3% of 35-44-year-olds wore partial dentures and full dentures respectively and the corresponding figures for 65-74-year-olds were 12.9% and 5.9%.

3.12 Presence of dental trauma

The presence of dental trauma was recorded only for 5-year-old, 12-year-old, 15-year-old, and 35-44-year-old age groups. The assessment of dental trauma was based on WHO recommendation for oral health surveys[23].

3.12.1 Prevalence of dental trauma

Table 3.35: Percentage distribution of participants according to the presence of dental trauma

	Age group	N	No signs of injury		Treated injury	Enamel fracture only	Enamel & dentine fracture	Pulp involved	Missing tooth due to trauma	Other damage
			N	%	%	%	%	%	%	%
Sri Lanka	5yrs	1995	1957	98.1	0.2	0.4	0.5	0.6	0.0	0.3
	12yrs	1996	1894	94.9	0.7	2.8	1.5	0.4	0.1	0.0
	15yrs	2003	1895	94.6	0.9	3.2	1.0	0.3	0.0	0.0
	35-44yrs	1982	1853	93.5	1.1	2.1	1.4	1.0	1.1	0.2
Male	5yrs	1043	1022	98.0	0.1	0.4	0.2	1.0	0.0	0.4
	12yrs	999	920	92.1	1.2	4.4	2.2	0.6	0.1	0.0
	15yrs	1002	926	92.4	1.4	4.2	1.6	0.4	0.0	0.1
	35-44yrs	960	875	91.1	1.4	2.8	2.0	1.3	1.7	0.1
Female	5yrs	952	935	98.2	0.2	0.4	0.7	0.2	0.0	0.2
	12yrs	997	974	97.7	0.2	1.2	0.7	0.1	0.1	0.0
	15yrs	1001	969	96.8	0.4	2.2	0.5	0.2	0.0	0.0
	35-44yrs	1022	978	95.7	0.9	1.4	0.9	0.5	0.5	0.2
Sinhalese	5yrs	1394	1363	97.8	0.1	0.4	0.6	0.7	0.0	0.4
	12yrs	1399	1325	94.7	0.9	2.6	1.6	0.4	0.1	0.0
	15yrs	1400	1328	94.9	0.9	2.9	1.1	0.3	0.0	0.1
	35-44yrs	1320	1224	92.7	1.2	2.3	1.7	1.1	1.1	0.2
Tamil	5yrs	302	296	99.7	0.3	0.3	0.3	0.7	0.0	0.3
	12yrs	308	295	95.8	0.0	2.6	1.0	0.3	0.3	0.0
	15yrs	302	285	94.4	0.7	3.3	1.3	0.7	0.0	0.0
	35-44yrs	328	304	92.7	0.9	2.1	1.2	1.5	1.8	0.0
Muslim	5yrs	297	296	99.7	0.0	0.3	0.0	0.0	0.0	0.0
	12yrs	287	272	94.8	0.7	3.8	1.4	0.0	0.0	0.0
	15yrs	300	281	93.7	1.0	4.7	0.7	0.0	0.0	0.0
	35-44yrs	333	324	97.3	0.9	0.9	0.6	0.0	0.3	0.0
Urban	5yrs	568	559	98.4	0.2	0.4	0.2	0.4	0.0	0.5
	12yrs	568	536	94.4	0.9	3.9	1.4	0.2	0.0	0.0
	15yrs	571	538	94.2	1.2	3.7	0.9	0.2	0.0	0.2
	35-44yrs	553	506	91.5	1.4	2.2	2.0	1.4	1.3	0.2
Rural	5yrs	1427	1398	98.0	0.1	0.4	0.6	0.7	0.0	0.2
	12yrs	1428	1358	95.1	0.6	2.4	1.5	0.4	0.1	0.0
	15yrs	1432	1357	94.8	0.8	3.0	1.1	0.3	0.0	0.0
	35-44yrs	1429	1347	94.3	1.0	2.0	1.2	0.8	1.0	0.1

Note: Percentages may not tally as some participants had more than one type of trauma

The majority of participants did not have 'any signs of injury'. Accordingly the prevalence of dental trauma for 5, 12, 15 and 35-44-year-old age groups were 1.9%, 5.1%, 5.4% and 6.5% respectively.

3.12.2 Number of teeth affected due to dental trauma

Table 3.36: Distribution of participants according to the type of dental trauma and number of teeth affected

	Age group	N	Treated injury		Enamel fracture only		Enamel & dentine fracture		Pulp involved		Missing tooth due to trauma		Other damage	
			N	Teeth*	N	Teeth*	N	Teeth*	N	Teeth*	N	Teeth*	N	Teeth*
Sri Lanka	5yrs	1995	3	5	8	10	9	15	12	13	0	0	6	8
	12yrs	1996	14	26	56	64	29	46	7	7	2	2	0	0
	15yrs	2003	18	24	64	74	21	23	6	6	0	0	1	4
	35-44yrs	1982	22	27	41	54	28	36	19	21	21	31	3	3
Male	5yrs	1043	1	1	4	6	2	3	10	11	0	0	4	5
	12yrs	999	12	23	44	51	22	37	6	6	1	1	0	0
	15yrs	1002	14	19	42	49	16	18	4	4	0	0	1	4
	35-44yrs	960	13	18	27	37	19	21	14	14	16	23	1	1
Female	5yrs	952	2	4	4	4	7	12	2	2	0	0	2	3
	12yrs	997	2	3	12	13	7	9	1	1	1	1	0	0
	15yrs	1001	4	5	22	25	5	5	2	2	0	0	0	0
	35-44yrs	1022	9	9	14	17	9	14	5	7	5	8	2	2
Sinhalese	5yrs	1394	2	2	6	7	8	14	10	10	0	0	5	7
	12yrs	1399	12	24	37	41	22	37	6	6	1	1	0	0
	15yrs	1400	13	19	40	43	15	17	4	4	0	0	1	4
	35-44yrs	1320	16	21	31	40	22	27	14	14	14	20	3	3
Tamil	5yrs	302	1	3	1	2	1	1	2	3	0	0	1	1
	12yrs	308	0	0	8	9	3	4	1	1	1	1	0	0
	15yrs	302	2	2	10	14	4	4	2	2	0	0	0	0
	35-44yrs	328	3	3	7	10	4	6	5	7	6	7	0	0
Muslim	5yrs	297	0	0	1	1	0	0	0	0	0	0	0	0
	12yrs	287	2	2	11	14	4	5	0	0	0	0	0	0
	15yrs	300	3	3	14	17	2	2	0	0	0	0	0	0
	35-44yrs	333	3	3	3	4	2	2	0	0	1	4	0	0
Urban	5yrs	568	1	1	2	3	1	4	2	3	0	0	3	4
	12yrs	568	5	8	22	24	8	21	1	1	0	0	0	0
	15yrs	571	7	9	21	26	5	5	1	1	0	0	1	4
	35-44yrs	553	8	11	12	15	11	14	8	10	7	10	1	1
Rural	5yrs	1427	2	4	6	7	8	11	10	10	0	0	3	4
	12yrs	1428	9	18	34	40	21	25	6	6	2	2	0	0
	15yrs	1432	11	15	43	48	16	18	5	5	0	0	0	0
	35-44yrs	1429	14	16	29	39	17	21	11	11	14	21	2	2

*Teeth: Number of teeth affected

'Enamel fracture only' was the most common type observed followed up with 'enamel and dentine fracture' in 12, 15 and 35-44-year-old age groups.

3.13 Treatment need for oral diseases

Treatment need was assessed by examiners (dentists) based on their clinical judgment.

Two basic types of treatment were considered.

- Immediate care: a*ny acute dental infection or OPMD/malignancy*
- Routine care: d*ental care needed for any other reasons*

Table 3.37: Percentage distribution of participants according to the need of dental treatment

	Age group	N	Need of dental treatment (%)		
			No treatment needed	Routine care	Immediate care
Sri Lanka	5yrs	1995	37.4	61.8	0.8
	12yrs	1996	36.9	62.6	0.5
	15yrs	2003	33.6	65.6	0.8
	35-44yrs	1982	14.5	84.2	1.3
	65-74yrs	1959	15.1	84.0	0.9
Male	5yrs	1043	35.5	63.7	0.9
	12yrs	999	35.9	63.7	0.4
	15yrs	1002	31.8	67.3	0.9
	35-44yrs	960	14.9	83.1	2.0
	65-74yrs	975	15.0	83.6	1.4
Female	5yrs	952	39.5	59.8	0.7
	12yrs	997	37.8	61.6	0.6
	15yrs	1001	35.4	63.9	0.7
	35-44yrs	1022	14.1	85.2	0.7
	65-74yrs	984	15.1	84.5	0.4
Sinhalese	5yrs	1394	41.8	57.3	0.9
	12yrs	1399	40.0	59.7	0.4
	15yrs	1400	36.4	62.7	0.9
	35-44yrs	1320	16.9	81.9	1.2
	65-74yrs	1295	17.6	81.2	1.2
Tamil	5yrs	302	26.2	73.5	0.3
	12yrs	308	26.9	72.1	1.0
	15yrs	302	27.5	72.2	0.3
	35-44yrs	328	6.7	91.2	2.1
	65-74yrs	329	9.1	90.0	0.9
Muslim	5yrs	297	28.3	70.7	1.0
	12yrs	287	32.4	66.9	0.7
	15yrs	300	26.3	72.7	1.0
	35-44yrs	333	12.3	86.8	0.9
	65-74yrs	331	11.2	88.8	0.0
Urban	5yrs	568	37.5	62.0	0.5
	12yrs	568	38.2	61.1	0.7
	15yrs	571	34.7	64.8	0.5
	35-44yrs	553	12.8	85.4	1.8
	65-74yrs	554	11.6	87.5	0.9
Rural	5yrs	1427	37.4	61.7	0.9
	12yrs	1428	36.3	63.2	0.4
	15yrs	1432	33.2	65.9	0.9
	35-44yrs	1429	15.1	83.8	1.1
	65-74yrs	1405	16.4	82.6	0.9

Over 50% of participants in all age groups needed routine care. The need for treatment increased with increasing age. However, immediate care was needed only for a small percentage of participants.

3.14 Patterns of utilization of dental services

Three indicators were used and assessment was done for four age groups; 12-year-olds, 15-year-olds, 35-44-year-olds and 65-74-year-olds.

3.14.1 Access to the nearest government dental clinic

Government dental clinic was selected as the service is free at the point of delivery.

Question asked: *In your opinion, what is the distance to the nearest government hospital dental clinic from the residence? (School Dental Clinic and Adolescent Dental Clinic were also considered as government dental clinic for 12-year-olds and 15-year-olds)*

Table 3.38: Percentage distribution of participants according to 'access to the nearest government dental clinic'

	Age group	N	Distance to the nearest government dental clinic (%)			
			< 1 km	1-5 km	> 5 km	Do not remember
Sri Lanka	12yrs	1996	32.7	34.6	31.6	1.1
	15yrs	2003	28.7	36.6	33.3	1.4
	35-44yrs	1982	27.1	36.9	34.4	1.6
	65-74yrs	1959	26.5	38.7	33.7	1.0
Male	12yrs	999	34.6	33.2	31.0	1.1
	15yrs	1002	28.9	36.0	33.3	1.7
	35-44yrs	960	26.5	37.7	34.4	1.5
	65-74yrs	975	26.4	39.1	33.8	0.7
Female	12yrs	997	30.8	36.0	32.2	1.0
	15yrs	1001	28.5	37.3	33.2	1.1
	35-44yrs	1022	27.7	36.1	34.4	1.8
	65-74yrs	984	26.7	38.4	33.5	1.3
Sinhalese	12yrs	1399	28.3	34.7	35.5	1.5
	15yrs	1400	24.4	35.6	38.1	1.9
	35-44yrs	1320	24.5	34.8	39.4	1.3
	65-74yrs	1295	25.6	36.1	37.6	0.6
Tamil	12yrs	308	42.5	34.4	23.1	0.0
	15yrs	302	33.8	40.4	25.8	0.0
	35-44yrs	328	22.3	39.0	36.6	2.1
	65-74yrs	329	17.9	44.7	35.0	2.4
Muslim	12yrs	287	43.6	34.1	22.3	0.0
	15yrs	300	43.7	37.3	18.3	0.7
	35-44yrs	333	41.7	43.2	12.6	2.4
	65-74yrs	331	38.7	43.2	16.9	1.2
Urban	12yrs	568	47.2	34.2	16.7	1.9
	15yrs	571	38.0	40.5	19.1	2.5
	35-44yrs	553	36.2	49.9	11.0	2.9
	65-74yrs	554	35.7	51.1	10.8	2.3
Rural	12yrs	1428	27.0	34.8	37.5	0.7
	15yrs	1432	25.0	35.1	38.9	1.0
	35-44yrs	1429	23.6	31.8	43.5	1.1
	65-74yrs	1405	22.9	33.9	42.7	0.5

Combining categories of <1km and 1-5km, more than 50% of participants of all age groups were residing within 5km to the government dental clinic. Among sub-categories, relatively a higher proportion of rural participants were residing more than 5km to the government dental clinic compared to urban participants.

3.14.2 Last visit to a dental clinic

Question asked: *When did you last visit to a dental clinic?*

Table 3.39: Percentage distribution of participants according to the 'last visit to a dental clinic'

	Age group	N	Last visit to a dental clinic (%)			
			Never visited	Within the last year	More than one year ago	Do not remember
Sri Lanka	12yrs	1996	14.7	59.6	22.0	3.8
	15yrs	2003	15.2	31.4	46.6	6.8
	35-44yrs	1982	9.7	30.9	53.9	5.4
	65-74yrs	1959	19.7	18.4	46.9	15.0
Male	12yrs	999	15.5	58.7	22.5	3.3
	15yrs	1002	15.4	27.4	50.2	7.0
	35-44yrs	960	12.1	27.5	54.0	6.5
	65-74yrs	975	21.0	17.7	46.1	15.2
Female	12yrs	997	13.8	60.5	21.5	4.2
	15yrs	1001	15.0	35.4	43.1	6.6
	35-44yrs	1022	7.5	34.1	53.8	4.5
	65-74yrs	984	18.4	19.0	47.8	14.8
Sinhalese	12yrs	1399	8.6	64.1	22.7	4.5
	15yrs	1400	9.8	31.9	51.3	7.1
	35-44yrs	1320	8.0	30.7	55.6	5.8
	65-74yrs	1295	16.8	18.4	49.2	15.6
Tamil	12yrs	308	30.2	49.7	18.2	1.9
	15yrs	302	29.1	31.8	31.8	7.3
	35-44yrs	328	17.4	28.0	48.5	6.1
	65-74yrs	329	33.7	13.7	38.6	14.0
Muslim	12yrs	287	27.5	48.1	22.3	2.1
	15yrs	300	26.3	29.0	39.7	5.0
	35-44yrs	333	9.3	34.8	52.3	3.6
	65-74yrs	331	17.2	23.0	46.5	13.3
Urban	12yrs	568	12.9	62.1	21.7	3.3
	15yrs	571	16.3	35.2	42.7	5.8
	35-44yrs	553	10.8	34.0	49.5	5.6
	65-74yrs	554	21.3	19.9	45.5	13.4
Rural	12yrs	1428	15.4	58.5	22.1	3.9
	15yrs	1432	14.7	29.9	48.2	7.2
	35-44yrs	1429	9.3	29.7	55.6	5.4
	65-74yrs	1405	19.1	17.8	47.5	15.7

In 12-year-olds, a majority had visited a dental clinic within the last year. In the other age groups, the majority had visited a dental clinic over a year ago.

Moreover, approximately 10-20% of participants in all age groups had never visited a dental clinic. Among sub-categories, this proportion was higher among Tamils compared to other two ethnic groups.

3.14.3 Type of dental clinic last visited

Question asked: *What type of dental clinic did you visit last?*

Table 3.40: Percentage distribution of participants according to the 'type of dental clinic last visited'

	Age group	N	Type of dental clinic last visited (%)						
			Never visited	Hospital dental clinic	Private dental clinic	School dental clinic	Mobile dental clinic	Any other	Do not know
Sri Lanka	12yrs	1996	14.9	19.0	4.3	53.4	5.2	0.3	3.0
	15yrs	2003	15.7	22.6	6.5	40.7	8.5	1.3	4.6
	35-44yrs	1982	10.4	52.4	30.7	1.8	0.8	1.2	2.7
	65-74yrs	1959	20.7	47.9	21.6	0.3	0.4	0.3	8.8
Male	12yrs	999	15.8	19.5	4.1	52.2	5.3	0.4	2.7
	15yrs	1002	16.2	22.8	5.2	40.6	8.7	1.0	5.6
	35-44yrs	960	12.7	45.6	33.2	2.0	1.0	1.6	3.9
	65-74yrs	975	22.6	46.4	21.0	0.3	0.5	0.2	9.0
Female	12yrs	997	14.0	18.5	4.4	54.7	5.0	0.2	3.2
	15yrs	1001	15.3	22.5	7.9	40.9	8.3	1.6	3.6
	35-44yrs	1022	8.2	58.8	28.4	1.6	0.6	0.8	1.7
	65-74yrs	984	18.9	49.5	22.2	0.3	0.2	0.3	8.6
Sinhalese	12yrs	1399	8.9	17.6	4.6	60.3	4.6	0.4	3.6
	15yrs	1400	10.4	21.9	6.1	46.7	7.8	1.8	5.3
	35-44yrs	1320	8.6	53.2	31.0	2.2	0.7	1.1	3.3
	65-74yrs	1295	17.7	50.3	21.3	0.4	0.3	0.1	9.9
Tamil	12yrs	308	30.5	23.7	1.3	31.8	12.0	0.0	0.6
	15yrs	302	29.5	27.2	4.3	21.5	14.9	0.3	2.3
	35-44yrs	328	18.0	54.6	22.9	0.3	0.9	1.5	1.8
	65-74yrs	329	34.7	45.3	12.5	0.3	0.6	0.6	6.1
Muslim	12yrs	287	27.5	20.6	5.9	42.9	0.7	0.0	2.4
	15yrs	300	26.7	21.3	11.0	32.0	5.3	0.0	3.7
	35-44yrs	333	10.2	47.4	37.2	1.5	1.2	0.9	1.5
	65-74yrs	331	18.7	41.4	31.4	0.0	0.3	0.6	7.6
Urban	12yrs	568	12.9	18.8	6.5	56.5	2.5	0.0	2.8
	15yrs	571	16.6	24.2	10.3	39.9	5.1	0.4	3.5
	35-44yrs	553	11.4	40.5	42.1	1.6	0.4	0.9	3.1
	65-74yrs	554	22.6	39.5	29.1	0.7	0.4	0.5	7.2
Rural	12yrs	1428	15.8	19.0	3.4	52.2	6.2	0.4	3.0
	15yrs	1432	15.4	22.0	5.0	41.1	9.8	1.7	5.0
	35-44yrs	1429	10.0	57.0	26.3	1.8	1.0	1.3	2.6
	65-74yrs	1405	20.0	51.2	18.6	0.1	0.4	0.1	9.5

The majority of 12-year-olds and 15-year-olds had visited a school dental clinic. This was similar in all sub-categories.

With regards to 35-44-year-olds and 65-47-year-olds, a majority had visited a hospital dental clinic, followed by a private dental clinic. Private dental clinic usage was low among rural participants and Tamils compared to urban participants and other two ethnic groups respectively.

3.14.4 Type of dental treatment received at the last visit

Question asked: *What type of treatment did you receive at the last visit?*

Table 3.41: Percentage distribution of participants according to the 'type of dental treatment received at the last visit'

			Type of dental treatment received at the last visit (%)									
	Age group	N	No treatment	OHI/Advice	Extraction	Temporary filling	Permanent filling	Scaling	Drugs only	Any other	Do not know	Not recorded
Sri Lanka	12yrs	1996	17.7	30.9	12.5	8.4	13.3	13.7	1.3	5.2	3.3	13.5
	15yrs	2003	21.9	20.9	14.9	8.3	13.7	8.9	1.4	4.6	5.3	12.9
	35-44yrs	1982	7.5	7.1	50.4	5.1	17.0	11.1	4.8	4.7	2.5	7.1
	65-74yrs	1959	10.3	4.1	52.2	0.7	3.1	3.3	3.4	7.9	7.5	13.8
Male	12yrs	999	15.8	30.8	12.9	9.8	14.2	14.8	1.2	4.9	3.1	14.2
	15yrs	1002	20.1	20.3	14.4	9.7	14.2	9.0	1.0	4.3	6.3	12.3
	35-44yrs	960	8.5	6.1	49.3	3.9	18.2	11.3	4.6	4.4	3.3	8.3
	65-74yrs	975	11.7	5.0	51.9	0.6	4.0	3.7	3.0	6.5	7.6	14.3
Female	12yrs	997	19.6	31.0	12.0	7.1	12.3	12.6	1.4	5.5	3.4	12.7
	15yrs	1001	23.7	21.5	15.4	6.9	13.1	8.9	1.8	4.9	4.3	13.6
	35-44yrs	1022	6.6	8.1	51.5	6.3	15.9	11.0	5.0	5.0	1.8	5.9
	65-74yrs	984	8.9	3.3	52.6	0.7	2.3	2.8	3.7	9.4	7.3	13.3
Sinhalese	12yrs	1399	19.4	31.8	10.8	10.0	15.8	17.7	1.1	5.6	3.6	7.5
	15yrs	1400	24.1	21.1	10.0	9.2	14.9	9.6	1.9	5.2	6.5	7.4
	35-44yrs	1320	7.3	7.9	46.2	5.8	20.6	11.5	3.9	5.2	3.2	5.8
	65-74yrs	1295	10.2	3.9	53.7	0.8	3.7	2.7	1.7	9.0	8.6	11.2
Tamil	12yrs	308	14.6	27.5	14.1	8.3	8.2	7.5	3.3	5.2	1.9	26.6
	15yrs	302	17.2	19.6	35.8	7.5	14.6	9.1	0.7	3.6	1.7	28.1
	35-44yrs	328	10.4	5.2	58.2	2.4	4.8	7.5	8.3	2.4	1.2	12.2
	65-74yrs	329	14.9	5.4	42.5	0.3	1.2	3.9	4.6	4.3	4.0	23.7
Muslim	12yrs	287	12.9	28.3	19.2	2.8	8.4	3.8	0.3	3.5	2.8	28.6
	15yrs	300	16.3	20.4	22.4	5.3	9.3	6.0	0.0	2.7	3.3	23.3
	35-44yrs	333	5.7	6.6	59.4	5.2	15.6	13.5	4.6	5.1	1.2	6.9
	65-74yrs	331	6.0	3.7	55.9	0.3	2.8	4.6	8.6	7.6	6.6	14.2
Urban	12yrs	568	17.4	32.3	10.8	5.3	12.1	15.0	1.9	6.6	4.0	12.3
	15yrs	571	23.8	16.6	10.3	6.3	14.8	10.7	1.4	6.3	4.7	14.2
	35-44yrs	553	5.4	7.4	45.2	4.7	20.8	10.9	5.6	5.6	2.5	8.7
	65-74yrs	554	9.4	3.4	47.3	0.7	5.6	3.8	2.9	11.0	7.2	15.0
Rural	12yrs	1428	17.8	30.1	13.1	9.5	13.6	13.4	1.1	4.6	2.9	13.9
	15yrs	1432	21.1	22.3	16.5	9.0	13.2	8.5	1.4	3.9	5.5	12.4
	35-44yrs	1429	8.3	7.1	52.2	5.3	15.7	11.2	4.5	4.3	2.5	6.4
	65-74yrs	1405	10.7	4.4	54.1	0.6	2.2	3.0	3.5	6.8	7.5	13.3

Note: Since the possibility of receiving multiple treatments at a single visit, totals might not add up to 100

Compared to other age groups, 12-year-olds and 15-year-olds had mostly received 'oral hygiene instructions (OHI)/advice' while the 35-44-year-olds and 65-74-year-olds had undergone 'extraction of teeth' at their last visit to a dental clinic. Among sub-categories, Sinhalese and urban participants had received more fillings than their respective counterparts. A higher percentage of rural participants had received extractions compared to urban participants.

Chapter 4

Discussion

The aim of this survey was to describe the oral disease patterns, treatment needs, oral health related practices and dental service utilization pattern in Sri Lankans. However, as these results will update the existing oral health databases on the Sri Lankan population, the results could be useful to assess the effectiveness of the oral healthcare services provided over the past years, for planning of oral health services at national, provincial and district levels as well as to compare the oral disease trends.

The survey guideline was based on the WHO Oral Health Survey Basic Methods 5th edition with some modifications to suit the requirements of the country. As a result, besides national figures, sex, ethnic, sector (urban/rural) and district variations of oral health status are also presented for better comparison.

When comparing the results of the present survey with previous oral health surveys, it is evident that there has been a reduction in the overall oral disease burden with an improvement in teeth cleaning habits in the Sri Lankan population. This is further substantiated by the fact that more people had their natural teeth and a reduction in the percentage of edentulousness. Moreover, the majority of the population resides within 5km of a government dental clinic and there has been an improvement in dental service utilization patterns.

Improvements in the awareness of the importance of oral health among the population with the availability of oral healthcare services over the years could be possible reasons for these observations. Further, involvement of multiple stakeholders in public awareness, screening, treatment provision programmes as well as the availability and increased use of fluoridated toothpastes could be major contributory factors.

However, according to the results, it was observed that extraction of tooth was the most common mode of treatment received by 35-44-year-olds and 65-74-year-olds and only a small percentage of the same age groups were wearing dentures despite a high percentage with missing teeth. In addition, over 50% of participants in all age groups needed routine dental care and only a few were in need of emergency dental care. Based on these results, it is reasonable to assume that Sri Lankan adults seek dental care only for emergencies, mostly when there is a need for extractions.

Since the present National Oral Health Survey was the first to assess dietary habits, the findings could be used as a bench mark for comparison of similar results in future surveys. However, when considering alcohol and tobacco usage, the results are consistent with other national studies conducted in Sri Lanka[19]. Low alcohol consumption and smoking habits among Sri Lankan females are known facts. Although the use of areca-nut in packets is an emerging trend among Sri Lankans, a low prevalence was observed in this survey. Under-reporting due to social stigma could be considered as a reason for this finding.

When considering age groups, a majority of 5-year-olds and 12-year-olds and substantial proportion of 15-year-olds had visited a government (school) dental clinic within the past year and most of them had received oral hygiene instructions or advice. However, there was still a considerable proportion of untreated dental disease in these age groups. The prevalence of calculus was nearly 50% and the proportion with active caries out of those who had experienced dental caries was approximately 80%. Compared to previous National Oral Health Surveys this was only a marginal reduction.

In contrast to urban participants, in general, rural participants had a higher oral disease burden, poor oral health practices and also received relatively more extractions over fillings for their oral diseases. Moreover, despite a higher proportion of rural participants residing more than 5km distance to government dental clinics compared to the urban participants, they still utilize public services to obtain dental treatments. Similar pattern was observed in Tamils when compared to other two ethnic groups.

Delayed presentation to the services due to poor awareness about appropriate treatment options, inadequacy of treatment facilities at oral healthcare delivery points that they received dental treatment, poor affordability of services at private dental clinics could be possible reasons for the above observations. However, since the present survey was only providing a snap-shot view of the picture, detailed studies are necessary to make conclusions.

There are a few limitations to this survey. Due to clustering effect and relatively small cluster size (20 from each age group), the error margin for district-based values are comparatively high for some districts where only one cluster was selected. Therefore, district-based results on such districts should be interpreted cautiously.

Enamel fluorosis status of the population may not have been reflected correctly due to its endemic nature as well as the pattern of distribution of the condition is not based on district boundaries. Therefore, district-based results on enamel fluorosis presented in this report should be interpreted carefully. Moreover, even though broad patterns were observed, this survey may not give an accurate estimate of diseases with low prevalence (oral mucosal lesions, root caries, tooth-wear) due to inadequate sample sizes for certain sub-categories. Furthermore, since the assessment of oral health related habit patterns were based on a single interviewer-administered question, there is possibility of recall-bias and/or under-reporting due to social desirability bias affecting this information.

Chapter 5

Conclusions and recommendations

When compared to the previous National Oral Health Surveys, there has been a reduction in the oral disease burden and an improvement in oral health related habits of the Sri Lankan population irrespective of age, sex, ethnic and sector variations. Moreover, there has been an improvement in oral healthcare seeking pattern of the population. It was also noticed that the majority of the population reside within 5km distance to a government dental clinic.

However, some observations need considerable attention. The untreated disease proportion of population appeared to be high and they essentially seek treatments for dental emergencies. When comparing with similar figures of previous National Oral Health Surveys, this was only a marginal reduction. Moreover, rural population and Tamils had higher disease burden and poor oral health practices compared to urban population and other two ethnic groups respectively. Therefore, the above issues should be addressed to improve oral health status of the Sri Lankan population.

Considering the methodology of the survey, refined assessment criteria and sampling methodology are warranted for future surveys to capture detailed district variations of disease burden and related habits.

Chapter 6

District-based results

Table 6.1: Percentage distribution of participants according to the frequency of tooth cleaning

District	Age group	N	Frequency (times/day)				
			None	Once	Twice	More than twice	Not recorded /Missing
Colombo	5yrs	180	0.0	34.4	61.7	3.9	0.0
	12yrs	179	0.0	36.9	60.9	2.2	0.0
	15yrs	180	0.0	42.8	55.6	1.7	0.0
	35-44yrs	178	0.6	21.3	74.7	3.4	0.0
	65-74yrs	176	5.7	28.4	62.5	3.4	0.0
Gampaha	5yrs	180	0.6	36.7	58.3	3.9	0.6
	12yrs	180	0.0	47.2	50.0	2.8	0.0
	15yrs	181	0.0	39.2	58.0	2.8	0.0
	35-44yrs	177	0.0	15.8	80.2	4.0	0.0
	65-74yrs	179	5.6	34.1	55.3	5.0	0.0
Kalutara	5yrs	100	0.0	32.0	65.0	3.0	0.0
	12yrs	100	0.0	44.0	50.0	6.0	0.0
	15yrs	102	0.0	40.2	57.8	2.0	0.0
	35-44yrs	100	1.0	20.0	72.0	7.0	0.0
	65-74yrs	100	4.0	42.0	48.0	6.0	0.0
Kandy	5yrs	140	0.7	39.3	56.4	3.6	0.0
	12yrs	140	0.0	40.7	56.4	2.9	0.0
	15yrs	140	0.0	39.3	59.3	1.4	0.0
	35-44yrs	136	0.0	25.7	73.5	0.7	0.0
	65-74yrs	134	6.7	38.8	49.3	5.2	0.0
Matale	5yrs	40	0.0	45.0	55.0	0.0	0.0
	12yrs	40	0.0	37.5	62.5	0.0	0.0
	15yrs	40	0.0	42.5	57.5	0.0	0.0
	35-44yrs	40	0.0	10.0	90.0	0.0	0.0
	65-74yrs	39	10.3	35.9	51.3	2.6	0.0
Nuwara-Eliya	5yrs	100	0.0	51.0	47.0	2.0	0.0
	12yrs	99	0.0	51.5	46.5	2.0	0.0
	15yrs	100	0.0	42.0	58.0	0.0	0.0
	35-44yrs	99	0.0	31.3	66.7	2.0	0.0
	65-74yrs	98	9.2	50.0	38.8	2.0	0.0
Galle	5yrs	98	0.0	45.9	54.1	0.0	0.0
	12yrs	99	0.0	39.4	60.6	0.0	0.0
	15yrs	100	0.0	39.0	60.0	1.0	0.0
	35-44yrs	99	1.0	16.2	81.8	1.0	0.0
	65-74yrs	100	12.0	36.0	52.0	0.0	0.0
Matara	5yrs	79	0.0	32.9	63.3	3.8	0.0
	12yrs	80	0.0	57.5	42.5	0.0	0.0
	15yrs	80	1.3	51.3	47.5	0.0	0.0
	35-44yrs	79	0.0	27.8	68.4	3.8	0.0
	65-74yrs	79	5.1	29.1	60.8	5.1	0.0
Hambantota	5yrs	60	0.0	31.7	68.3	0.0	0.0
	12yrs	60	0.0	53.3	46.7	0.0	0.0
	15yrs	60	0.0	41.7	58.3	0.0	0.0
	35-44yrs	59	0.0	20.3	79.7	0.0	0.0
	65-74yrs	60	11.7	36.7	50.0	1.7	0.0
Jaffna	5yrs	60	1.7	41.7	56.7	0.0	0.0
	12yrs	60	1.7	76.7	20.0	1.7	0.0
	15yrs	60	0.0	61.7	36.7	1.7	0.0
	35-44yrs	60	0.0	46.7	53.3	0.0	0.0
	65-74yrs	59	3.4	44.1	49.2	3.4	0.0
Kilinochchi	5yrs	20	0.0	30.0	70.0	0.0	0.0
	12yrs	20	0.0	20.0	80.0	0.0	0.0
	15yrs	20	0.0	15.0	85.0	0.0	0.0
	35-44yrs	20	0.0	25.0	60.0	15.0	0.0
	65-74yrs	20	0.0	20.0	75.0	5.0	0.0
Mannar	5yrs	20	0.0	65.0	35.0	0.0	0.0
	12yrs	21	0.0	42.9	52.4	4.8	0.0
	15yrs	20	0.0	45.0	55.0	0.0	0.0
	35-44yrs	20	0.0	30.0	55.0	15.0	0.0
	65-74yrs	20	5.0	25.0	65.0	5.0	0.0
Mullaitivu	5yrs	20	0.0	80.0	20.0	0.0	0.0
	12yrs	20	0.0	75.0	25.0	0.0	0.0
	15yrs	20	0.0	35.0	55.0	10.0	0.0
	35-44yrs	21	0.0	33.3	66.7	0.0	0.0
	65-74yrs	20	5.0	20.0	75.0	0.0	0.0

Table 6.1: Percentage distribution of participants according to the frequency of tooth cleaning (contd.)

District	Age group	N	Frequency (times/day)				
			None	Once	Twice	More than twice	Not recorded /Missing
Vavuniya	5yrs	20	0.0	50.0	45.0	5.0	0.0
	12yrs	20	0.0	55.0	35.0	10.0	0.0
	15yrs	20	0.0	55.0	45.0	0.0	0.0
	35-44yrs	20	0.0	20.0	80.0	0.0	0.0
	65-74yrs	19	10.5	21.1	68.4	0.0	0.0
Batticaloa	5yrs	60	3.3	46.7	46.7	1.7	1.7
	12yrs	60	0.0	43.3	56.7	0.0	0.0
	15yrs	60	0.0	23.3	61.7	15.0	0.0
	35-44yrs	60	0.0	11.7	63.3	25.0	0.0
	65-74yrs	58	0.0	20.7	55.2	24.1	0.0
Ampara	5yrs	100	0.0	33.0	43.0	4.0	20.0
	12yrs	99	0.0	38.4	56.6	5.1	0.0
	15yrs	100	0.0	47.0	50.0	3.0	0.0
	35-44yrs	97	0.0	12.4	66.0	21.6	0.0
	65-74yrs	95	8.4	22.1	53.7	15.8	0.0
Trincomalee	5yrs	40	0.0	50.0	35.0	15.0	0.0
	12yrs	39	0.0	51.3	46.2	2.6	0.0
	15yrs	40	0.0	35.0	65.0	0.0	0.0
	35-44yrs	40	0.0	12.5	65.0	22.5	0.0
	65-74yrs	39	5.1	23.1	48.7	23.1	0.0
Kurunegala	5yrs	160	0.0	35.0	51.3	13.8	0.0
	12yrs	160	0.0	48.1	50.0	1.9	0.0
	15yrs	160	0.0	40.0	59.4	0.6	0.0
	35-44yrs	159	1.3	19.5	73.0	6.3	0.0
	65-74yrs	160	4.4	34.4	55.0	6.3	0.0
Puttalam	5yrs	60	0.0	31.7	46.7	21.7	0.0
	12yrs	60	1.7	48.3	50.0	0.0	0.0
	15yrs	60	0.0	43.3	53.3	3.3	0.0
	35-44yrs	60	0.0	21.7	78.3	0.0	0.0
	65-74yrs	60	1.7	36.7	55.0	6.7	0.0
Anuradhapura	5yrs	100	0.0	53.0	44.0	3.0	0.0
	12yrs	100	0.0	47.0	52.0	1.0	0.0
	15yrs	100	0.0	45.0	54.0	1.0	0.0
	35-44yrs	99	0.0	26.3	72.7	1.0	0.0
	65-74yrs	97	4.1	41.2	50.5	4.1	0.0
Polonnaruwa	5yrs	60	0.0	43.3	50.0	6.7	0.0
	12yrs	60	0.0	53.3	43.3	3.3	0.0
	15yrs	60	0.0	31.7	68.3	0.0	0.0
	35-44yrs	60	0.0	13.3	81.7	5.0	0.0
	65-74yrs	59	3.4	15.3	78.0	3.4	0.0
Badulla	5yrs	78	0.0	42.3	56.4	0.0	1.3
	12yrs	80	0.0	63.8	36.3	0.0	0.0
	15yrs	80	0.0	68.8	31.3	0.0	0.0
	35-44yrs	80	1.3	35.0	57.5	6.3	0.0
	65-74yrs	74	10.8	37.8	51.4	0.0	0.0
Monaragala	5yrs	60	0.0	58.3	41.7	0.0	0.0
	12yrs	60	0.0	70.0	30.0	0.0	0.0
	15yrs	60	0.0	60.0	40.0	0.0	0.0
	35-44yrs	60	0.0	16.7	78.3	5.0	0.0
	65-74yrs	60	11.7	21.7	63.3	3.3	0.0
Ratnapura	5yrs	80	0.0	58.8	38.8	2.5	0.0
	12yrs	80	0.0	46.3	53.8	0.0	0.0
	15yrs	80	0.0	41.3	57.5	1.3	0.0
	35-44yrs	80	0.0	15.0	82.5	2.5	0.0
	65-74yrs	78	0.0	32.1	62.8	5.1	0.0
Kegalle	5yrs	80	0.0	18.8	81.3	0.0	0.0
	12yrs	80	0.0	48.8	51.3	0.0	0.0
	15yrs	80	0.0	27.5	71.3	1.3	0.0
	35-44yrs	79	0.0	16.5	82.3	1.3	0.0
	65-74yrs	76	10.5	38.2	50.0	1.3	0.0

Table 6.2: Percentage distribution of participants according to the mode of tooth cleaning

District	Age group	N	None	Brush	Finger	Other*	Not recorded /Missing
Colombo	5yrs	180	0.0	99.4	0.6	0.0	0.0
	12yrs	179	0.0	98.9	1.1	0.0	0.0
	15yrs	180	0.0	98.9	1.1	0.0	0.0
	35-44yrs	178	0.0	97.8	1.7	0.6	0.0
	65-74yrs	176	2.3	76.7	18.2	2.3	0.6
Gampaha	5yrs	180	0.0	99.4	0.0	0.0	0.6
	12yrs	180	0.0	97.8	2.2	0.0	0.0
	15yrs	181	0.0	99.4	0.6	0.0	0.0
	35-44yrs	177	0.0	97.7	2.3	0.0	0.0
	65-74yrs	179	0.6	78.2	17.3	1.1	2.8
Kalutara	5yrs	100	0.0	99.0	1.0	0.0	0.0
	12yrs	100	0.0	98.0	2.0	0.0	0.0
	15yrs	102	0.0	100.0	0.0	0.0	0.0
	35-44yrs	100	0.0	98.0	1.0	1.0	0.0
	65-74yrs	100	3.0	76.0	16.0	5.0	0.0
Kandy	5yrs	140	0.0	99.3	0.7	0.0	0.0
	12yrs	140	0.0	99.3	0.7	0.0	0.0
	15yrs	140	0.0	100.0	0.0	0.0	0.0
	35-44yrs	136	0.0	100.0	0.0	0.0	0.0
	65-74yrs	134	3.0	74.6	18.7	0.0	3.7
Matale	5yrs	40	0.0	100.0	0.0	0.0	0.0
	12yrs	40	0.0	100.0	0.0	0.0	0.0
	15yrs	40	0.0	100.0	0.0	0.0	0.0
	35-44yrs	40	0.0	100.0	0.0	0.0	0.0
	65-74yrs	39	10.3	64.1	25.6	0.0	0.0
Nuwara-Eliya	5yrs	100	0.0	100.0	0.0	0.0	0.0
	12yrs	99	0.0	100.0	0.0	0.0	0.0
	15yrs	100	0.0	100.0	0.0	0.0	0.0
	35-44yrs	99	0.0	88.9	11.1	0.0	0.0
	65-74yrs	98	1.0	57.1	34.7	0.0	7.1
Galle	5yrs	98	0.0	99.0	1.0	0.0	0.0
	12yrs	99	0.0	100.0	0.0	0.0	0.0
	15yrs	100	0.0	100.0	0.0	0.0	0.0
	35-44yrs	99	0.0	97.0	1.0	1.0	1.0
	65-74yrs	100	4.0	69.0	20.0	4.0	3.0
Matara	5yrs	79	0.0	98.7	1.3	0.0	0.0
	12yrs	80	0.0	100.0	0.0	0.0	0.0
	15yrs	80	0.0	100.0	0.0	0.0	0.0
	35-44yrs	79	0.0	98.7	1.3	0.0	0.0
	65-74yrs	79	3.8	81.0	11.4	2.5	1.3
Hambantota	5yrs	60	0.0	100.0	0.0	0.0	0.0
	12yrs	60	0.0	100.0	0.0	0.0	0.0
	15yrs	60	0.0	100.0	0.0	0.0	0.0
	35-44yrs	59	0.0	100.0	0.0	0.0	0.0
	65-74yrs	60	6.7	56.7	30.0	5.0	1.7
Jaffna	5yrs	60	0.0	81.7	16.7	1.7	0.0
	12yrs	60	0.0	75.0	25.0	0.0	0.0
	15yrs	60	0.0	81.7	18.3	0.0	0.0
	35-44yrs	60	0.0	55.0	43.3	0.0	1.7
	65-74yrs	59	1.7	57.6	40.7	0.0	0.0
Kilinochchi	5yrs	20	0.0	85.0	15.0	0.0	0.0
	12yrs	20	0.0	95.0	5.0	0.0	0.0
	15yrs	20	0.0	100.0	0.0	0.0	0.0
	35-44yrs	20	0.0	100.0	0.0	0.0	0.0
	65-74yrs	20	0.0	65.0	35.0	0.0	0.0
Mannar	5yrs	20	0.0	100.0	0.0	0.0	0.0
	12yrs	21	0.0	85.7	14.3	0.0	0.0
	15yrs	20	0.0	100.0	0.0	0.0	0.0
	35-44yrs	20	0.0	95.0	5.0	0.0	0.0
	65-74yrs	20	5.0	50.0	40.0	5.0	0.0
Mullaitivu	5yrs	20	0.0	85.0	15.0	0.0	0.0
	12yrs	20	0.0	65.0	35.0	0.0	0.0
	15yrs	20	0.0	75.0	25.0	0.0	0.0
	35-44yrs	21	0.0	85.7	9.5	4.8	0.0
	65-74yrs	20	0.0	20.0	75.0	5.0	0.0

Table 6.2: Percentage of distribution of participants according to the mode of tooth cleaning (contd.)

District	Age group	N	None	Brush	Finger	Other*	Not recorded /Missing
Vavuniya	5yrs	20	0.0	100.0	0.0	0.0	0.0
	12yrs	20	0.0	95.0	5.0	0.0	0.0
	15yrs	20	0.0	100.0	0.0	0.0	0.0
	35-44yrs	20	0.0	100.0	0.0	0.0	0.0
	65-74yrs	19	10.5	31.6	57.9	0.0	0.0
Batticaloa	5yrs	60	3.3	83.3	11.7	0.0	1.7
	12yrs	60	0.0	95.0	5.0	0.0	0.0
	15yrs	60	0.0	96.7	3.3	0.0	0.0
	35-44yrs	60	0.0	96.7	1.7	1.7	0.0
	65-74yrs	58	0.0	50.0	43.1	6.9	0.0
Ampara	5yrs	100	0.0	77.0	3.0	0.0	20.0
	12yrs	99	0.0	97.0	3.0	0.0	0.0
	15yrs	100	0.0	100.0	0.0	0.0	0.0
	35-44yrs	97	0.0	97.9	2.1	0.0	0.0
	65-74yrs	95	3.2	70.5	21.1	0.0	2.1
Trincomalee	5yrs	40	0.0	97.5	2.5	0.0	0.0
	12yrs	39	0.0	87.2	12.8	0.0	0.0
	15yrs	40	0.0	87.5	12.5	0.0	0.0
	35-44yrs	40	0.0	97.5	2.5	0.0	0.0
	65-74yrs	39	2.6	61.5	33.3	0.0	2.6
Kurunegala	5yrs	160	0.0	99.4	0.6	0.0	0.0
	12yrs	160	0.0	99.4	0.6	0.0	0.0
	15yrs	160	0.0	99.4	0.0	0.6	0.0
	35-44yrs	159	0.0	96.2	3.1	0.0	0.6
	65-74yrs	160	0.0	78.1	18.1	0.0	1.9
Puttalam	5yrs	60	0.0	100.0	0.0	0.0	0.0
	12yrs	60	0.0	100.0	0.0	0.0	0.0
	15yrs	60	0.0	98.3	1.7	0.0	0.0
	35-44yrs	60	0.0	93.3	6.7	0.0	0.0
	65-74yrs	60	0.0	78.3	21.7	0.0	0.0
Anuradhapura	5yrs	100	0.0	97.0	2.0	1.0	0.0
	12yrs	100	0.0	100.0	0.0	0.0	0.0
	15yrs	100	0.0	99.0	1.0	0.0	0.0
	35-44yrs	99	0.0	97.0	3.0	0.0	0.0
	65-74yrs	97	1.0	74.2	20.6	3.1	1.0
Polonnaruwa	5yrs	60	0.0	100.0	0.0	0.0	0.0
	12yrs	60	0.0	100.0	0.0	0.0	0.0
	15yrs	60	0.0	98.3	1.7	0.0	0.0
	35-44yrs	60	0.0	100.0	0.0	0.0	0.0
	65-74yrs	59	3.4	83.1	13.6	0.0	0.0
Badulla	5yrs	78	0.0	97.4	1.3	0.0	1.3
	12yrs	80	0.0	100.0	0.0	0.0	0.0
	15yrs	80	0.0	98.8	1.3	0.0	0.0
	35-44yrs	80	0.0	96.3	3.8	0.0	0.0
	65-74yrs	74	5.4	68.9	21.6	1.4	2.7
Monaragala	5yrs	60	0.0	96.7	3.3	0.0	0.0
	12yrs	60	0.0	100.0	0.0	0.0	0.0
	15yrs	60	0.0	100.0	0.0	0.0	0.0
	35-44yrs	60	0.0	98.3	1.7	0.0	0.0
	65-74yrs	60	8.3	71.7	16.7	0.0	3.3
Ratnapura	5yrs	80	0.0	100.0	0.0	0.0	0.0
	12yrs	80	0.0	98.8	1.3	0.0	0.0
	15yrs	80	0.0	100.0	0.0	0.0	0.0
	35-44yrs	80	0.0	96.3	3.8	0.0	0.0
	65-74yrs	78	0.0	67.9	32.1	0.0	0.0
Kegalle	5yrs	80	0.0	100.0	0.0	0.0	0.0
	12yrs	80	0.0	100.0	0.0	0.0	0.0
	15yrs	80	0.0	98.8	1.3	0.0	0.0
	35-44yrs	79	0.0	98.7	1.3	0.0	0.0
	65-74yrs	76	7.9	71.1	17.1	3.96	0.0

Table 6.3: Percentage distribution of participants according to the type of ingredients used for tooth cleaning

District	Age group	N	None	Fluoridated toothpaste	Non-fluoridated toothpaste	Tooth powder	Other*	Not recorded /Missing
Colombo	5yrs	180	0.0	77.8	12.8	1.7	7.8	0.0
	12yrs	179	0.0	85.5	11.2	1.1	2.2	0.0
	15yrs	180	0.0	84.4	15.6	0.0	0.0	0.0
	35-44yrs	178	0.6	85.4	12.4	0.6	1.1	0.0
	65-74yrs	176	4.0	67.6	10.2	7.4	8.0	2.8
Gampaha	5yrs	180	0.0	78.3	9.4	1.1	10.6	0.6
	12yrs	180	0.0	71.1	27.2	0.6	1.1	0.0
	15yrs	181	0.0	87.3	12.2	0.0	0.6	0.0
	35-44yrs	177	0.0	86.4	10.7	1.7	1.1	0.0
	65-74yrs	179	6.7	68.7	12.3	5.6	3.4	3.4
Kalutara	5yrs	100	0.0	76.0	12.0	1.0	11.0	0.0
	12yrs	100	0.0	83.0	16.0	0.0	1.0	0.0
	15yrs	102	0.0	76.5	23.5	0.0	0.0	0.0
	35-44yrs	100	0.0	78.0	17.0	1.0	4.0	0.0
	65-74yrs	100	2.0	74.0	8.0	4.0	9.0	3.0
Kandy	5yrs	140	0.0	80.0	14.3	1.4	4.3	0.0
	12yrs	140	0.0	84.3	15.0	0.0	0.7	0.0
	15yrs	140	0.0	86.4	13.6	0.0	0.0	0.0
	35-44yrs	136	0.0	84.6	15.4	0.0	0.0	0.0
	65-74yrs	134	4.5	65.7	9.0	11.9	2.2	6.7
Matale	5yrs	40	0.0	95.0	2.5	0.0	2.5	0.0
	12yrs	40	0.0	80.0	20.0	0.0	0.0	0.0
	15yrs	40	0.0	80.0	20.0	0.0	0.0	0.0
	35-44yrs	40	0.0	80.0	20.0	0.0	0.0	0.0
	65-74yrs	39	5.1	48.7	7.7	10.3	17.9	10.3
Nuwara-Eliya	5yrs	100	0.0	83.0	12.0	0.0	5.0	0.0
	12yrs	99	0.0	84.8	12.1	2.0	1.0	0.0
	15yrs	100	0.0	85.0	14.0	0.0	1.0	0.0
	35-44yrs	99	0.0	73.7	15.2	6.1	5.1	0.0
	65-74yrs	98	6.1	45.9	10.2	26.5	4.1	7.1
Galle	5yrs	98	1.0	69.4	17.3	2.0	10.2	0.0
	12yrs	99	0.0	86.9	13.1	0.0	0.0	0.0
	15yrs	100	0.0	82.0	18.0	0.0	0.0	0.0
	35-44yrs	99	0.0	77.8	19.2	0.0	2.0	1.0
	65-74yrs	100	10.0	55.0	12.0	8.0	8.0	7.0
Matara	5yrs	79	0.0	88.6	3.8	0.0	7.6	0.0
	12yrs	80	0.0	90.0	10.0	0.0	0.0	0.0
	15yrs	80	1.3	88.8	10.0	0.0	0.0	0.0
	35-44yrs	79	0.0	84.8	10.1	0.0	5.1	0.0
	65-74yrs	79	5.1	70.9	10.1	6.3	2.5	5.1
Hambantota	5yrs	60	0.0	78.3	16.7	1.7	3.3	0.0
	12yrs	60	0.0	75.0	25.0	0.0	0.0	0.0
	15yrs	60	0.0	80.0	20.0	0.0	0.0	0.0
	35-44yrs	59	0.0	76.3	22.0	1.7	0.0	0.0
	65-74yrs	60	6.7	55.0	10.0	13.3	6.7	8.3
Jaffna	5yrs	60	0.0	63.3	0.0	35.0	1.7	0.0
	12yrs	60	0.0	66.7	3.3	28.3	0.0	1.7
	15yrs	60	0.0	68.3	5.0	26.7	0.0	0.0
	35-44yrs	60	0.0	46.7	3.3	45.0	3.3	1.7
	65-74yrs	59	1.7	35.6	3.4	54.2	3.4	1.7
Kilinochchi	5yrs	20	0.0	85.0	5.0	10.0	0.0	0.0
	12yrs	20	0.0	100.0	0.0	0.0	0.0	0.0
	15yrs	20	0.0	100.0	0.0	0.0	0.0	0.0
	35-44yrs	20	0.0	85.0	0.0	15.0	0.0	0.0
	65-74yrs	20	0.0	70.0	0.0	30.0	0.0	0.0
Mannar	5yrs	20	0.0	95.0	0.0	5.0	0.0	0.0
	12yrs	21	0.0	90.5	4.8	4.8	0.0	0.0
	15yrs	20	0.0	100.0	0.0	0.0	0.0	0.0
	35-44yrs	20	0.0	95.0	0.0	5.0	0.0	0.0
	65-74yrs	20	0.0	40.0	5.0	50.0	0.0	5.0
Mullaitivu	5yrs	20	0.0	70.0	0.0	30.0	0.0	0.0
	12yrs	20	0.0	75.0	0.0	25.0	0.0	0.0
	15yrs	20	0.0	90.0	5.0	5.0	0.0	0.0
	35-44yrs	21	0.0	81.0	0.0	9.5	9.5	0.0
	65-74yrs	20	15.0	20.0	0.0	55.0	10.0	0.0

Table 6.3: Percentage distribution of participants according to the type of ingredients used for tooth cleaning (contd.)

District	Age group	N	None	Fluoridated toothpaste	Non-fluoridated toothpaste	Tooth powder	Other*	Not recorded /Missing
Vavuniya	5yrs	20	0.0	95.0	0.0	0.0	5.0	0.0
	12yrs	20	0.0	85.0	5.0	5.0	5.0	0.0
	15yrs	20	0.0	90.0	10.0	0.0	0.0	0.0
	35-44yrs	20	0.0	100.0	0.0	0.0	0.0	0.0
	65-74yrs	19	0.0	47.4	0.0	42.1	0.0	10.5
Batticaloa	5yrs	60	1.7	73.3	16.7	3.3	0.0	5.0
	12yrs	60	0.0	95.0	3.3	1.7	0.0	0.0
	15yrs	60	0.0	93.3	6.7	0.0	0.0	0.0
	35-44yrs	60	0.0	88.3	6.7	5.0	0.0	0.0
	65-74yrs	58	10.3	41.4	5.2	41.4	1.7	0.0
Ampara	5yrs	100	0.0	54.0	17.0	7.0	2.0	20.0
	12yrs	99	0.0	74.7	20.2	4.0	1.0	0.0
	15yrs	100	0.0	80.0	19.0	1.0	0.0	0.0
	35-44yrs	97	0.0	75.3	21.6	3.1	0.0	0.0
	65-74yrs	95	5.3	63.2	8.4	14.7	4.2	4.2
Trincomalee	5yrs	40	0.0	85.0	2.5	12.5	0.0	0.0
	12yrs	39	0.0	87.2	0.0	12.8	0.0	0.0
	15yrs	40	0.0	85.0	0.0	15.0	0.0	0.0
	35-44yrs	40	0.0	92.5	2.5	2.5	2.5	0.0
	65-74yrs	39	0.0	59.0	2.6	33.3	0.0	5.1
Kurunegala	5yrs	160	0.0	74.4	8.8	1.3	15.6	0.0
	12yrs	160	0.0	76.3	23.1	0.0	0.6	0.0
	15yrs	160	0.0	80.6	19.4	0.0	0.0	0.0
	35-44yrs	159	0.0	83.6	13.2	0.6	1.9	0.6
	65-74yrs	160	5.0	61.3	15.0	5.6	10.6	2.5
Puttalam	5yrs	60	0.0	85.0	11.7	1.7	1.7	0.0
	12yrs	60	0.0	75.0	18.3	3.3	3.3	0.0
	15yrs	60	0.0	73.3	25.0	0.0	1.7	0.0
	35-44yrs	60	0.0	76.7	21.7	0.0	1.7	0.0
	65-74yrs	60	5.0	56.7	23.3	10.0	5.0	0.0
Anuradhapura	5yrs	100	0.0	75.0	20.0	1.0	4.0	0.0
	12yrs	100	0.0	69.0	31.0	0.0	0.0	0.0
	15yrs	100	0.0	69.0	30.0	1.0	0.0	0.0
	35-44yrs	99	0.0	59.6	37.4	2.0	1.0	0.0
	65-74yrs	97	5.2	49.5	16.5	13.4	13.4	2.1
Polonnaruwa	5yrs	60	1.7	65.0	13.3	3.3	16.7	0.0
	12yrs	60	0.0	70.0	30.0	0.0	0.0	0.0
	15yrs	60	0.0	75.0	25.0	0.0	0.0	0.0
	35-44yrs	60	0.0	61.7	38.3	0.0	0.0	0.0
	65-74yrs	59	1.7	52.5	23.7	13.6	5.1	3.4
Badulla	5yrs	78	0.0	67.9	15.4	2.6	12.8	1.3
	12yrs	80	0.0	76.3	22.5	1.3	0.0	0.0
	15yrs	80	0.0	90.0	10.0	0.0	0.0	0.0
	35-44yrs	80	1.3	86.3	8.8	1.3	2.5	0.0
	65-74yrs	74	8.1	47.3	14.9	10.8	10.8	8.1
Monaragala	5yrs	60	0.0	81.7	15.0	0.0	0.0	3.3
	12yrs	60	1.7	80.0	18.3	0.0	0.0	0.0
	15yrs	60	0.0	81.7	18.3	0.0	0.0	0.0
	35-44yrs	60	0.0	85.0	11.7	3.3	0.0	0.0
	65-74yrs	60	1.7	71.7	6.7	1.7	6.7	11.7
Ratnapura	5yrs	80	0.0	73.8	7.5	1.3	17.5	0.0
	12yrs	80	0.0	78.8	20.0	0.0	1.3	0.0
	15yrs	80	0.0	75.0	25.0	0.0	0.0	0.0
	35-44yrs	80	0.0	71.3	23.8	3.8	1.3	0.0
	65-74yrs	78	10.3	51.3	15.4	16.7	6.4	0.0
Kegalle	5yrs	80	6.3	62.5	3.8	1.3	26.3	0.0
	12yrs	80	0.0	87.5	11.3	0.0	1.3	0.0
	15yrs	80	1.3	77.5	21.3	0.0	0.0	0.0
	35-44yrs	79	0.0	81.0	16.5	2.5	0.0	0.0
	65-74yrs	76	3.9	67.1	6.6	11.8	2.6	7.9

Table 6.4: Distribution of participants according to the mean and the total number of teeth

District	Age group	N	Mean number of teeth			Percentage of participants with			
			Deciduous	Permanent	Total teeth	>20 teeth	11-20 teeth	1-10 teeth	No teeth (edentulous)
Colombo	5yrs	180	19.3	1.7	21.0	44.4	55.0	0.6	0.0
	12yrs	179	0.4	26.8	27.2	100.0	0.0	0.0	0.0
	15yrs	180	0.0	28.0	28.0	100.0	0.0	0.0	0.0
	35-44yrs	178	0.0	27.1	27.1	93.8	5.6	0.6	0.0
	65-74yrs	176	0.0	14.9	14.9	32.4	35.8	23.3	8.5
Gampaha	5yrs	180	19.0	2.3	21.4	51.7	48.3	0.0	0.0
	12yrs	180	0.7	26.1	26.8	99.4	0.6	0.0	0.0
	15yrs	181	0.0	27.9	27.9	100.0	0.0	0.0	0.0
	35-44yrs	177	0.0	26.8	26.8	94.4	5.6	0.0	0.0
	65-74yrs	179	0.0	14.1	14.1	29.1	34.1	22.9	14.0
Kalutara	5yrs	100	19.4	1.6	21.0	39.0	61.0	0.0	0.0
	12yrs	100	0.4	26.7	27.2	99.0	1.0	0.0	0.0
	15yrs	102	0.1	27.9	28.0	100.0	0.0	0.0	0.0
	35-44yrs	100	0.0	26.4	26.4	91.0	9.0	0.0	0.0
	65-74yrs	100	0.0	13.5	13.5	26.0	32.0	35.0	7.0
Kandy	5yrs	140	19.6	1.2	20.8	32.9	67.1	0.0	0.0
	12yrs	140	1.1	25.5	26.6	98.6	1.4	0.0	0.0
	15yrs	140	0.0	28.1	28.1	100.0	0.0	0.0	0.0
	35-44yrs	136	0.0	27.4	27.4	91.2	7.4	1.5	0.0
	65-74yrs	134	0.0	14.7	14.7	37.3	21.6	26.9	14.2
Matale	5yrs	40	19.3	1.6	20.9	35.0	65.0	0.0	0.0
	12yrs	40	1.8	24.5	26.4	100.0	0.0	0.0	0.0
	15yrs	40	0.0	28.0	28.0	100.0	0.0	0.0	0.0
	35-44yrs	40	0.0	28.0	28.0	100.0	0.0	0.0	0.0
	65-74yrs	39	0.0	15.3	15.3	33.3	33.3	25.6	7.7
Nuwara-Eliya	5yrs	100	19.8	0.9	20.7	26.0	74.0	0.0	0.0
	12yrs	99	1.8	24.4	26.2	100.0	0.0	0.0	0.0
	15yrs	100	0.0	28.0	28.0	100.0	0.0	0.0	0.0
	35-44yrs	99	0.0	27.5	27.5	96.0	4.0	0.0	0.0
	65-74yrs	98	0.0	13.7	13.7	33.7	25.5	25.5	15.3
Galle	5yrs	98	19.3	1.6	20.9	37.8	62.2	0.0	0.0
	12yrs	99	0.4	26.7	27.1	100.0	0.0	0.0	0.0
	15yrs	100	0.0	27.8	27.9	100.0	0.0	0.0	0.0
	35-44yrs	99	0.0	26.2	26.2	89.9	9.1	1.0	0.0
	65-74yrs	100	0.0	12.5	12.5	27.0	29.0	27.0	17.0
Matara	5yrs	79	19.4	1.5	20.9	34.2	65.8	0.0	0.0
	12yrs	80	0.4	26.8	27.2	100.0	0.0	0.0	0.0
	15yrs	80	0.0	27.9	27.9	100.0	0.0	0.0	0.0
	35-44yrs	79	0.0	27.3	27.3	89.9	10.1	0.0	0.0
	65-74yrs	79	0.0	16.9	16.9	48.1	19.0	20.3	12.7
Hambantota	5yrs	60	19.5	1.3	20.8	30.0	70.0	0.0	0.0
	12yrs	60	0.5	26.6	27.1	100.0	0.0	0.0	0.0
	15yrs	60	0.0	28.0	28.1	100.0	0.0	0.0	0.0
	35-44yrs	59	0.0	29.0	29.0	98.3	1.7	0.0	0.0
	65-74yrs	60	0.0	17.6	17.6	51.7	18.3	16.7	13.3
Jaffna	5yrs	60	19.7	1.3	20.9	30.0	70.0	0.0	0.0
	12yrs	60	0.6	26.2	26.8	98.3	1.7	0.0	0.0
	15yrs	60	0.1	27.6	27.7	98.3	0.0	1.7	0.0
	35-44yrs	60	0.0	28.8	28.8	96.7	3.3	0.0	0.0
	65-74yrs	59	0.0	20.1	20.1	57.6	23.7	11.9	6.8
Kilinochchi	5yrs	20	19.6	1.4	21.0	25.0	75.0	0.0	0.0
	12yrs	20	0.3	26.8	27.1	100.0	0.0	0.0	0.0
	15yrs	20	0.0	27.7	27.7	100.0	0.0	0.0	0.0
	35-44yrs	20	0.0	28.7	28.7	100.0	0.0	0.0	0.0
	65-74yrs	20	0.0	19.1	19.1	50.0	30.0	20.0	0.0
Mannar	5yrs	20	19.7	1.9	21.6	75.0	25.0	0.0	0.0
	12yrs	21	0.7	25.7	26.3	100.0	0.0	0.0	0.0
	15yrs	20	0.0	28.2	28.2	100.0	0.0	0.0	0.0
	35-44yrs	20	0.1	28.7	28.7	100.0	0.0	0.0	0.0
	65-74yrs	20	0.0	18.8	18.8	50.0	30.0	15.0	5.0
Mullaitivu	5yrs	20	20.0	0.0	20.0	0.0	100.0	0.0	0.0
	12yrs	20	0.5	26.9	27.4	100.0	0.0	0.0	0.0
	15yrs	20	0.0	28.0	28.0	100.0	0.0	0.0	0.0
	35-44yrs	21	0.0	29.2	29.2	100.0	0.0	0.0	0.0
	65-74yrs	20	0.0	13.3	13.3	30.0	25.0	30.0	15.0

Table 6.4 : Distribution of participants according to the mean and the total number of teeth (contd.)

District	Age group	N	Mean number of teeth			Percentage of participants with			
			Deciduous	Permanent	Total teeth	>20 teeth	11-20 teeth	1-10 teeth	No teeth (edentulous)
Vavuniya	5yrs	20	19.9	0.5	20.4	20.0	80.0	0.0	0.0
	12yrs	20	0.6	26.3	26.9	100.0	0.0	0.0	0.0
	15yrs	20	0.1	27.9	27.9	100.0	0.0	0.0	0.0
	35-44yrs	20	0.0	26.5	26.5	80.0	15.0	5.0	0.0
	65-74yrs	19	0.0	20.9	20.9	63.2	15.8	10.5	10.5
Batticaloa	5yrs	60	19.2	2.4	21.6	50.0	50.0	0.0	0.0
	12yrs	60	0.5	26.5	27.0	100.0	0.0	0.0	0.0
	15yrs	60	0.0	27.7	27.7	100.0	0.0	0.0	0.0
	35-44yrs	60	0.0	24.5	24.5	81.7	16.7	1.7	0.0
	65-74yrs	58	0.0	14.4	14.4	32.8	22.4	39.7	5.2
Ampara	5yrs	100	19.0	2.5	21.5	53.0	47.0	0.0	0.0
	12yrs	99	1.0	25.1	26.1	99.0	1.0	0.0	0.0
	15yrs	100	0.0	28.1	28.1	100.0	0.0	0.0	0.0
	35-44yrs	97	0.0	28.2	28.2	99.0	1.0	0.0	0.0
	65-74yrs	95	0.0	13.4	13.4	32.6	23.2	31.6	12.6
Trincomalee	5yrs	40	19.4	2.6	22.0	57.5	42.5	0.0	0.0
	12yrs	39	1.2	25.0	26.3	100.0	0.0	0.0	0.0
	15yrs	40	0.0	27.9	27.9	100.0	0.0	0.0	0.0
	35-44yrs	40	0.0	27.1	27.1	87.5	12.5	0.0	0.0
	65-74yrs	39	0.0	15.0	15.0	33.3	41.0	23.1	2.6
Kurunegala	5yrs	160	19.6	1.4	20.9	33.8	66.3	0.0	0.0
	12yrs	160	0.7	25.7	26.4	98.8	1.3	0.0	0.0
	15yrs	160	0.0	28.0	28.0	100.0	0.0	0.0	0.0
	35-44yrs	159	0.0	28.1	28.2	97.5	2.5	0.0	0.0
	65-74yrs	160	0.0	16.9	16.9	40.6	29.4	23.1	6.9
Puttalam	5yrs	60	19.3	1.8	21.1	41.7	58.3	0.0	0.0
	12yrs	60	0.4	26.2	26.6	96.7	3.3	0.0	0.0
	15yrs	60	0.0	28.0	28.0	100.0	0.0	0.0	0.0
	35-44yrs	60	0.0	27.1	27.1	96.7	3.3	0.0	0.0
	65-74yrs	60	0.0	16.1	16.1	33.3	35.0	26.7	5.0
Anuradhapura	5yrs	100	19.5	1.7	21.1	41.0	59.0	0.0	0.0
	12yrs	100	0.5	26.6	27.1	100.0	0.0	0.0	0.0
	15yrs	100	0.0	28.0	28.0	100.0	0.0	0.0	0.0
	35-44yrs	99	0.0	29.1	29.1	98.0	2.0	0.0	0.0
	65-74yrs	97	0.0	15.8	15.8	41.2	20.6	26.8	11.3
Polonnaruwa	5yrs	60	19.7	0.9	20.6	23.3	76.7	0.0	0.0
	12yrs	60	0.8	26.4	27.2	100.0	0.0	0.0	0.0
	15yrs	60	0.0	28.0	28.0	100.0	0.0	0.0	0.0
	35-44yrs	60	0.0	28.6	28.6	98.3	1.7	0.0	0.0
	65-74yrs	59	0.0	18.1	18.1	44.1	33.9	15.3	6.8
Badulla	5yrs	78	19.1	2.3	21.4	46.2	53.8	0.0	0.0
	12yrs	80	0.7	26.2	26.9	100.0	0.0	0.0	0.0
	15yrs	80	0.0	27.9	27.9	100.0	0.0	0.0	0.0
	35-44yrs	80	0.0	27.5	27.5	95.0	5.0	0.0	0.0
	65-74yrs	74	0.0	13.5	13.5	33.8	17.6	27.0	21.6
Monaragala	5yrs	60	19.3	1.7	21.0	38.3	61.7	0.0	0.0
	12yrs	60	0.4	26.4	26.7	98.3	1.7	0.0	0.0
	15yrs	60	0.1	27.9	28.0	100.0	0.0	0.0	0.0
	35-44yrs	60	0.0	27.0	27.0	91.7	6.7	0.0	0.0
	65-74yrs	60	0.0	16.9	16.9	55.0	6.7	18.3	20.0
Ratnapura	5yrs	80	19.2	2.2	21.4	50.0	50.0	0.0	0.0
	12yrs	80	1.1	25.4	26.5	100.0	0.0	0.0	0.0
	15yrs	80	0.1	27.9	28.0	100.0	0.0	0.0	0.0
	35-44yrs	80	0.0	27.2	27.2	91.3	8.8	0.0	0.0
	65-74yrs	78	0.0	15.6	15.6	38.5	28.2	19.2	14.1
Kegalle	5yrs	80	19.6	1.2	20.8	32.5	67.5	0.0	0.0
	12yrs	80	0.5	26.5	27.1	100.0	0.0	0.0	0.0
	15yrs	80	0.0	28.0	28.0	100.0	0.0	0.0	0.0
	35-44yrs	79	0.0	27.8	27.8	98.7	1.3	0.0	0.0
	65-74yrs	76	0.0	14.2	14.2	30.3	30.3	28.9	10.5

Table 6.5: Percentage distribution of participants according to the prevalence of dental caries

District	Age group	N		Caries	Active caries	Missing teeth	Filled teeth	Root caries
Colombo	5yrs	180	Deci*	60.0	57.2	3.9	13.3	-
			Perm**	6.7	6.7	0.0	0.0	-
	12yrs	179		32.4	25.7	4.5	11.7	-
	15yrs	180		36.1	26.1	4.4	16.1	0.6
	35-44yrs	178		93.8	68.0	84.8	34.3	5.6
	65-74yrs	176		99.4	48.9	98.9	11.9	9.7
Gampaha	5yrs	180	Deci*	64.4	62.2	6.1	10.6	-
			Perm**	2.2	2.2	0.0	0.0	-
	12yrs	180		34.4	27.8	3.3	10.6	-
	15yrs	181		44.8	37.6	7.7	12.7	1.1
	35-44yrs	177		95.5	67.8	91.5	20.9	2.8
	65-74yrs	179		100.0	59.2	100.0	5.6	8.4
Kalutara	5yrs	100	Deci*	53.0	50.0	3.0	23.0	-
			Perm**	1.0	1.0	0.0	0.0	-
	12yrs	100		44.0	35.0	5.0	17.0	-
	15yrs	102		51.0	48.0	10.8	12.7	0.0
	35-44yrs	100		97.0	68.0	93.0	29.0	0.0
	65-74yrs	100		100.0	56.0	99.0	4.0	12.0
Kandy	5yrs	140	Deci*	65.0	65.0	0.0	8.6	-
			Perm**	0.0	0.0	0.0	0.0	-
	12yrs	140		35.0	30.0	3.6	10.7	-
	15yrs	140		49.3	41.4	4.3	12.9	0.0
	35-44yrs	136		94.9	58.1	80.9	34.6	4.4
	65-74yrs	134		99.3	42.5	98.5	9.7	9.0
Matale	5yrs	40	Deci*	70.0	65.0	5.0	22.5	-
			Perm**	5.0	5.0	0.0	0.0	-
	12yrs	40		27.5	22.5	0.0	7.5	-
	15yrs	40		32.5	27.5	5.0	15.0	0.0
	35-44yrs	40		95.0	67.5	82.5	42.5	2.5
	65-74yrs	39		97.4	69.2	97.4	2.6	0.0
Nuwara-Eliya	5yrs	100	Deci*	70.0	67.0	3.0	6.0	-
			Perm**	1.0	1.0	0.0	0.0	-
	12yrs	99		27.3	25.3	0.0	3.0	-
	15yrs	100		47.0	42.0	3.0	9.0	0.0
	35-44yrs	99		94.9	75.8	83.8	14.1	2.0
	65-74yrs	98		100.0	57.1	100.0	3.1	3.1
Galle	5yrs	98	Deci*	63.3	62.2	9.2	8.2	-
			Perm**	1.0	1.0	0.0	0.0	-
	12yrs	99		32.3	21.2	5.1	13.1	-
	15yrs	100		44.0	41.0	10.0	6.0	0.0
	35-44yrs	99		93.9	63.6	86.9	26.3	3.0
	65-74yrs	100		99.0	48.0	99.0	5.0	15.0
Matara	5yrs	79	Deci*	74.7	72.2	2.5	10.1	-
			Perm**	1.3	1.3	0.0	0.0	-
	12yrs	80		40.0	27.5	3.8	21.3	-
	15yrs	80		53.8	45.0	10.0	16.3	0.0
	35-44yrs	79		89.9	68.4	82.3	32.9	5.1
	65-74yrs	79		97.5	59.5	93.7	0.0	12.7
Hambantota	5yrs	60	Deci*	60.0	56.7	5.0	11.7	-
			Perm**	0.0	0.0	0.0	0.0	-
	12yrs	60		20.0	15.0	3.3	1.7	-
	15yrs	60		31.7	30.0	1.7	1.7	0.0
	35-44yrs	59		86.4	55.9	72.9	25.4	3.4
	65-74yrs	60		96.7	35.0	96.7	1.7	8.3
Jaffna	5yrs	60	Deci*	73.3	73.3	1.7	0.0	-
			Perm**	0.0	0.0	0.0	0.0	-
	12yrs	60		28.3	25.0	0.0	3.3	-
	15yrs	60		48.3	41.7	5.0	6.7	0.0
	35-44yrs	60		90.0	70.0	75.0	1.7	1.7
	65-74yrs	59		98.3	64.4	93.2	3.4	16.9
Kilinochchi	5yrs	20	Deci*	55.0	55.0	0.0	10.0	-
			Perm**	0.0	0.0	0.0	0.0	-
	12yrs	20		15.0	15.0	0.0	0.0	-
	15yrs	20		40.0	40.0	20.0	0.0	0.0
	35-44yrs	20		95.0	55.0	85.0	15.0	10.0
	65-74yrs	20		95.0	50.0	95.0	0.0	20.0
Mannar	5yrs	20	Deci*	85.0	85.0	0.0	0.0	-
			Perm**	0.0	0.0	0.0	0.0	-
	12yrs	21		9.5	9.5	9.5	0.0	-
	15yrs	20		25.0	25.0	0.0	0.0	0.0
	35-44yrs	20		85.0	70.0	80.0	5.0	0.0
	65-74yrs	20		100.0	75.0	100.0	0.0	10.0
Mullaitivu	5yrs	20	Deci*	25.0	25.0	0.0	0.0	-
			Perm**	0.0	0.0	0.0	0.0	-
	12yrs	20		25.0	20.0	5.0	5.0	-
	15yrs	20		0.0	0.0	0.0	0.0	0.0
	35-44yrs	21		90.5	66.7	71.4	9.5	0.0
	65-74yrs	20		95.0	40.0	95.0	0.0	5.0

*Deci: Deciduous teeth; **Perm: Permanent teeth

Table 6.5: Percentage distribution of participants according to the prevalence of dental caries (contd.)

District	Age group	N		Caries	Active caries	Missing teeth	Filled teeth	Root caries
Vavuniya	5yrs	20	Deci*	55.0	55.0	0.0	10.0	-
			Perm**	0.0	0.0	0.0	0.0	-
	12yrs	20		20.0	20.0	0.0	0.0	-
	15yrs	20		30.0	20.0	10.0	5.0	0.0
	35-44yrs	20		85.0	45.0	80.0	0.0	0.0
	65-74yrs	19		94.7	36.8	94.7	5.3	0.0
Batticaloa	5yrs	60	Deci*	70.0	68.3	6.7	5.0	-
			Perm**	0.0	0.0	0.0	0.0	-
	12yrs	60		31.7	26.7	10.0	3.3	-
	15yrs	60		71.7	60.0	25.0	1.7	0.0
	35-44yrs	60		90.0	60.0	90.0	3.3	1.7
	65-74yrs	58		100.0	69.0	100.0	0.0	5.2
Ampara	5yrs	100	Deci*	71.0	70.0	9.0	7.0	-
			Perm**	1.0	1.0	0.0	0.0	-
	12yrs	99		29.3	24.2	5.1	4.0	-
	15yrs	100		43.0	36.0	14.0	5.0	0.0
	35-44yrs	97		92.8	58.8	80.4	17.5	3.1
	65-74yrs	95		100.0	38.9	100.0	2.1	3.2
Trincomalee	5yrs	40	Deci*	77.5	75.0	2.5	2.5	-
			Perm**	0.0	0.0	0.0	0.0	-
	12yrs	39		23.1	15.4	10.3	2.6	-
	15yrs	40		40.0	35.0	17.5	5.0	0.0
	35-44yrs	40		95.0	57.5	87.5	20.0	7.5
	65-74yrs	39		100.0	53.8	100.0	0.0	0.0
Kurunegala	5yrs	160	Deci*	60.6	57.5	3.8	15.6	-
			Perm**	0.6	0.6	0.0	0.0	-
	12yrs	160		37.5	26.3	3.1	15.0	-
	15yrs	160		42.5	34.4	6.3	10.6	0.0
	35-44yrs	159		88.7	51.6	78.6	28.9	1.9
	65-74yrs	160		95.0	54.4	93.1	8.8	8.1
Puttalam	5yrs	60	Deci*	61.7	61.7	3.3	6.7	-
			Perm**	5.0	5.0	0.0	0.0	-
	12yrs	60		31.7	26.7	1.7	6.7	-
	15yrs	60		40.0	33.3	8.3	8.3	0.0
	35-44yrs	60		96.7	65.0	90.0	35.0	0.0
	65-74yrs	60		98.3	55.0	98.3	6.7	0.0
Anuradhapura	5yrs	100	Deci*	53.0	53.0	1.0	6.0	-
			Perm**	0.0	0.0	0.0	0.0	-
	12yrs	100		16.0	15.0	2.0	2.0	-
	15yrs	100		27.0	25.0	2.0	3.0	0.0
	35-44yrs	99		84.8	65.7	62.6	24.2	7.1
	65-74yrs	97		96.9	44.3	96.9	3.1	8.2
Polonnaruwa	5yrs	60	Deci*	48.3	41.7	1.7	18.3	-
			Perm**	1.7	1.7	0.0	0.0	-
	12yrs	60		28.3	23.3	1.7	6.7	-
	15yrs	60		26.7	25.0	3.3	1.7	0.0
	35-44yrs	60		93.3	51.7	83.3	35.0	0.0
	65-74yrs	59		100.0	44.1	98.3	0.0	3.4
Badulla	5yrs	78	Deci*	70.5	64.1	0.0	20.5	-
			Perm**	0.0	0.0	0.0	0.0	-
	12yrs	80		28.8	23.8	2.5	6.3	-
	15yrs	80		35.0	26.3	7.5	11.3	0.0
	35-44yrs	80		97.5	72.5	81.3	16.3	2.5
	65-74yrs	74		98.6	48.6	97.3	5.4	2.7
Monaragala	5yrs	60	Deci*	66.7	61.7	1.7	21.7	-
			Perm**	0.0	0.0	0.0	0.0	-
	12yrs	60		35.0	25.0	1.7	11.7	-
	15yrs	60		45.0	41.7	6.7	8.3	0.0
	35-44yrs	60		90.0	61.7	83.3	11.7	3.3
	65-74yrs	60		91.7	50.0	88.3	0.0	0.0
Ratnapura	5yrs	80	Deci*	61.3	60.0	2.5	11.3	-
			Perm**	1.3	1.3	0.0	0.0	-
	12yrs	80		21.3	20.0	2.5	1.3	-
	15yrs	80		27.5	25.0	7.5	1.3	0.0
	35-44yrs	80		88.8	66.3	76.3	10.0	5.0
	65-74yrs	78		94.9	43.6	94.9	5.1	12.8
Kegalle	5yrs	80	Deci*	53.8	48.8	3.8	17.5	-
			Perm**	1.3	1.3	0.0	0.0	-
	12yrs	80		23.8	16.3	0.0	12.5	-
	15yrs	80		46.3	36.3	7.5	13.8	0.0
	35-44yrs	79		93.7	67.1	81.0	30.4	0.0
	65-74yrs	76		100.0	47.4	100.0	2.6	1.3

*Deci: Deciduous teeth; **Perm: Permanent teeth

Table 6.6: Distribution of participants according to the severity of dental caries

District	Age group	N		Total teeth $\bar{x}$	Mean number of teeth with							
					DT	MT	FT	DMFT	Root exposed	R-DT	R-FT	R-DFT
Colombo	5yrs	180	Deci*	19.3	2.7	0.1	0.3	3.0	-	-	-	-
			Perm**	1.7	0.1	0.0	0.0	0.1	-	-	-	-
	12yrs	179		26.8	0.6	0.1	0.2	0.8	-	-	-	-
	15yrs	180		28.0	0.6	0.1	0.3	1.0	0.0	0.0	0.0	0.0
	35-44yrs	178		27.1	2.1	4.3	0.8	7.1	5.2	0.2	0.0	0.2
	65-74yrs	176		14.9	1.3	16.8	0.3	18.3	7.7	0.2	0.0	0.2
Gampaha	5yrs	180	Deci*	19.0	3.2	0.1	0.2	3.4	-	-	-	-
			Perm**	2.3	0.0	0.0	0.0	0.0	-	-	-	-
	12yrs	180		26.1	0.5	0.0	0.2	0.7	-	-	-	-
	15yrs	181		27.9	0.7	0.1	0.2	1.1	0.1	0.0	0.0	0.0
	35-44yrs	177		26.8	2.3	4.6	0.5	7.4	6.1	0.0	0.0	0.0
	65-74yrs	179		14.1	2.0	17.4	0.1	19.6	8.6	0.2	0.0	0.2
Kalutara	5yrs	100	Deci*	19.4	2.1	0.1	0.5	2.7	-	-	-	-
			Perm**	1.6	0.0	0.0	0.0	0.0	-	-	-	-
	12yrs	100		26.7	0.7	0.1	0.3	1.0	-	-	-	-
	15yrs	102		27.9	1.3	0.1	0.1	1.6	0.2	0.0	0.0	0.0
	35-44yrs	100		26.4	2.0	5.1	0.6	7.7	5.8	0.0	0.0	0.0
	65-74yrs	100		13.5	2.3	18.4	0.0	20.7	8.6	0.3	0.0	0.3
Kandy	5yrs	140	Deci*	19.6	3.4	0.0	0.1	3.5	-	-	-	-
			Perm**	1.2	0.0	0.0	0.0	0.0	-	-	-	-
	12yrs	140		25.5	0.6	0.0	0.2	0.8	-	-	-	-
	15yrs	140		28.1	0.9	0.1	0.2	1.2	0.2	0.0	0.0	0.0
	35-44yrs	136		27.4	1.7	4.0	0.8	6.5	1.7	0.1	0.0	0.1
	65-74yrs	134		14.7	1.9	17.1	0.2	19.2	5.3	0.2	0.0	0.2
Matale	5yrs	40	Deci*	19.3	2.3	0.2	0.4	2.9	-	-	-	-
			Perm**	1.6	0.1	0.0	0.0	0.1	-	-	-	-
	12yrs	40		24.5	0.3	0.0	0.1	0.4	-	-	-	-
	15yrs	40		28.0	0.5	0.1	0.2	0.8	0.0	0.0	0.0	0.0
	35-44yrs	40		28.0	2.3	3.7	0.8	6.8	1.0	0.0	0.0	0.0
	65-74yrs	39		15.3	3.3	16.6	0.0	19.9	2.6	0.0	0.0	0.0
Nuwara-Eliya	5yrs	100	Deci*	19.8	2.5	0.0	0.1	2.6	-	-	-	-
			Perm**	0.9	0.0	0.0	0.0	0.0	-	-	-	-
	12yrs	99		24.4	0.4	0.0	0.0	0.5	-	-	-	-
	15yrs	100		28.0	0.8	0.0	0.1	1.0	0.1	0.0	0.0	0.0
	35-44yrs	99		27.5	2.8	4.1	0.3	7.1	0.3	0.0	0.0	0.0
	65-74yrs	98		13.7	2.1	18.1	0.1	20.3	2.2	0.0	0.0	0.0
Galle	5yrs	98	Deci*	19.3	3.3	0.2	0.2	3.7	-	-	-	-
			Perm**	1.6	0.0	0.0	0.0	0.0	-	-	-	-
	12yrs	99		26.7	0.3	0.1	0.2	0.5	-	-	-	-
	15yrs	100		27.8	0.8	0.2	0.1	1.1	0.1	0.0	0.0	0.0
	35-44yrs	99		26.2	1.5	5.0	0.7	7.2	8.2	0.1	0.0	0.1
	65-74yrs	100		12.5	1.5	19.2	0.2	20.8	8.1	0.3	0.0	0.3
Matara	5yrs	79	Deci*	19.4	3.1	0.1	0.2	3.3	-	-	-	-
			Perm**	1.5	0.0	0.0	0.0	0.0	-	-	-	-
	12yrs	80		26.8	0.5	0.1	0.3	0.8	-	-	-	-
	15yrs	80		27.9	1.0	0.2	0.2	1.4	0.1	0.0	0.0	0.0
	35-44yrs	79		27.3	1.9	4.0	0.6	6.5	9.5	0.1	0.0	0.1
	65-74yrs	79		16.9	2.1	14.9	0.0	16.9	13.3	0.3	0.0	0.3
Hambantota	5yrs	60	Deci*	19.5	1.9	0.1	0.3	2.2	-	-	-	-
			Perm**	1.3	0.0	0.0	0.0	0.0	-	-	-	-
	12yrs	60		26.6	0.3	0.0	0.0	0.4	-	-	-	-
	15yrs	60		28.0	0.6	0.0	0.0	0.7	0.1	0.0	0.0	0.0
	35-44yrs	59		29.0	1.2	2.5	0.5	4.2	11.3	0.1	0.0	0.1
	65-74yrs	60		17.6	0.7	14.3	0.0	15.0	13.6	0.2	0.0	0.2
Jaffna	5yrs	60	Deci*	19.7	3.3	0.0	0.0	3.3	-	-	-	-
			Perm**	1.3	0.0	0.0	0.0	0.0	-	-	-	-
	12yrs	60		26.2	0.5	0.0	0.0	0.5	-	-	-	-
	15yrs	60		27.6	0.9	0.1	0.1	1.1	0.2	0.0	0.0	0.0
	35-44yrs	60		28.8	3.1	2.7	0.1	5.9	17.5	0.0	0.0	0.0
	65-74yrs	59		20.1	3.1	11.7	0.1	14.8	16.1	0.2	0.0	0.2
Kilinochchi	5yrs	20	Deci*	19.6	2.9	0.0	0.1	3.0	-	-	-	-
			Perm**	1.4	0.0	0.0	0.0	0.0	-	-	-	-
	12yrs	20		26.8	0.3	0.0	0.0	0.3	-	-	-	-
	15yrs	20		27.7	0.7	0.3	0.0	1.0	0.1	0.0	0.0	0.0
	35-44yrs	20		28.7	1.8	3.1	0.2	5.1	2.3	0.2	0.0	0.2
	65-74yrs	20		19.1	1.7	12.5	0.0	14.2	12.3	0.2	0.0	0.2
Mannar	5yrs	20	Deci*	19.7	4.5	0.0	0.0	4.5	-	-	-	-
			Perm**	1.9	0.0	0.0	0.0	0.0	-	-	-	-
	12yrs	21		25.7	0.2	0.1	0.0	0.3	-	-	-	-
	15yrs	20		28.2	0.4	0.0	0.0	0.4	0.0	0.0	0.0	0.0
	35-44yrs	20		28.7	2.8	2.6	0.1	5.5	20.5	0.0	0.0	0.0
	65-74yrs	20		18.8	4.8	13.1	0.0	17.9	18.7	0.1	0.0	0.1
Mullaitivu	5yrs	20	Deci*	20.0	0.4	0.0	0.0	0.4	-	-	-	-
			Perm**	0.0	0.0	0.0	0.0	0.0	-	-	-	-
	12yrs	20		26.9	0.2	0.1	0.1	0.3	-	-	-	-
	15yrs	20		28.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	21		29.2	3.0	2.5	0.1	5.5	8.4	0.0	0.0	0.0
	65-74yrs	20		13.3	1.8	18.7	0.0	20.4	8.0	0.1	0.0	0.1

*Deci: Deciduous teeth; **Perm: Permanent teeth

Table 6.6: Distribution of participants according to the severity of dental caries (contd.)

District	Age group	N		Total teeth $\bar{x}$	Mean number of teeth with							
					DT	MT	FT	DMFT	Root exposed	R-DT	R-FT	R-DFT
Vavuniya	5yrs	20	Deci*	19.9	2.4	0.0	0.1	2.5	-	-	-	-
			Perm**	0.5	0.0	0.0	0.0	0.0	-	-	-	-
	12yrs	20		26.3	0.3	0.0	0.0	0.3	-	-	-	-
	15yrs	20		27.9	0.5	0.1	0.1	0.6	0.0	0.0	0.0	0.0
	35-44yrs	20		26.5	1.2	5.4	0.0	6.6	1.9	0.0	0.0	0.0
	65-74yrs	19		20.9	1.1	11.1	0.1	12.2	11.8	0.0	0.0	0.0
Batticaloa	5yrs	60	Deci*	19.2	3.7	0.3	0.1	4.0	-	-	-	-
			Perm**	2.4	0.0	0.0	0.0	0.0	-	-	-	-
	12yrs	60		26.5	0.5	0.1	0.0	0.6	-	-	-	-
	15yrs	60		27.7	1.8	0.4	0.0	2.1	0.0	0.0	0.0	0.0
	35-44yrs	60		24.5	1.7	6.8	0.0	8.5	5.5	0.0	0.0	0.0
	65-74yrs	58		14.4	2.9	17.3	0.0	20.2	10.9	0.1	0.0	0.1
Ampara	5yrs	100	Deci*	19.0	3.9	0.1	0.1	4.1	-	-	-	-
			Perm**	2.5	0.0	0.0	0.0	0.0	-	-	-	-
	12yrs	99		25.1	0.4	0.1	0.1	0.6	-	-	-	-
	15yrs	100		28.1	0.7	0.2	0.1	0.9	0.1	0.0	0.0	0.0
	35-44yrs	97		28.2	1.2	3.6	0.3	5.0	11.1	0.0	0.0	0.0
	65-74yrs	95		13.4	1.0	18.5	0.1	19.6	10.3	0.0	0.0	0.0
Trincomalee	5yrs	40	Deci*	19.4	4.4	0.1	0.0	4.5	-	-	-	-
			Perm**	2.6	0.0	0.0	0.0	0.0	-	-	-	-
	12yrs	39		25.0	0.2	0.1	0.0	0.4	-	-	-	-
	15yrs	40		27.9	0.9	0.3	0.1	1.2	0.0	0.0	0.0	0.0
	35-44yrs	40		27.1	1.4	4.9	0.3	6.6	0.3	0.1	0.0	0.1
	65-74yrs	39		15.0	1.5	17.0	0.0	18.5	3.4	0.0	0.0	0.0
Kurunegala	5yrs	160	Deci*	19.6	2.4	0.0	0.3	2.7	-	-	-	-
			Perm**	1.4	0.0	0.0	0.0	0.0	-	-	-	-
	12yrs	160		25.7	0.4	0.0	0.2	0.7	-	-	-	-
	15yrs	160		28.0	0.6	0.1	0.1	0.8	0.2	0.0	0.0	0.0
	35-44yrs	159		28.1	1.2	3.3	0.6	5.2	3.2	0.0	0.0	0.0
	65-74yrs	160		16.9	1.7	14.8	0.2	16.7	7.5	0.2	0.0	0.2
Puttalam	5yrs	60	Deci*	19.3	2.6	0.1	0.1	2.7	-	-	-	-
			Perm**	1.8	0.1	0.0	0.0	0.1	-	-	-	-
	12yrs	60		26.2	0.5	0.0	0.1	0.6	-	-	-	-
	15yrs	60		28.0	0.7	0.1	0.1	1.0	0.1	0.0	0.0	0.0
	35-44yrs	60		27.1	1.5	4.2	0.8	6.4	3.1	0.0	0.0	0.0
	65-74yrs	60		16.1	1.6	15.6	0.2	17.3	6.9	0.0	0.0	0.0
Anuradhapura	5yrs	100	Deci*	19.5	1.9	0.0	0.1	2.0	-	-	-	-
			Perm**	1.7	0.0	0.0	0.0	0.0	-	-	-	-
	12yrs	100		26.6	0.3	0.0	0.0	0.4	-	-	-	-
	15yrs	100		28.0	0.4	0.0	0.0	0.5	0.0	0.0	0.0	0.0
	35-44yrs	99		29.1	1.7	2.4	0.5	4.6	3.4	0.6	0.0	0.6
	65-74yrs	97		15.8	1.5	16.0	0.0	17.5	8.2	0.4	0.0	0.4
Polonnaruwa	5yrs	60	Deci*	19.7	1.5	0.1	0.2	1.8	-	-	-	-
			Perm**	0.9	0.0	0.0	0.0	0.0	-	-	-	-
	12yrs	60		26.4	0.3	0.0	0.2	0.5	-	-	-	-
	15yrs	60		28.0	0.6	0.1	0.0	0.7	0.1	0.0	0.0	0.0
	35-44yrs	60		28.6	1.6	2.9	0.6	5.1	19.2	0.0	0.0	0.0
	65-74yrs	59		18.1	1.5	13.4	0.0	14.9	15.4	0.0	0.0	0.0
Badulla	5yrs	78	Deci*	19.1	2.9	0.0	0.4	3.3	-	-	-	-
			Perm**	2.3	0.0	0.0	0.0	0.0	-	-	-	-
	12yrs	80		26.2	0.5	0.0	0.1	0.6	-	-	-	-
	15yrs	80		27.9	0.5	0.1	0.2	0.8	0.0	0.0	0.0	0.0
	35-44yrs	80		27.5	3.5	4.2	0.3	8.1	1.8	0.0	0.0	0.0
	65-74yrs	74		13.5	1.9	18.4	0.1	20.4	4.8	0.0	0.0	0.0
Monaragala	5yrs	60	Deci*	19.3	3.0	0.0	0.3	3.3	-	-	-	-
			Perm**	1.7	0.0	0.0	0.0	0.0	-	-	-	-
	12yrs	60		26.4	0.6	0.0	0.2	0.7	-	-	-	-
	15yrs	60		27.9	1.0	0.1	0.1	1.2	0.0	0.0	0.0	0.0
	35-44yrs	60		27.0	2.5	4.5	0.2	7.2	5.8	0.5	0.0	0.5
	65-74yrs	60		16.9	2.2	14.8	0.0	17.1	7.2	0.0	0.0	0.0
Ratnapura	5yrs	80	Deci*	19.2	2.7	0.1	0.3	3.0	-	-	-	-
			Perm**	2.2	0.0	0.0	0.0	0.0	-	-	-	-
	12yrs	80		25.4	0.3	0.0	0.0	0.3	-	-	-	-
	15yrs	80		27.9	0.5	0.1	0.0	0.6	0.0	0.0	0.0	0.0
	35-44yrs	80		27.2	2.1	4.3	0.2	6.7	4.5	0.1	0.0	0.1
	65-74yrs	78		15.6	1.0	16.0	0.1	17.1	7.4	0.2	0.0	0.2
Kegalle	5yrs	80	Deci*	19.6	1.9	0.1	0.3	2.3	-	-	-	-
			Perm**	1.2	0.0	0.0	0.0	0.0	-	-	-	-
	12yrs	80		26.5	0.3	0.0	0.2	0.4	-	-	-	-
	15yrs	80		28.0	0.7	0.1	0.2	1.0	0.0	0.0	0.0	0.0
	35-44yrs	79		27.8	1.8	3.8	0.7	6.3	3.1	0.0	0.0	0.0
	65-74yrs	76		14.2	1.4	17.7	0.0	19.2	9.4	0.0	0.0	0.0

*Deci: Deciduous teeth; **Perm: Permanent teeth

`Table 6.7: Distribution of participants according to the status of gingival bleeding-on-probing

District	Age group	N	% of participants with gingival bleeding-on-probing				Total teeth x̄	Mean no. of teeth with gingival bleeding-on-probing		
			0 teeth (healthy)	1-10 teeth	11-20 teeth	> 20 teeth		Healthy (no bleeding)	Bleeding	Excluded
Colombo	5yrs	180	68.9	28.3	2.8	0.0	21.0	19.7	1.3	0.0
	12yrs	179	44.7	35.8	12.3	7.3	27.2	22.0	5.2	0.1
	15yrs	180	42.2	38.3	12.2	7.2	28.0	22.7	5.3	0.0
	35-44yrs	178	51.7	33.1	9.0	6.2	27.1	22.1	4.5	0.5
	65-74yrs	176	52.8	32.4	11.4	3.4	14.9	9.9	4.2	0.8
Gampaha	5yrs	180	72.2	27.2	0.6	0.0	21.4	20.3	1.0	0.1
	12yrs	180	47.8	41.7	9.4	1.1	26.8	23.1	3.7	0.0
	15yrs	181	49.2	39.2	9.9	1.7	27.9	24.1	3.7	0.0
	35-44yrs	177	44.1	40.7	10.7	4.5	26.8	21.8	4.7	0.4
	65-74yrs	179	46.4	41.9	9.5	2.2	14.1	9.4	3.8	0.9
Kalutara	5yrs	100	85.0	14.0	1.0	0.0	21.0	20.4	0.6	0.0
	12yrs	100	57.0	37.0	4.0	2.0	27.2	24.5	2.7	0.0
	15yrs	102	52.9	37.3	8.8	1.0	28.0	24.9	3.0	0.1
	35-44yrs	100	51.0	35.0	8.0	6.0	26.4	21.5	4.2	0.7
	65-74yrs	100	51.0	36.0	7.0	6.0	13.5	8.4	4.1	1.0
Kandy	5yrs	140	62.1	37.1	0.7	0.0	20.8	19.2	1.4	0.2
	12yrs	140	45.7	50.0	3.6	0.7	26.6	23.3	3.2	0.0
	15yrs	140	53.6	33.6	8.6	4.3	28.1	24.2	3.8	0.1
	35-44yrs	136	38.2	49.3	9.6	2.9	27.4	22.8	4.3	0.3
	65-74yrs	134	44.8	45.5	6.7	3.0	14.7	10.5	3.5	0.8
Matale	5yrs	40	62.5	37.5	0.0	0.0	20.9	19.8	1.0	0.0
	12yrs	40	35.0	52.5	12.5	0.0	26.4	22.6	3.7	0.1
	15yrs	40	42.5	52.5	5.0	0.0	28.0	25.0	3.0	0.0
	35-44yrs	40	22.5	55.0	17.5	5.0	28.0	21.6	5.9	0.5
	65-74yrs	39	28.2	53.8	15.4	2.6	15.3	7.9	5.4	2.1
Nuwara-Eliya	5yrs	100	76.0	22.0	2.0	0.0	20.7	19.6	1.1	0.0
	12yrs	99	29.3	45.5	21.2	4.0	26.2	19.7	6.5	0.0
	15yrs	100	31.0	44.0	20.0	5.0	28.0	21.4	6.6	0.0
	35-44yrs	99	26.3	37.4	26.3	10.1	27.5	18.7	8.1	0.7
	65-74yrs	98	39.8	33.7	20.4	6.1	13.7	7.0	6.0	0.7
Galle	5yrs	98	86.7	13.3	0.0	0.0	20.9	20.6	0.3	0.0
	12yrs	99	69.7	29.3	1.0	0.0	27.1	25.7	1.4	0.0
	15yrs	100	71.0	28.0	1.0	0.0	27.9	26.6	1.2	0.0
	35-44yrs	99	70.7	28.3	1.0	0.0	26.2	24.8	1.3	0.2
	65-74yrs	100	68.0	22.0	8.0	2.0	12.5	9.7	2.5	0.3
Matara	5yrs	79	94.9	5.1	0.0	0.0	20.9	20.8	0.1	0.0
	12yrs	80	77.5	20.0	1.3	1.3	27.2	25.7	1.5	0.0
	15yrs	80	57.5	35.0	5.0	2.5	27.9	25.0	2.9	0.0
	35-44yrs	79	36.7	40.5	16.5	6.3	27.3	21.0	6.3	0.0
	65-74yrs	79	55.7	32.9	3.8	7.6	16.9	12.4	4.5	0.0
Hambantota	5yrs	60	83.3	16.7	0.0	0.0	20.8	20.1	0.7	0.0
	12yrs	60	60.0	31.7	6.7	1.7	27.1	24.2	3.0	0.0
	15yrs	60	60.0	30.0	8.3	1.7	28.1	24.6	3.4	0.1
	35-44yrs	59	59.3	32.2	8.5	0.0	29.0	26.3	2.6	0.2
	65-74yrs	60	66.7	25.0	6.7	1.7	17.6	13.8	2.2	1.7
Jaffna	5yrs	60	78.3	21.7	0.0	0.0	20.9	20.1	0.8	0.0
	12yrs	60	48.3	35.0	11.7	5.0	26.8	22.2	4.6	0.0
	15yrs	60	31.7	35.0	20.0	13.3	27.7	18.9	8.8	0.0
	35-44yrs	60	31.7	36.7	15.0	16.7	28.8	19.0	8.7	1.1
	65-74yrs	59	44.1	22.0	15.3	18.6	20.1	11.6	8.0	0.5
Kilinochchi	5yrs	20	95.0	5.0	0.0	0.0	21.0	20.9	0.1	0.0
	12yrs	20	80.0	15.0	0.0	5.0	27.1	25.1	2.0	0.0
	15yrs	20	70.0	15.0	10.0	5.0	27.7	24.1	3.5	0.1
	35-44yrs	20	5.0	35.0	30.0	30.0	28.7	12.8	15.6	0.4
	65-74yrs	20	25.0	30.0	20.0	25.0	19.1	6.7	11.3	1.2
Mannar	5yrs	20	75.0	20.0	5.0	0.0	21.6	20.5	1.1	0.0
	12yrs	21	33.3	33.3	19.0	14.3	26.3	18.1	8.2	0.0
	15yrs	20	30.0	20.0	20.0	30.0	28.2	16.2	12.1	0.0
	35-44yrs	20	10.0	25.0	20.0	45.0	28.7	11.7	17.1	0.0
	65-74yrs	20	15.0	15.0	25.0	45.0	18.8	2.6	16.1	0.1
Mullaitivu	5yrs	20	90.0	10.0	0.0	0.0	20.0	19.9	0.1	0.0
	12yrs	20	40.0	45.0	10.0	5.0	27.4	21.8	5.6	0.0
	15yrs	20	55.0	35.0	5.0	5.0	28.0	24.2	3.9	0.0
	35-44yrs	21	23.8	42.9	14.3	19.0	29.2	19.0	10.3	0.0
	65-74yrs	20	55.0	35.0	10.0	0.0	13.3	10.3	2.8	0.2

Table 6.7: Distribution of participants according to the status of gingival bleeding-on-probing (contd.)

District	Age group	N	% of participants with gingival bleeding-on-probing				Total teeth $\bar{x}$	Mean no. of teeth with gingival bleeding-on-probing		
			0 teeth (healthy)	1-10 teeth	11-20 teeth	> 20 teeth		Healthy (no bleeding)	Bleeding	Excluded
Vavuniya	5yrs	20	70.0	30.0	0.0	0.0	20.4	19.8	0.7	0.0
	12yrs	20	55.0	45.0	0.0	0.0	26.9	25.3	1.7	0.0
	15yrs	20	65.0	25.0	5.0	5.0	27.9	25.2	2.8	0.0
	35-44yrs	20	40.0	60.0	0.0	0.0	26.5	24.4	1.9	0.2
	65-74yrs	19	36.8	52.6	10.5	0.0	20.9	14.8	4.2	1.9
Batticaloa	5yrs	60	95.0	3.3	1.7	0.0	21.6	21.2	0.4	0.0
	12yrs	60	68.3	20.0	5.0	6.7	27.0	23.7	3.3	0.0
	15yrs	60	58.3	30.0	1.7	10.0	27.7	23.2	4.5	0.0
	35-44yrs	60	21.7	38.3	23.3	16.7	24.5	14.7	9.4	0.5
	65-74yrs	58	13.8	46.6	20.7	19.0	14.4	3.5	10.4	0.5
Ampara	5yrs	100	96.0	4.0	0.0	0.0	21.5	21.4	0.2	0.0
	12yrs	99	75.8	17.2	4.0	3.0	26.1	24.1	2.0	0.0
	15yrs	100	65.0	25.0	4.0	6.0	28.1	24.3	3.7	0.0
	35-44yrs	97	63.9	32.0	3.1	1.0	28.2	25.4	2.4	0.4
	65-74yrs	95	54.7	35.8	6.3	3.2	13.4	9.3	3.4	0.7
Trincomalee	5yrs	40	100.0	0.0	0.0	0.0	22.0	21.3	0.0	0.8
	12yrs	39	84.6	10.3	2.6	2.6	26.3	24.7	1.6	0.0
	15yrs	40	75.0	10.0	5.0	10.0	27.9	23.7	4.2	0.0
	35-44yrs	40	52.5	40.0	7.5	0.0	27.1	24.4	2.6	0.1
	65-74yrs	39	56.4	41.0	2.6	0.0	15.0	12.2	2.1	0.8
Kurunegala	5yrs	160	90.0	9.4	0.6	0.0	20.9	20.5	0.4	0.0
	12yrs	160	46.9	46.3	5.6	1.3	26.4	23.1	3.3	0.0
	15yrs	160	54.4	39.4	5.6	0.6	28.0	25.0	3.0	0.0
	35-44yrs	159	53.5	37.1	8.2	1.3	28.2	25.1	3.0	0.1
	65-74yrs	160	53.1	39.4	6.3	1.3	16.9	13.5	2.9	0.6
Puttalam	5yrs	60	83.3	15.0	1.7	0.0	21.1	20.3	0.8	0.0
	12yrs	60	51.7	43.3	5.0	0.0	26.6	24.0	2.7	0.0
	15yrs	60	38.3	50.0	10.0	1.7	28.0	23.1	4.8	0.0
	35-44yrs	60	38.3	45.0	15.0	1.7	27.1	22.1	4.8	0.3
	65-74yrs	60	38.3	50.0	8.3	3.3	16.1	10.8	4.8	0.6
Anuradhapura	5yrs	100	86.0	14.0	0.0	0.0	21.1	20.7	0.5	0.0
	12yrs	100	66.0	32.0	2.0	0.0	27.1	25.5	1.6	0.0
	15yrs	100	57.0	30.0	9.0	4.0	28.0	24.1	4.0	0.0
	35-44yrs	99	54.5	34.3	4.0	7.1	29.1	25.1	3.8	0.2
	65-74yrs	97	43.3	48.5	5.2	3.1	15.8	11.9	3.5	0.4
Polonnaruwa	5yrs	60	63.3	25.0	11.7	0.0	20.6	17.5	3.0	0.0
	12yrs	60	33.3	38.3	18.3	10.0	27.2	20.1	7.1	0.0
	15yrs	60	36.7	38.3	15.0	10.0	28.0	21.3	6.8	0.0
	35-44yrs	60	53.3	30.0	6.7	10.0	28.6	23.1	5.4	0.2
	65-74yrs	59	47.5	25.4	11.9	15.3	18.1	10.5	6.6	1.1
Badulla	5yrs	78	79.5	17.9	2.6	0.0	21.4	20.4	1.0	0.0
	12yrs	80	46.3	36.3	11.3	6.3	26.9	21.8	5.1	0.0
	15yrs	80	55.0	30.0	11.3	3.8	27.9	23.7	4.2	0.0
	35-44yrs	80	47.5	28.8	18.8	5.0	27.5	21.1	5.6	0.9
	65-74yrs	74	45.9	37.8	14.9	1.4	13.5	8.3	4.4	0.8
Monaragala	5yrs	60	91.7	8.3	0.0	0.0	21.0	20.8	0.2	0.0
	12yrs	60	71.7	26.7	0.0	1.7	26.7	25.3	1.4	0.0
	15yrs	60	71.7	28.3	0.0	0.0	28.0	26.9	1.0	0.1
	35-44yrs	60	61.7	33.3	3.3	1.7	27.0	24.5	2.5	0.0
	65-74yrs	60	65.0	33.3	1.7	0.0	16.9	15.3	1.4	0.2
Ratnapura	5yrs	80	95.0	5.0	0.0	0.0	21.4	21.2	0.2	0.0
	12yrs	80	65.0	28.8	3.8	2.5	26.5	24.3	2.2	0.0
	15yrs	80	65.0	32.5	1.3	1.3	28.0	26.3	1.7	0.0
	35-44yrs	80	56.3	41.3	1.3	1.3	27.2	24.6	2.6	0.0
	65-74yrs	78	70.5	20.5	7.7	1.3	15.6	12.9	2.4	0.3
Kegalle	5yrs	80	95.0	5.0	0.0	0.0	20.8	20.6	0.2	0.0
	12yrs	80	78.8	18.8	2.5	0.0	27.1	26.1	1.0	0.0
	15yrs	80	68.8	28.8	2.5	0.0	28.0	26.0	1.7	0.3
	35-44yrs	79	67.1	30.4	2.5	0.0	27.8	25.4	2.0	0.4
	65-74yrs	76	55.3	38.2	3.9	2.6	14.2	10.6	3.1	0.5

Table 6.8: Percentage distribution of participants according to the presence of calculus

District	Age group	N	Calculus (%)		
			No	Yes	Not recorded
Colombo	5yrs	180	82.2	17.8	0.0
	12yrs	179	45.3	54.7	0.0
	15yrs	180	46.7	53.3	0.0
	35-44yrs	178	31.5	68.5	0.0
	65-74yrs	176	17.0	74.4	8.5
Gampaha	5yrs	180	85.0	15.0	0.0
	12yrs	180	48.3	51.7	0.0
	15yrs	181	51.9	48.1	0.0
	35-44yrs	177	27.7	72.3	0.0
	65-74yrs	179	19.0	67.0	14.0
Kalutara	5yrs	100	90.0	10.0	0.0
	12yrs	100	52.0	48.0	0.0
	15yrs	102	46.1	53.9	0.0
	35-44yrs	100	20.0	80.0	0.0
	65-74yrs	100	18.0	75.0	7.0
Kandy	5yrs	140	85.7	14.3	0.0
	12yrs	140	63.6	36.4	0.0
	15yrs	140	55.0	45.0	0.0
	35-44yrs	136	28.7	71.3	0.0
	65-74yrs	134	12.7	73.1	14.2
Matale	5yrs	40	95.0	5.0	0.0
	12yrs	40	52.5	47.5	0.0
	15yrs	40	52.5	47.5	0.0
	35-44yrs	40	32.5	67.5	0.0
	65-74yrs	39	20.5	71.8	7.7
Nuwara-Eliya	5yrs	100	88.0	12.0	0.0
	12yrs	99	58.6	41.4	0.0
	15yrs	100	45.0	55.0	0.0
	35-44yrs	99	31.3	68.7	0.0
	65-74yrs	98	13.3	71.4	15.3
Galle	5yrs	98	83.7	16.3	0.0
	12yrs	99	64.6	35.4	0.0
	15yrs	100	60.0	40.0	0.0
	35-44yrs	99	25.3	74.7	0.0
	65-74yrs	100	21.0	62.0	17.0
Matara	5yrs	79	92.4	7.6	0.0
	12yrs	80	51.3	48.8	0.0
	15yrs	80	55.0	45.0	0.0
	35-44yrs	79	20.3	79.7	0.0
	65-74yrs	79	6.3	81.0	12.7
Hambantota	5yrs	60	95.0	5.0	0.0
	12yrs	60	70.0	30.0	0.0
	15yrs	60	58.3	41.7	0.0
	35-44yrs	59	15.3	84.7	0.0
	65-74yrs	60	16.7	70.0	13.3
Jaffna	5yrs	60	58.3	41.7	0.0
	12yrs	60	23.3	76.7	0.0
	15yrs	60	21.7	78.3	0.0
	35-44yrs	60	16.7	83.3	0.0
	65-74yrs	59	18.6	74.6	6.8
Kilinochchi	5yrs	20	85.0	15.0	0.0
	12yrs	20	30.0	70.0	0.0
	15yrs	20	30.0	70.0	0.0
	35-44yrs	20	5.0	95.0	0.0
	65-74yrs	20	0.0	100.0	0.0
Mannar	5yrs	20	95.0	5.0	0.0
	12yrs	21	19.0	81.0	0.0
	15yrs	20	40.0	60.0	0.0
	35-44yrs	20	15.0	85.0	0.0
	65-74yrs	20	0.0	95.0	5.0
Mullaitivu	5yrs	20	95.0	5.0	0.0
	12yrs	20	65.0	35.0	0.0
	15yrs	20	80.0	20.0	0.0
	35-44yrs	21	14.3	85.7	0.0
	65-74yrs	20	15.0	70.0	15.0

District	Age group	N	Calculus (%)		
			No	Yes	Not recorded
Vavuniya	5yrs	20	80.0	20.0	0.0
	12yrs	20	60.0	40.0	0.0
	15yrs	20	65.0	35.0	0.0
	35-44yrs	20	25.0	75.0	0.0
	65-74yrs	19	0.0	89.5	10.5
Batticaloa	5yrs	60	70.0	30.0	0.0
	12yrs	60	23.3	76.7	0.0
	15yrs	60	26.7	73.3	0.0
	35-44yrs	60	28.3	71.7	0.0
	65-74yrs	58	5.2	89.7	5.2
Ampara	5yrs	100	67.0	33.0	0.0
	12yrs	99	39.4	60.6	0.0
	15yrs	100	34.0	66.0	0.0
	35-44yrs	97	37.1	62.9	0.0
	65-74yrs	95	22.1	65.3	12.6
Trincomalee	5yrs	40	100.0	0.0	0.0
	12yrs	39	28.2	71.8	0.0
	15yrs	40	30.0	70.0	0.0
	35-44yrs	40	37.5	62.5	0.0
	65-74yrs	39	33.3	64.1	2.6
Kurunegala	5yrs	160	92.5	7.5	0.0
	12yrs	160	56.3	43.8	0.0
	15yrs	160	56.3	43.8	0.0
	35-44yrs	159	28.3	71.7	0.0
	65-74yrs	160	23.1	70.0	6.9
Puttalam	5yrs	60	90.0	10.0	0.0
	12yrs	60	61.7	38.3	0.0
	15yrs	60	50.0	50.0	0.0
	35-44yrs	60	26.7	73.3	0.0
	65-74yrs	60	11.7	83.3	5.0
Anuradhapura	5yrs	100	95.0	5.0	0.0
	12yrs	100	69.0	31.0	0.0
	15yrs	100	54.0	46.0	0.0
	35-44yrs	99	37.4	62.6	0.0
	65-74yrs	97	17.5	71.1	11.3
Polonnaruwa	5yrs	60	88.3	11.7	0.0
	12yrs	60	38.3	61.7	0.0
	15yrs	60	40.0	60.0	0.0
	35-44yrs	60	31.7	68.3	0.0
	65-74yrs	59	10.2	83.1	6.8
Badulla	5yrs	78	92.3	7.7	0.0
	12yrs	80	62.5	37.5	0.0
	15yrs	80	70.0	30.0	0.0
	35-44yrs	80	40.0	60.0	0.0
	65-74yrs	74	14.9	63.5	21.6
Monaragala	5yrs	60	85.0	15.0	0.0
	12yrs	60	66.7	33.3	0.0
	15yrs	60	60.0	40.0	0.0
	35-44yrs	60	30.0	70.0	0.0
	65-74yrs	60	13.3	66.7	20.0
Ratnapura	5yrs	80	87.5	12.5	0.0
	12yrs	80	56.3	43.8	0.0
	15yrs	80	56.3	43.8	0.0
	35-44yrs	80	38.8	61.3	0.0
	65-74yrs	78	28.2	57.7	14.1
Kegalle	5yrs	80	92.5	7.5	0.0
	12yrs	80	70.0	30.0	0.0
	15yrs	80	68.8	31.3	0.0
	35-44yrs	79	43.0	57.0	0.0
	65-74yrs	76	27.6	61.8	10.5

Table 6.9: Distribution of participants according to the status of periodontal pockets

District	Age group	N	% of participants with pockets				Total teeth $\bar{x}$	Mean number of teeth with pockets			
			No pockets	4-5mm	≥6mm	Any* (≥4mm)		Nil	4-5mm	≥6mm	Excluded
Colombo	15yrs	180	90.0	10.0	0.0	10.0	28.0	27.6	0.3	0.0	0.1
	35-44yrs	178	82.0	18.0	1.1	18.0	27.1	25.5	1.1	0.0	0.5
	65-74yrs	176	69.3	29.0	4.5	30.7	14.9	11.8	1.9	0.2	1.0
Gampaha	15yrs	181	92.3	7.7	0.0	7.7	27.9	27.5	0.3	0.0	0.1
	35-44yrs	177	65.5	33.3	5.1	34.5	26.8	24.6	1.7	0.2	0.4
	65-74yrs	179	48.0	48.6	12.8	52.0	14.1	10.7	2.4	0.3	0.8
Kalutara	15yrs	102	92.2	7.8	0.0	7.8	28.0	27.3	0.5	0.0	0.1
	35-44yrs	100	76.0	22.0	4.0	24.0	26.4	24.3	1.2	0.1	0.8
	65-74yrs	100	47.0	44.0	18.0	53.0	13.5	7.9	3.9	0.7	1.0
Kandy	15yrs	140	97.9	2.1	0.0	2.1	28.1	28.0	0.1	0.0	0.1
	35-44yrs	136	69.9	26.5	5.9	30.1	27.4	25.6	1.4	0.1	0.3
	65-74yrs	134	56.0	35.8	16.4	44.0	14.7	12.0	1.5	0.4	0.8
Matale	15yrs	40	100.0	0.0	0.0	0.0	28.0	28.0	0.0	0.0	0.0
	35-44yrs	40	62.5	30.0	15.0	37.5	28.0	25.9	1.3	0.3	0.5
	65-74yrs	39	35.9	48.7	28.2	64.1	15.3	9.7	2.2	1.4	2.1
Nuwara-Eliya	15yrs	100	99.0	1.0	0.0	1.0	28.0	28.0	0.0	0.0	0.0
	35-44yrs	99	61.6	38.4	7.1	38.4	27.5	23.8	2.8	0.2	0.7
	65-74yrs	98	51.0	48.0	14.3	49.0	13.7	10.2	2.5	0.3	0.7
Galle	15yrs	100	94.0	6.0	0.0	6.0	27.9	27.7	0.1	0.0	0.0
	35-44yrs	99	81.8	17.2	2.0	18.2	26.2	25.2	0.8	0.0	0.2
	65-74yrs	100	65.0	32.0	12.0	35.0	12.5	10.1	1.8	0.3	0.3
Matara	15yrs	80	96.3	3.8	0.0	3.8	27.9	27.4	0.5	0.0	0.0
	35-44yrs	79	83.5	16.5	1.3	16.5	27.3	26.3	1.0	0.0	0.0
	65-74yrs	79	69.6	30.4	1.3	30.4	16.9	14.6	2.3	0.0	0.1
Hambantota	15yrs	60	90.0	10.0	0.0	10.0	28.1	27.7	0.3	0.0	0.1
	35-44yrs	59	76.3	22.0	3.4	23.7	29.0	28.0	0.8	0.1	0.2
	65-74yrs	60	51.7	41.7	13.3	48.3	17.6	13.1	2.3	0.6	1.7
Jaffna	15yrs	60	98.3	1.7	0.0	1.7	27.7	27.6	0.1	0.0	0.0
	35-44yrs	60	65.0	35.0	11.7	35.0	28.8	24.3	2.7	0.7	1.1
	65-74yrs	59	61.0	39.0	15.3	39.0	20.1	16.0	2.8	0.8	0.5
Kilinochchi	15yrs	20	100.0	0.0	0.0	0.0	27.7	27.6	0.0	0.0	0.1
	35-44yrs	20	75.0	20.0	10.0	25.0	28.7	27.7	0.3	0.3	0.5
	65-74yrs	20	80.0	20.0	0.0	20.0	19.1	17.3	0.6	0.0	1.2
Mannar	15yrs	20	60.0	35.0	5.0	40.0	28.2	26.3	1.8	0.1	0.1
	35-44yrs	20	95.0	5.0	0.0	5.0	28.7	28.5	0.2	0.0	0.1
	65-74yrs	20	30.0	70.0	35.0	70.0	18.8	8.2	7.9	2.7	0.1
Mullaitivu	15yrs	20	100.0	0.0	0.0	0.0	28.0	28.0	0.0	0.0	0.0
	35-44yrs	21	71.4	28.6	4.8	28.6	29.2	26.2	2.9	0.1	0.0
	65-74yrs	20	75.0	25.0	5.0	25.0	13.3	11.2	1.6	0.3	0.2

*Any (≥4mm) = either 4-5mm or ≥6mm

Note: Since the possibility of presence of 4 -5mm and ≥6mm pockets simultaneously in a person, totals of '4 -5mm' and '≥6mm' might not add up to 'Any (≥4mm)'

Table 6.9: Distribution of participants according to the status of periodontal pockets (contd.)

District	Age group	N	% of participants with pockets				Total teeth x̄	Mean number of teeth with pockets			
			No pockets	4-5mm	≥6mm	Any* (≥4mm)		Nil	4-5mm	≥6mm	Excluded
Vavuniya	15yrs	20	100.0	0.0	0.0	0.0	27.9	27.9	0.0	0.0	0.0
	35-44yrs	20	60.0	40.0	5.0	40.0	26.5	25.1	1.0	0.3	0.2
	65-74yrs	19	36.8	63.2	21.1	63.2	20.9	15.8	2.7	0.5	1.9
Batticaloa	15yrs	60	100.0	0.0	0.0	0.0	27.7	27.7	0.0	0.0	0.0
	35-44yrs	60	80.0	18.3	3.3	20.0	24.5	22.9	1.0	0.1	0.5
	65-74yrs	58	36.2	56.9	44.8	63.8	14.4	7.3	4.0	2.7	0.6
Ampara	15yrs	100	95.0	5.0	0.0	5.0	28.1	27.9	0.2	0.0	0.0
	35-44yrs	97	85.6	14.4	0.0	14.4	28.2	27.1	0.7	0.0	0.4
	65-74yrs	95	58.9	40.0	10.5	41.1	13.4	10.4	2.0	0.3	0.8
Trincomalee	15yrs	40	100.0	0.0	0.0	0.0	27.9	27.9	0.0	0.0	0.0
	35-44yrs	40	77.5	22.5	0.0	22.5	27.1	26.3	0.8	0.0	0.1
	65-74yrs	39	59.0	41.0	0.0	41.0	15.0	12.7	1.5	0.0	0.8
Kurunegala	15yrs	160	90.6	9.4	0.0	9.4	28.0	27.8	0.2	0.0	0.0
	35-44yrs	159	73.0	25.8	5.7	27.0	28.2	26.7	1.2	0.1	0.1
	65-74yrs	160	53.8	43.8	10.6	46.3	16.9	14.1	1.9	0.4	0.6
Puttalam	15yrs	60	98.3	1.7	0.0	1.7	28.0	27.9	0.0	0.0	0.0
	35-44yrs	60	71.7	28.3	5.0	28.3	27.1	25.2	1.2	0.3	0.4
	65-74yrs	60	60.0	40.0	10.0	40.0	16.1	13.7	1.6	0.2	0.6
Anuradhapura	15yrs	100	98.0	2.0	0.0	2.0	28.0	27.9	0.1	0.0	0.0
	35-44yrs	99	72.7	26.3	6.1	27.3	29.1	26.6	1.8	0.4	0.3
	65-74yrs	97	44.3	54.6	4.1	55.7	15.8	12.8	2.5	0.0	0.5
Polonnaruwa	15yrs	60	93.3	6.7	0.0	6.7	28.0	27.8	0.2	0.0	0.0
	35-44yrs	60	80.0	20.0	0.0	20.0	28.6	27.4	1.1	0.0	0.2
	65-74yrs	59	55.9	37.3	8.5	44.1	18.1	13.7	2.4	0.3	1.7
Badulla	15yrs	80	93.8	6.3	0.0	6.3	27.9	27.5	0.4	0.0	0.0
	35-44yrs	80	60.0	40.0	6.3	40.0	27.5	23.3	3.0	0.3	0.9
	65-74yrs	74	51.4	47.3	5.4	48.6	13.5	10.1	2.5	0.1	0.8
Monaragala	15yrs	60	100.0	0.0	0.0	0.0	28.0	27.8	0.0	0.0	0.1
	35-44yrs	60	76.7	23.3	1.7	23.3	27.0	26.2	0.7	0.0	0.1
	65-74yrs	60	68.3	31.7	3.3	31.7	16.9	15.3	1.4	0.1	0.2
Ratnapura	15yrs	80	96.3	3.8	0.0	3.8	28.0	27.9	0.0	0.0	0.1
	35-44yrs	80	78.8	21.3	3.8	21.3	27.2	26.4	0.6	0.2	0.0
	65-74yrs	78	61.5	34.6	10.3	38.5	15.6	13.5	1.4	0.4	0.3
Kegalle	15yrs	80	93.8	6.3	0.0	6.3	28.0	27.5	0.1	0.0	0.3
	35-44yrs	79	89.9	10.1	2.5	10.1	27.8	26.9	0.4	0.1	0.4
	65-74yrs	76	51.3	44.7	17.1	48.7	14.2	10.8	2.3	0.6	0.5

*Any (≥4mm) = either 4-5mm or ≥6mm

Note: Since the possibility of presence of 4-5mm and ≥6mm pockets simultaneously in a person, totals of '4-5mm' and '≥6mm' might not add up to 'Any (≥4mm)'

Table 6.10: Percentage distribution of participants and the mean number of sextants according to the loss of periodontal attachment

District	Age group	N	Loss of periodontal attachment													
			0-3mm		4-5mm		6-8mm		9-11mm		≥12mm		Excluded		Not recorded	
			%	x̄	%	x̄	%	x̄	%	x̄	%	x̄	%	x̄	%	x̄
Colombo	15yrs	180	98.9	6.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	178	83.1	5.5	14.0	0.3	2.2	0.0	0.6	0.0	0.0	0.0	0.0	0.1	0.0	0.0
	65-74yrs	176	26.1	2.4	33.0	1.0	17.6	0.4	6.3	0.1	4.0	0.0	11.9	1.9	1.1	0.1
Gampaha	15yrs	181	98.9	6.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	177	70.6	5.2	19.8	0.4	6.2	0.1	1.7	0.0	1.1	0.0	0.6	0.2	0.0	0.0
	65-74yrs	179	27.4	2.3	26.8	1.0	19.6	0.4	6.1	0.1	2.8	0.0	16.2	2.1	1.1	0.1
Kalutara	15yrs	102	100.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	100	76.0	5.3	18.0	0.4	2.0	0.0	2.0	0.0	1.0	0.0	1.0	0.2	0.0	0.1
	65-74yrs	100	21.0	1.4	30.0	1.2	23.0	0.7	13.0	0.2	0.0	0.0	13.0	2.5	0.0	0.0
Kandy	15yrs	140	99.3	6.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	136	68.4	5.2	22.1	0.5	8.8	0.1	0.7	0.0	0.0	0.0	0.0	0.2	0.0	0.0
	65-74yrs	134	22.4	2.2	26.1	0.8	27.6	0.5	4.5	0.1	1.5	0.0	17.2	2.3	0.7	0.1
Matale	15yrs	40	100.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	40	60.0	4.8	32.5	0.9	5.0	0.2	2.5	0.0	0.0	0.0	0.0	0.1	0.0	0.0
	65-74yrs	39	17.9	2.1	25.6	0.9	28.2	0.7	10.3	0.1	2.6	0.0	15.4	2.1	0.0	0.0
Nuwara-Eliya	15yrs	100	99.0	5.9	1.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	99	61.6	4.9	31.3	0.9	6.1	0.1	1.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
	65-74yrs	98	18.4	1.6	30.6	1.2	20.4	0.4	11.2	0.2	0.0	0.0	19.4	2.7	0.0	0.0
Galle	15yrs	100	100.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	99	79.8	5.5	15.2	0.3	4.0	0.1	1.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
	65-74yrs	100	25.0	2.1	20.0	0.6	23.0	0.6	7.0	0.1	4.0	0.1	21.0	2.5	0.0	0.0
Matara	15yrs	80	100.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	79	77.2	5.4	19.0	0.5	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
	65-74yrs	79	11.4	1.8	54.4	2.2	21.5	0.3	0.0	0.0	0.0	0.0	12.7	1.6	0.0	0.0
Hambantota	15yrs	60	100.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	59	86.4	5.7	8.5	0.2	3.4	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	65-74yrs	60	21.7	2.4	31.7	1.2	20.0	0.4	5.0	0.1	3.3	0.1	13.3	1.6	5.0	0.4
Jaffna	15yrs	60	95.0	5.9	5.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
	35-44yrs	60	70.0	5.2	18.3	0.5	6.7	0.1	1.7	0.0	0.0	0.0	1.7	0.2	1.7	0.1
	65-74yrs	59	27.1	2.7	20.3	0.8	22.0	0.6	15.3	0.4	3.4	0.1	11.9	1.4	0.0	0.0
Kilinochchi	15yrs	20	100.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	20	75.0	5.7	10.0	0.1	5.0	0.1	10.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
	65-74yrs	20	10.0	1.9	20.0	1.2	30.0	1.0	15.0	0.3	15.0	0.2	10.0	1.5	0.0	0.0
Mannar	15yrs	20	100.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	20	70.0	5.0	30.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	65-74yrs	20	25.0	2.3	45.0	2.1	25.0	0.6	0.0	0.0	0.0	0.0	5.0	1.1	0.0	0.0
Mullaitivu	15yrs	20	100.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	21	71.4	5.4	28.6	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	65-74yrs	20	35.0	1.9	20.0	1.0	10.0	0.5	10.0	0.2	0.0	0.0	25.0	2.6	0.0	0.0

Table 6.10: Percentage distribution of participants and the mean number of sextants according to the loss of periodontal attachment (contd.)

District	Age group	N	Loss of periodontal attachment													
			0-3mm		4-5mm		6-8mm		9-11mm		≥12mm		Excluded		Not recorded	
			%	x̄	%	x̄	%	x̄	%	x̄	%	x̄	%	x̄	%	x̄
Vavuniya	15yrs	20	100.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	20	90.0	5.5	5.0	0.2	5.0	0.1	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
	65-74yrs	19	42.1	3.4	10.5	0.7	21.1	0.4	10.5	0.1	0.0	0.0	10.5	1.1	5.3	0.3
Batticaloa	15yrs	60	100.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	60	86.7	5.5	6.7	0.2	1.7	0.1	5.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
	65-74yrs	58	17.2	1.7	32.8	1.5	24.1	0.6	6.9	0.2	13.8	0.2	5.2	1.7	0.0	0.1
Ampara	15yrs	100	100.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	97	93.8	5.8	5.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.1
	65-74yrs	95	31.6	2.3	33.7	1.0	13.7	0.3	5.3	0.1	1.1	0.0	12.6	2.2	2.1	0.1
Trincomalee	15yrs	40	100.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	40	95.0	5.9	5.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
	65-74yrs	39	48.7	3.1	30.8	0.9	15.4	0.2	0.0	0.0	0.0	0.0	5.1	1.8	0.0	0.0
Kurunegala	15yrs	160	100.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	159	80.5	5.5	14.5	0.4	4.4	0.1	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
	65-74yrs	160	20.0	2.5	28.8	1.1	30.6	0.6	8.8	0.2	3.8	0.1	8.1	1.6	0.0	0.0
Puttalam	15yrs	60	98.3	6.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	60	70.0	5.2	16.7	0.4	6.7	0.1	3.3	0.1	3.3	0.0	0.0	0.1	0.0	0.0
	65-74yrs	60	15.0	2.3	20.0	0.9	21.7	0.7	25.0	0.4	10.0	0.2	8.3	1.6	0.0	0.0
Anuradhapura	15yrs	100	99.0	6.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	99	70.7	5.4	25.3	0.5	3.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	65-74yrs	97	12.4	2.1	49.5	1.5	14.4	0.3	11.3	0.2	0.0	0.0	12.4	1.9	0.0	0.0
Polonnaruwa	15yrs	60	100.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	60	70.0	5.2	30.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
	65-74yrs	59	15.3	1.8	49.2	1.9	16.9	0.2	5.1	0.1	1.7	0.0	8.5	1.8	3.4	0.1
Badulla	15yrs	80	97.5	6.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	80	68.8	5.0	22.5	0.6	6.3	0.1	1.3	0.1	1.3	0.0	0.0	0.1	0.0	0.0
	65-74yrs	74	17.6	1.8	27.0	1.1	25.7	0.5	6.8	0.1	0.0	0.0	23.0	2.5	0.0	0.0
Monaragala	15yrs	60	100.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	60	76.7	5.5	18.3	0.4	3.3	0.0	1.7	0.0	0.0	0.0	0.0	0.1	0.0	0.0
	65-74yrs	60	30.0	3.0	38.3	0.9	10.0	0.1	0.0	0.0	0.0	0.0	21.7	2.0	0.0	0.0
Ratnapura	15yrs	80	100.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	80	78.8	5.5	18.8	0.4	0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	65-74yrs	78	24.4	2.2	26.9	1.0	17.9	0.5	14.1	0.2	1.3	0.0	14.1	2.0	1.3	0.1
Kegalle	15yrs	80	98.8	6.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	79	84.8	5.7	7.6	0.2	7.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	65-74yrs	76	22.4	2.3	36.8	1.1	15.8	0.3	6.6	0.1	3.9	0.1	14.5	2.1	0.0	0.0

Table 6.11: Percentage distribution of participants according to the presence of malocclusion

District	Age group	N	Malocclusion (%)		
			None	Mild	Severe
Colombo	12yrs	179	70.9	15.1	14.0
	15yrs	180	77.2	10.6	12.2
Gampaha	12yrs	180	66.1	20.6	13.3
	15yrs	181	64.6	19.3	16.0
Kalutara	12yrs	100	71.0	13.0	16.0
	15yrs	102	80.4	9.8	9.8
Kandy	12yrs	140	54.3	20.0	25.7
	15yrs	140	71.4	14.3	14.3
Matale	12yrs	40	52.5	20.0	27.5
	15yrs	40	65.0	22.5	12.5
Nuwara-Eliya	12yrs	99	61.6	19.2	19.2
	15yrs	100	51.0	24.0	25.0
Galle	12yrs	99	79.8	6.1	14.1
	15yrs	100	83.0	8.0	9.0
Matara	12yrs	80	72.5	12.5	15.0
	15yrs	80	88.8	3.8	7.5
Hambantota	12yrs	60	63.3	20.0	16.7
	15yrs	60	73.3	15.0	11.7
Jaffna	12yrs	60	66.7	18.3	15.0
	15yrs	60	58.3	25.0	16.7
Kilinochchi	12yrs	20	85.0	10.0	5.0
	15yrs	20	75.0	15.0	10.0
Mannar	12yrs	21	85.7	0.0	14.3
	15yrs	20	100.0	0.0	0.0
Mullaitivu	12yrs	20	85.0	5.0	10.0
	15yrs	20	100.0	0.0	0.0
Vavuniya	12yrs	20	90.0	5.0	5.0
	15yrs	20	95.0	0.0	5.0
Batticaloa	12yrs	60	35.0	60.0	5.0
	15yrs	60	66.7	28.3	5.0
Ampara	12yrs	99	66.7	25.3	8.1
	15yrs	100	65.0	31.0	4.0
Trincomalee	12yrs	39	84.6	10.3	5.1
	15yrs	40	60.0	37.5	2.5
Kurunegala	12yrs	160	60.6	16.9	22.5
	15yrs	160	66.3	17.5	16.3
Puttalam	12yrs	60	46.7	28.3	25.0
	15yrs	60	50.0	20.0	30.0
Anuradhapura	12yrs	100	79.0	8.0	13.0
	15yrs	100	75.0	12.0	13.0
Polonnaruwa	12yrs	60	66.7	15.0	18.3
	15yrs	60	70.0	5.0	25.0
Badulla	12yrs	80	61.3	25.0	13.8
	15yrs	80	80.0	7.5	12.5
Monaragala	12yrs	60	45.0	30.0	25.0
	15yrs	60	50.0	35.0	15.0
Ratnapura	12yrs	80	75.0	15.0	10.0
	15yrs	80	76.3	12.5	11.3
Kegalle	12yrs	80	76.3	12.5	11.3
	15yrs	80	81.3	8.8	10.0

Table 6.12: Percentage distribution of participants according to the presence of enamel fluorosis

District	Age group	N	Enamel fluorosis (%)						
			Normal	Questi-onable	Very mild	Mild	Mode-rate	Severe	Not recorded
Colombo	12yrs	179	99.4	0.0	0.6	0.0	0.0	0.0	0.0
	15yrs	180	99.4	0.0	0.0	0.6	0.0	0.0	0.0
	35-44yrs	178	100.0	0.0	0.0	0.0	0.0	0.0	0.0
Gampaha	12yrs	180	98.9	0.6	0.0	0.6	0.0	0.0	0.0
	15yrs	181	99.4	0.6	0.0	0.0	0.0	0.0	0.0
	35-44yrs	177	99.4	0.0	0.0	0.0	0.0	0.6	0.0
Kalutara	12yrs	100	100.0	0.0	0.0	0.0	0.0	0.0	0.0
	15yrs	102	100.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	100	100.0	0.0	0.0	0.0	0.0	0.0	0.0
Kandy	12yrs	140	97.1	0.0	2.9	0.0	0.0	0.0	0.0
	15yrs	140	98.6	1.4	0.0	0.0	0.0	0.0	0.0
	35-44yrs	136	97.1	0.0	0.0	1.5	0.0	0.0	1.5
Matale	12yrs	40	95.0	0.0	2.5	2.5	0.0	0.0	0.0
	15yrs	40	95.0	2.5	2.5	0.0	0.0	0.0	0.0
	35-44yrs	40	95.0	2.5	2.5	0.0	0.0	0.0	0.0
Nuwara-Eliya	12yrs	99	91.9	4.0	2.0	1.0	1.0	0.0	0.0
	15yrs	100	92.0	4.0	4.0	0.0	0.0	0.0	0.0
	35-44yrs	99	98.0	2.0	0.0	0.0	0.0	0.0	0.0
Galle	12yrs	99	100.0	0.0	0.0	0.0	0.0	0.0	0.0
	15yrs	100	99.0	1.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	99	100.0	0.0	0.0	0.0	0.0	0.0	0.0
Matara	12yrs	80	97.5	1.3	0.0	1.3	0.0	0.0	0.0
	15yrs	80	100.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	79	100.0	0.0	0.0	0.0	0.0	0.0	0.0
Hambantota	12yrs	60	65.0	11.7	10.0	13.3	0.0	0.0	0.0
	15yrs	60	80.0	10.0	8.3	1.7	0.0	0.0	0.0
	35-44yrs	59	89.8	3.4	3.4	3.4	0.0	0.0	0.0
Jaffna	12yrs	60	83.3	10.0	5.0	1.7	0.0	0.0	0.0
	15yrs	60	85.0	1.7	5.0	6.7	1.7	0.0	0.0
	35-44yrs	60	100.0	0.0	0.0	0.0	0.0	0.0	0.0
Kilinochchi	12yrs	20	95.0	5.0	0.0	0.0	0.0	0.0	0.0
	15yrs	20	95.0	0.0	5.0	0.0	0.0	0.0	0.0
	35-44yrs	20	95.0	0.0	0.0	5.0	0.0	0.0	0.0
Mannar	12yrs	21	100.0	0.0	0.0	0.0	0.0	0.0	0.0
	15yrs	20	100.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	20	100.0	0.0	0.0	0.0	0.0	0.0	0.0
Mullaitivu	12yrs	20	40.0	0.0	10.0	30.0	20.0	0.0	0.0
	15yrs	20	40.0	25.0	5.0	25.0	5.0	0.0	0.0
	35-44yrs	21	90.5	0.0	0.0	9.5	0.0	0.0	0.0

Table 6.12: Percentage distribution of participants according to the presence of enamel fluorosis (contd.)

District	Age group	N	Enamel fluorosis (%)						
			Normal	Questi-onable	Very mild	Mild	Mode-rate	Severe	Not recorded
Vavuniya	12yrs	20	40.0	20.0	5.0	25.0	10.0	0.0	0.0
	15yrs	20	40.0	15.0	25.0	15.0	5.0	0.0	0.0
	35-44yrs	20	100.0	0.0	0.0	0.0	0.0	0.0	0.0
Batticaloa	12yrs	60	100.0	0.0	0.0	0.0	0.0	0.0	0.0
	15yrs	60	100.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	60	98.3	0.0	0.0	0.0	1.7	0.0	0.0
Ampara	12yrs	99	79.8	18.2	0.0	1.0	1.0	0.0	0.0
	15yrs	100	78.0	17.0	3.0	2.0	0.0	0.0	0.0
	35-44yrs	97	95.9	1.0	1.0	1.0	1.0	0.0	0.0
Trincomalee	12yrs	39	94.9	2.6	0.0	0.0	2.6	0.0	0.0
	15yrs	40	97.5	0.0	2.5	0.0	0.0	0.0	0.0
	35-44yrs	40	85.0	7.5	0.0	0.0	0.0	0.0	7.5
Kurunegala	12yrs	160	76.3	6.3	6.3	6.9	3.8	0.6	0.0
	15yrs	160	81.9	5.0	8.1	2.5	1.9	0.6	0.0
	35-44yrs	159	87.4	2.5	3.1	1.9	4.4	0.6	0.0
Puttalam	12yrs	60	80.0	3.3	3.3	10.0	1.7	1.7	0.0
	15yrs	60	81.7	1.7	3.3	10.0	3.3	0.0	0.0
	35-44yrs	60	96.7	0.0	0.0	1.7	1.7	0.0	0.0
Anuradhapura	12yrs	100	30.0	18.0	9.0	30.0	7.0	4.0	2.0
	15yrs	100	36.0	10.0	12.0	27.0	15.0	0.0	0.0
	35-44yrs	99	63.6	7.1	5.1	8.1	15.2	1.0	0.0
Polonnaruwa	12yrs	60	76.7	6.7	8.3	5.0	3.3	0.0	0.0
	15yrs	60	85.0	3.3	6.7	5.0	0.0	0.0	0.0
	35-44yrs	60	60.0	16.7	13.3	6.7	3.3	0.0	0.0
Badulla	12yrs	80	90.0	2.5	6.3	0.0	1.3	0.0	0.0
	15yrs	80	90.0	2.5	6.3	1.3	0.0	0.0	0.0
	35-44yrs	80	95.0	0.0	2.5	1.3	0.0	0.0	1.3
Monaragala	12yrs	60	73.3	5.0	13.3	5.0	1.7	1.7	0.0
	15yrs	60	73.3	8.3	5.0	6.7	5.0	1.7	0.0
	35-44yrs	60	95.0	5.0	0.0	0.0	0.0	0.0	0.0
Ratnapura	12yrs	80	86.3	3.8	5.0	1.3	3.8	0.0	0.0
	15yrs	80	86.3	6.3	1.3	3.8	2.5	0.0	0.0
	35-44yrs	80	96.3	3.8	0.0	0.0	0.0	0.0	0.0
Kegalle	12yrs	80	95.0	2.5	2.5	0.0	0.0	0.0	0.0
	15yrs	80	96.3	1.3	1.3	1.3	0.0	0.0	0.0
	35-44yrs	79	97.5	2.5	0.0	0.0	0.0	0.0	0.0

Table 6.13: Percentage distribution of participants according to the presence of tooth-wear

District	Age group	N	Tooth-wear (%)			
			None	1-5 teeth	6-10 teeth	>10 teeth
Colombo	12yrs	179	97.8	2.2	0.0	0.0
	15yrs	180	93.3	6.1	0.6	0.0
	35-44yrs	178	55.1	23.0	20.8	1.1
Gampaha	12yrs	180	96.7	3.3	0.0	0.0
	15yrs	181	93.9	6.1	0.0	0.0
	35-44yrs	177	40.1	31.6	21.5	6.8
Kalutara	12yrs	100	97.0	3.0	0.0	0.0
	15yrs	102	93.1	6.9	0.0	0.0
	35-44yrs	100	29.0	40.0	22.0	9.0
Kandy	12yrs	140	98.6	0.7	0.0	0.7
	15yrs	140	97.9	2.1	0.0	0.0
	35-44yrs	136	64.7	25.7	8.1	1.5
Matale	12yrs	40	100.0	0.0	0.0	0.0
	15yrs	40	95.0	0.0	0.0	5.0
	35-44yrs	40	62.5	20.0	17.5	0.0
Nuwara-Eliya	12yrs	99	96.0	3.0	1.0	0.0
	15yrs	100	96.0	4.0	0.0	0.0
	35-44yrs	99	32.3	32.3	27.3	8.1
Galle	12yrs	99	98.0	1.0	1.0	0.0
	15yrs	100	100.0	0.0	0.0	0.0
	35-44yrs	99	45.5	40.4	9.1	5.1
Matara	12yrs	80	100.0	0.0	0.0	0.0
	15yrs	80	100.0	0.0	0.0	0.0
	35-44yrs	79	70.9	20.3	8.9	0.0
Hambantota	12yrs	60	98.3	0.0	1.7	0.0
	15yrs	60	100.0	0.0	0.0	0.0
	35-44yrs	59	54.2	35.6	5.1	5.1
Jaffna	12yrs	60	100.0	0.0	0.0	0.0
	15yrs	60	100.0	0.0	0.0	0.0
	35-44yrs	60	65.0	18.3	8.3	8.3
Kilinochchi	12yrs	20	95.0	5.0	0.0	0.0
	15yrs	20	100.0	0.0	0.0	0.0
	35-44yrs	20	60.0	25.0	10.0	5.0
Mannar	12yrs	21	100.0	0.0	0.0	0.0
	15yrs	20	100.0	0.0	0.0	0.0
	35-44yrs	20	70.0	25.0	5.0	0.0
Mullaitivu	12yrs	20	100.0	0.0	0.0	0.0
	15yrs	20	100.0	0.0	0.0	0.0
	35-44yrs	21	52.4	28.6	19.0	0.0
Vavuniya	12yrs	20	100.0	0.0	0.0	0.0
	15yrs	20	100.0	0.0	0.0	0.0
	35-44yrs	20	50.0	40.0	10.0	0.0
Batticaloa	12yrs	60	98.3	1.7	0.0	0.0
	15yrs	60	96.7	0.0	3.3	0.0
	35-44yrs	60	86.7	8.3	3.3	1.7
Ampara	12yrs	99	99.0	1.0	0.0	0.0
	15yrs	100	92.0	6.0	1.0	1.0
	35-44yrs	97	81.4	11.3	6.2	1.0
Trincomalee	12yrs	39	100.0	0.0	0.0	0.0
	15yrs	40	100.0	0.0	0.0	0.0
	35-44yrs	40	72.5	20.0	7.5	0.0
Kurunegala	12yrs	160	93.8	6.3	0.0	0.0
	15yrs	160	85.6	13.1	1.3	0.0
	35-44yrs	159	41.5	17.6	28.3	12.6
Puttalam	12yrs	60	96.7	3.3	0.0	0.0
	15yrs	60	86.7	11.7	1.7	0.0
	35-44yrs	60	45.0	23.3	20.0	11.7
Anuradhapura	12yrs	100	99.0	1.0	0.0	0.0
	15yrs	100	96.0	4.0	0.0	0.0
	35-44yrs	99	43.4	40.4	15.2	1.0
Polonnaruwa	12yrs	60	100.0	0.0	0.0	0.0
	15yrs	60	95.0	3.3	1.7	0.0
	35-44yrs	60	65.0	20.0	15.0	0.0
Badulla	12yrs	80	98.8	1.3	0.0	0.0
	15yrs	80	95.0	3.8	1.3	0.0
	35-44yrs	80	37.5	37.5	20.0	5.0
Monaragala	12yrs	60	98.3	1.7	0.0	0.0
	15yrs	60	96.7	3.3	0.0	0.0
	35-44yrs	60	66.7	28.3	5.0	0.0
Ratnapura	12yrs	80	98.8	1.3	0.0	0.0
	15yrs	80	98.8	1.3	0.0	0.0
	35-44yrs	80	32.5	41.3	21.3	5.0
Kegalle	12yrs	80	96.3	3.8	0.0	0.0
	15yrs	80	90.0	8.8	1.3	0.0
	35-44yrs	79	41.8	38.0	16.5	3.8

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Table 6.14: Percentage distribution of participants according to the denture-wearing status

District	Age group	N	No denture (%)	Partial denture (%)			Full denture (%)			Mixed (%)			Not recorded (%)
				Upper	Lower	Upper & lower	Upper	Lower	Upper & lower	Upper partial & lower full	Upper full & lower partial	Upper partial, lower not recorded	
Colombo	15yrs	180	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	178	88.2	6.7	2.2	1.7	0.0	0.0	0.6	0.0	0.0	0.6	0.0
	65-74yrs	176	76.1	8.0	1.1	8.0	1.7	0.0	4.0	0.6	0.0	0.6	0.0
Gampaha	15yrs	181	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	177	93.2	4.5	0.0	1.1	0.0	0.0	0.0	0.6	0.0	0.6	0.0
	65-74yrs	179	82.1	5.6	1.1	5.0	1.7	0.0	2.8	0.6	0.0	0.0	1.1
Kalutara	15yrs	102	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	100	95.0	3.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	65-74yrs	100	81.0	6.0	0.0	6.0	4.0	0.0	1.0	1.0	0.0	0.0	1.0
Kandy	15yrs	140	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	136	69.9	7.4	8.1	14.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0
	65-74yrs	134	48.5	3.0	3.7	27.6	0.7	0.0	8.2	4.5	3.7	0.0	0.0
Matale	15yrs	40	97.5	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	40	70.0	5.0	17.5	7.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	65-74yrs	39	59.0	0.0	2.6	30.8	0.0	0.0	5.1	2.6	0.0	0.0	0.0
Nuwara-Eliya	15yrs	100	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	99	94.9	3.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	65-74yrs	98	84.7	3.1	0.0	6.1	1.0	1.0	4.1	0.0	0.0	0.0	0.0
Galle	15yrs	100	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	99	88.9	7.1	0.0	2.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
	65-74yrs	100	81.0	8.0	0.0	5.0	2.0	0.0	2.0	1.0	1.0	0.0	0.0
Matara	15yrs	80	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	79	98.7	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	65-74yrs	79	86.1	3.8	0.0	1.3	1.3	0.0	6.3	1.3	0.0	0.0	0.0
Hambantota	15yrs	60	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	59	96.6	0.0	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	65-74yrs	60	91.7	0.0	1.7	0.0	0.0	0.0	5.0	1.7	0.0	0.0	0.0
Jaffna	15yrs	60	98.3	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	60	98.3	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	65-74yrs	59	93.2	3.4	0.0	0.0	1.7	0.0	1.7	0.0	0.0	0.0	0.0
Kilinochchi	15yrs	20	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	20	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	65-74yrs	20	90.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mannar	15yrs	20	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	20	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	65-74yrs	20	95.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0
Mullaitivu	15yrs	20	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	21	90.5	9.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	65-74yrs	20	95.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0

Table 6.14: Percentage distribution of participants according to the denture-wearing status (contd).

District	Age group	N	No denture (%)	Partial denture (%)			Full denture (%)			Mixed (%)			Not recorded (%)
				Upper	Lower	Upper & lower	Upper	Lower	Upper & lower	Upper partial & lower full	Upper full & lower partial	Upper partial, lower not recorded	
Vavuniya	15yrs	20	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	20	90.0	5.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	65-74yrs	19	94.7	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Batticaloa	15yrs	60	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	60	86.7	10.0	1.7	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	65-74yrs	58	91.4	1.7	0.0	3.4	3.4	0.0	0.0	0.0	0.0	0.0	0.0
Ampara	15yrs	100	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	97	99.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	65-74yrs	95	86.3	7.4	0.0	3.2	1.1	0.0	1.1	0.0	0.0	1.1	0.0
Trincomalee	15yrs	40	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	40	92.5	7.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	65-74yrs	39	89.7	5.1	2.6	0.0	0.0	0.0	2.6	0.0	0.0	0.0	0.0
Kurunegala	15yrs	160	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	159	96.2	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	65-74yrs	160	85.0	9.4	0.0	1.3	2.5	0.0	1.9	0.0	0.0	0.0	0.0
Puttalam	15yrs	60	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	60	96.7	1.7	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	65-74yrs	60	86.7	10.0	0.0	0.0	1.7	0.0	1.7	0.0	0.0	0.0	0.0
Anuradhapura	15yrs	100	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	99	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	65-74yrs	97	85.6	6.2	1.0	5.2	1.0	0.0	1.0	0.0	0.0	0.0	0.0
Polonnaruwa	15yrs	60	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	60	90.0	8.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7
	65-74yrs	59	94.9	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Badulla	15yrs	80	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	80	98.8	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	65-74yrs	74	87.8	2.7	0.0	1.4	4.1	0.0	2.7	0.0	1.4	0.0	0.0
Monaragala	15yrs	60	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	60	96.7	1.7	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	65-74yrs	60	91.7	1.7	0.0	1.7	0.0	0.0	5.0	0.0	0.0	0.0	0.0
Ratnapura	15yrs	80	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	80	88.8	8.8	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	65-74yrs	78	82.1	3.8	3.8	2.6	1.3	0.0	5.1	0.0	0.0	1.3	0.0
Kegalle	15yrs	80	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	79	98.7	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	65-74yrs	76	86.8	3.9	0.0	3.9	2.6	0.0	2.6	0.0	0.0	0.0	0.0

Table 6.15: Percentage distribution of participants according to the need of dental treatment

District	Age group	N	Need of dental treatment (%)		
			Not needed	Need routine care	Need immediate care
Colombo	5yrs	180	37.2	61.7	1.1
	12yrs	179	30.7	67.6	1.7
	15yrs	180	33.3	66.1	0.6
	35-44yrs	178	16.9	80.9	2.2
	65-74yrs	176	15.3	84.7	0.0
Gampaha	5yrs	180	36.1	62.8	1.1
	12yrs	180	31.1	68.3	0.6
	15yrs	181	29.8	69.1	1.1
	35-44yrs	177	11.3	87.0	1.7
	65-74yrs	179	14.0	84.9	1.1
Kalutara	5yrs	100	46.0	53.0	1.0
	12yrs	100	30.0	69.0	1.0
	15yrs	102	20.6	75.5	3.9
	35-44yrs	100	5.0	95.0	0.0
	65-74yrs	100	11.0	88.0	1.0
Kandy	5yrs	140	32.1	65.0	2.9
	12yrs	140	35.0	64.3	0.7
	15yrs	140	41.4	58.6	0.0
	35-44yrs	136	12.5	86.0	1.5
	65-74yrs	134	9.7	90.3	0.0
Matale	5yrs	40	35.0	65.0	0.0
	12yrs	40	42.5	52.5	5.0
	15yrs	40	42.5	55.0	2.5
	35-44yrs	40	25.0	72.5	2.5
	65-74yrs	39	12.8	87.2	0.0
Nuwara-Eliya	5yrs	100	37.0	63.0	0.0
	12yrs	99	35.4	64.6	0.0
	15yrs	100	26.0	74.0	0.0
	35-44yrs	99	7.1	88.9	4.0
	65-74yrs	98	9.2	89.8	1.0
Galle	5yrs	98	34.7	63.3	2.0
	12yrs	99	49.5	49.5	1.0
	15yrs	100	38.0	61.0	1.0
	35-44yrs	99	20.2	79.8	0.0
	65-74yrs	100	30.0	68.0	2.0
Matara	5yrs	79	27.8	70.9	1.3
	12yrs	80	41.3	58.8	0.0
	15yrs	80	38.8	58.8	2.5
	35-44yrs	79	6.3	92.4	1.3
	65-74yrs	79	15.2	84.8	0.0
Hambantota	5yrs	60	45.0	55.0	0.0
	12yrs	60	56.7	43.3	0.0
	15yrs	60	45.0	55.0	0.0
	35-44yrs	59	15.3	84.7	0.0
	65-74yrs	60	18.3	75.0	6.7
Jaffna	5yrs	60	16.7	83.3	0.0
	12yrs	60	15.0	83.3	1.7
	15yrs	60	13.3	86.7	0.0
	35-44yrs	60	6.7	91.7	1.7
	65-74yrs	59	10.2	89.8	0.0
Kilinochchi	5yrs	20	35.0	65.0	0.0
	12yrs	20	30.0	70.0	0.0
	15yrs	20	25.0	75.0	0.0
	35-44yrs	20	5.0	95.0	0.0
	65-74yrs	20	0.0	100.0	0.0
Mannar	5yrs	20	20.0	80.0	0.0
	12yrs	21	19.0	81.0	0.0
	15yrs	20	20.0	80.0	0.0
	35-44yrs	20	5.0	95.0	0.0
	65-74yrs	20	5.0	90.0	5.0
Mullaitivu	5yrs	20	70.0	25.0	5.0
	12yrs	20	35.0	65.0	0.0
	15yrs	20	60.0	40.0	0.0
	35-44yrs	21	4.8	95.2	0.0
	65-74yrs	20	5.0	95.0	0.0

Table 6.15: Percentage distribution of participants according to the need of dental treatment (contd.)

District	Age group	N	Need of dental treatment (%)		
			Not needed	Need routine care	Need immediate care
Vavuniya	5yrs	20	40.0	60.0	0.0
	12yrs	20	50.0	50.0	0.0
	15yrs	20	50.0	50.0	0.0
	35-44yrs	20	15.0	85.0	0.0
	65-74yrs	19	0.0	100.0	0.0
Batticaloa	5yrs	60	20.0	80.0	0.0
	12yrs	60	18.3	81.7	0.0
	15yrs	60	15.0	85.0	0.0
	35-44yrs	60	6.7	93.3	0.0
	65-74yrs	58	0.0	100.0	0.0
Ampara	5yrs	100	34.0	66.0	0.0
	12yrs	99	30.3	69.7	0.0
	15yrs	100	22.0	78.0	0.0
	35-44yrs	97	16.5	83.5	0.0
	65-74yrs	95	20.0	80.0	0.0
Trincomalee	5yrs	40	30.0	70.0	0.0
	12yrs	39	28.2	71.8	0.0
	15yrs	40	27.5	72.5	0.0
	35-44yrs	40	22.5	77.5	0.0
	65-74yrs	39	20.5	79.5	0.0
Kurunegala	5yrs	160	44.4	54.4	1.3
	12yrs	160	36.9	63.1	0.0
	15yrs	160	39.4	60.0	0.6
	35-44yrs	159	17.6	82.4	0.0
	65-74yrs	160	18.1	80.6	1.3
Puttalam	5yrs	60	36.7	63.3	0.0
	12yrs	60	41.7	58.3	0.0
	15yrs	60	26.7	73.3	0.0
	35-44yrs	60	10.0	90.0	0.0
	65-74yrs	60	1.7	98.3	0.0
Anuradhapura	5yrs	100	47.0	53.0	0.0
	12yrs	100	58.0	42.0	0.0
	15yrs	100	40.0	59.0	1.0
	35-44yrs	99	26.3	71.7	2.0
	65-74yrs	97	21.6	77.3	1.0
Polonnaruwa	5yrs	60	45.0	53.3	1.7
	12yrs	60	21.7	78.3	0.0
	15yrs	60	23.3	71.7	5.0
	35-44yrs	60	20.0	78.3	1.7
	65-74yrs	59	11.9	86.4	1.7
Badulla	5yrs	78	34.6	65.4	0.0
	12yrs	80	40.0	60.0	0.0
	15yrs	80	51.3	48.8	0.0
	35-44yrs	80	16.3	78.8	5.0
	65-74yrs	74	20.3	79.7	0.0
Monaragala	5yrs	60	35.0	65.0	0.0
	12yrs	60	45.0	55.0	0.0
	15yrs	60	33.3	66.7	0.0
	35-44yrs	60	21.7	78.3	0.0
	65-74yrs	60	23.3	73.3	3.3
Ratnapura	5yrs	80	40.0	60.0	0.0
	12yrs	80	43.8	56.3	0.0
	15yrs	80	38.8	61.3	0.0
	35-44yrs	80	11.3	87.5	1.3
	65-74yrs	78	12.8	85.9	1.3
Kegalle	5yrs	80	51.3	48.8	0.0
	12yrs	80	51.3	48.8	0.0
	15yrs	80	43.8	56.3	0.0
	35-44yrs	79	22.8	74.7	2.5
	65-74yrs	76	26.3	73.7	0.0

Table 6.16: Percentage distribution of participants according to 'access to the nearest government dental clinic'

District	Age group	N	Distance to the nearest government dental clinic (%)			
			< 1 km	1-5 km	> 5 km	Do not remember
Colombo	12yrs	179	55.3	31.8	9.5	3.4
	15yrs	180	45.0	40.0	10.0	5.0
	35-44yrs	178	40.4	44.4	9.0	6.2
	65-74yrs	176	43.8	41.5	9.7	5.1
Gampaha	12yrs	180	25.6	27.2	43.9	3.3
	15yrs	181	23.2	27.6	46.4	2.8
	35-44yrs	177	15.8	36.7	44.6	2.8
	65-74yrs	179	15.6	32.4	50.8	1.1
Kalutara	12yrs	100	38.0	28.0	34.0	0.0
	15yrs	102	26.5	40.2	32.4	1.0
	35-44yrs	100	33.0	35.0	31.0	1.0
	65-74yrs	100	39.0	25.0	36.0	0.0
Kandy	12yrs	140	42.9	35.7	17.9	3.6
	15yrs	140	42.9	31.4	21.4	4.3
	35-44yrs	136	54.4	27.2	17.6	0.7
	65-74yrs	134	54.5	25.4	18.7	1.5
Matale	12yrs	40	40.0	42.5	17.5	0.0
	15yrs	40	40.0	45.0	15.0	0.0
	35-44yrs	40	37.5	27.5	35.0	0.0
	65-74yrs	39	38.5	35.9	25.6	0.0
Nuwara-Eliya	12yrs	99	22.2	40.4	36.4	1.0
	15yrs	100	20.0	41.0	39.0	0.0
	35-44yrs	99	14.1	43.4	41.4	1.0
	65-74yrs	98	19.4	46.9	31.6	2.0
Galle	12yrs	99	11.1	37.4	50.5	1.0
	15yrs	100	7.0	29.0	63.0	1.0
	35-44yrs	99	21.2	52.5	24.2	2.0
	65-74yrs	100	23.0	48.0	29.0	0.0
Matara	12yrs	80	25.0	25.0	50.0	0.0
	15yrs	80	6.3	48.8	45.0	0.0
	35-44yrs	79	19.0	29.1	51.9	0.0
	65-74yrs	79	19.0	32.9	48.1	0.0
Hambantota	12yrs	60	15.0	25.0	60.0	0.0
	15yrs	60	13.3	30.0	56.7	0.0
	35-44yrs	59	18.6	15.3	64.4	1.7
	65-74yrs	60	16.7	16.7	66.7	0.0
Jaffna	12yrs	60	66.7	0.0	33.3	0.0
	15yrs	60	65.0	1.7	33.3	0.0
	35-44yrs	60	31.7	33.3	33.3	1.7
	65-74yrs	59	18.6	32.2	47.5	1.7
Kilinochchi	12yrs	20	60.0	30.0	10.0	0.0
	15yrs	20	5.0	90.0	5.0	0.0
	35-44yrs	20	65.0	30.0	5.0	0.0
	65-74yrs	20	45.0	55.0	0.0	0.0
Mannar	12yrs	21	85.7	0.0	14.3	0.0
	15yrs	20	100.0	0.0	0.0	0.0
	35-44yrs	20	20.0	75.0	5.0	0.0
	65-74yrs	20	15.0	80.0	5.0	0.0
Mullaitivu	12yrs	20	5.0	90.0	5.0	0.0
	15yrs	20	0.0	95.0	5.0	0.0
	35-44yrs	21	0.0	28.6	71.4	0.0
	65-74yrs	20	0.0	45.0	55.0	0.0

Table 6.16: Percentage distribution of participants according to the 'access to the nearest government dental clinic' (contd.)

District	Age group	N	Distance to the nearest government dental clinic (%)			
			< 1 km	1-5 km	> 5 km	Do not remember
Vavuniya	12yrs	20	50.0	50.0	0.0	0.0
	15yrs	20	5.0	95.0	0.0	0.0
	35-44yrs	20	0.0	50.0	50.0	0.0
	65-74yrs	19	0.0	73.7	26.3	0.0
Batticaloa	12yrs	60	11.7	36.7	51.7	0.0
	15yrs	60	35.0	33.3	31.7	0.0
	35-44yrs	60	46.7	21.7	30.0	1.7
	65-74yrs	58	53.4	19.0	25.9	1.7
Ampara	12yrs	99	7.1	68.7	24.2	0.0
	15yrs	100	8.0	54.0	36.0	2.0
	35-44yrs	97	21.6	22.7	54.6	1.0
	65-74yrs	95	15.8	29.5	54.7	0.0
Trincomalee	12yrs	39	69.2	12.8	17.9	0.0
	15yrs	40	67.5	7.5	25.0	0.0
	35-44yrs	40	25.0	75.0	0.0	0.0
	65-74yrs	39	12.8	82.1	5.1	0.0
Kurunegala	12yrs	160	16.9	42.5	40.6	0.0
	15yrs	160	9.4	37.5	52.5	0.6
	35-44yrs	159	23.9	32.7	42.1	1.3
	65-74yrs	160	23.8	36.3	39.4	0.6
Puttalam	12yrs	60	18.3	65.0	16.7	0.0
	15yrs	60	23.3	71.7	5.0	0.0
	35-44yrs	60	21.7	56.7	21.7	0.0
	65-74yrs	60	18.3	60.0	21.7	0.0
Anuradhapura	12yrs	100	22.0	23.0	55.0	0.0
	15yrs	100	21.0	17.0	62.0	0.0
	35-44yrs	99	17.2	27.3	55.6	0.0
	65-74yrs	97	14.4	29.9	55.7	0.0
Polonnaruwa	12yrs	60	28.3	55.0	13.3	3.3
	15yrs	60	33.3	60.0	1.7	5.0
	35-44yrs	60	8.3	25.0	66.7	0.0
	65-74yrs	59	6.8	30.5	62.7	0.0
Badulla	12yrs	80	21.3	22.5	56.3	0.0
	15yrs	80	21.3	22.5	56.3	0.0
	35-44yrs	80	23.8	16.3	58.8	1.3
	65-74yrs	74	25.7	27.0	47.3	0.0
Monaragala	12yrs	60	83.3	13.3	3.3	0.0
	15yrs	60	70.0	26.7	3.3	0.0
	35-44yrs	60	13.3	73.3	6.7	6.7
	65-74yrs	60	6.7	83.3	6.7	3.3
Ratnapura	12yrs	80	40.0	31.3	28.8	0.0
	15yrs	80	37.5	27.5	35.0	0.0
	35-44yrs	80	32.5	41.3	26.3	0.0
	65-74yrs	78	39.7	33.3	26.9	0.0
Kegalle	12yrs	80	42.5	43.8	13.8	0.0
	15yrs	80	41.3	45.0	13.8	0.0
	35-44yrs	79	41.8	46.8	11.4	0.0
	65-74yrs	76	34.2	63.2	2.6	0.0

Table 6.17: Percentage distribution of participants according to the 'last visit to a dental clinic'

District	Age group	N	Last visit to a dental clinic (%)			
			Never visited	Within the last year	More than one year ago	Do not remember
Colombo	12yrs	179	7.3	70.4	20.7	1.7
	15yrs	180	14.4	31.7	45.6	8.3
	35-44yrs	178	2.8	32.0	60.7	4.5
	65-74yrs	176	13.1	25.6	47.2	14.2
Gampaha	12yrs	180	8.9	48.9	32.2	10.0
	15yrs	181	10.5	30.4	50.3	8.8
	35-44yrs	177	8.5	32.2	52.0	7.3
	65-74yrs	179	21.2	14.5	44.7	19.6
Kalutara	12yrs	100	0.0	70.0	29.0	1.0
	15yrs	102	0.0	20.6	71.6	7.8
	35-44yrs	100	5.0	35.0	54.0	6.0
	65-74yrs	100	11.0	13.0	51.0	25.0
Kandy	12yrs	140	9.3	59.3	26.4	5.0
	15yrs	140	15.0	30.0	48.6	6.4
	35-44yrs	136	9.6	38.2	46.3	5.9
	65-74yrs	134	11.9	16.4	55.2	16.4
Matale	12yrs	40	0.0	80.0	17.5	2.5
	15yrs	40	5.0	22.5	67.5	5.0
	35-44yrs	40	10.0	37.5	50.0	2.5
	65-74yrs	39	5.1	28.2	46.2	20.5
Nuwara-Eliya	12yrs	99	17.2	58.6	23.2	1.0
	15yrs	100	13.0	35.0	47.0	5.0
	35-44yrs	99	15.2	25.3	59.6	0.0
	65-74yrs	98	35.7	10.2	48.0	6.1
Galle	12yrs	99	12.1	72.7	13.1	2.0
	15yrs	100	22.0	19.0	50.0	9.0
	35-44yrs	99	7.1	33.3	57.6	2.0
	65-74yrs	100	17.0	14.0	64.0	5.0
Matara	12yrs	80	0.0	92.5	5.0	2.5
	15yrs	80	5.0	43.8	41.3	10.0
	35-44yrs	79	3.8	29.1	67.1	0.0
	65-74yrs	79	24.1	16.5	54.4	5.1
Hambantota	12yrs	60	10.0	40.0	43.3	6.7
	15yrs	60	8.3	31.7	55.0	5.0
	35-44yrs	59	10.2	15.3	61.0	13.6
	65-74yrs	60	28.3	8.3	35.0	28.3
Jaffna	12yrs	60	26.7	43.3	28.3	1.7
	15yrs	60	23.3	10.0	63.3	3.3
	35-44yrs	60	16.7	25.0	48.3	10.0
	65-74yrs	59	37.3	18.6	30.5	13.6
Kilinochchi	12yrs	20	20.0	60.0	15.0	5.0
	15yrs	20	20.0	30.0	20.0	30.0
	35-44yrs	20	20.0	15.0	55.0	10.0
	65-74yrs	20	15.0	25.0	10.0	50.0
Mannar	12yrs	21	47.6	9.5	42.9	0.0
	15yrs	20	80.0	15.0	5.0	0.0
	35-44yrs	20	30.0	5.0	55.0	10.0
	65-74yrs	20	5.0	20.0	50.0	25.0
Mullaitivu	12yrs	20	50.0	45.0	5.0	0.0
	15yrs	20	70.0	10.0	20.0	0.0
	35-44yrs	21	19.0	28.6	47.6	4.8
	65-74yrs	20	35.0	15.0	25.0	25.0

Table 6.17: Percentage distribution of participants according to the 'last visit to a dental clinic' (contd.)

District	Age group	N	Last visit to a dental clinic (%)			
			Never visited	Within the last year	More than one year ago	Do not remember
Vavuniya	12yrs	20	5.0	90.0	5.0	0.0
	15yrs	20	10.0	45.0	45.0	0.0
	35-44yrs	20	30.0	40.0	25.0	5.0
	65-74yrs	19	52.6	15.8	21.1	10.5
Batticaloa	12yrs	60	56.7	16.7	21.7	5.0
	15yrs	60	43.3	15.0	25.0	16.7
	35-44yrs	60	11.7	40.0	46.7	1.7
	65-74yrs	58	15.5	22.4	43.1	19.0
Ampara	12yrs	99	38.4	32.3	21.2	8.1
	15yrs	100	21.0	35.0	31.0	13.0
	35-44yrs	97	9.3	33.0	54.6	3.1
	65-74yrs	95	17.9	17.9	47.4	16.8
Trincomalee	12yrs	39	61.5	20.5	17.9	0.0
	15yrs	40	60.0	15.0	22.5	2.5
	35-44yrs	40	12.5	37.5	42.5	7.5
	65-74yrs	39	28.2	28.2	30.8	12.8
Kurunegala	12yrs	160	1.3	80.0	12.5	6.3
	15yrs	160	2.5	43.1	50.0	4.4
	35-44yrs	159	6.9	29.6	57.2	6.3
	65-74yrs	160	12.5	23.1	40.0	24.4
Puttalam	12yrs	60	1.7	91.7	5.0	1.7
	15yrs	60	6.7	30.0	55.0	8.3
	35-44yrs	60	8.3	23.3	51.7	16.7
	65-74yrs	60	11.7	30.0	45.0	13.3
Anuradhapura	12yrs	100	27.0	35.0	31.0	7.0
	15yrs	100	19.0	33.0	45.0	3.0
	35-44yrs	99	13.1	31.3	47.5	8.1
	65-74yrs	97	18.6	19.6	52.6	9.3
Polonnaruwa	12yrs	60	5.0	60.0	33.3	1.7
	15yrs	60	20.0	38.3	41.7	0.0
	35-44yrs	60	3.3	30.0	65.0	1.7
	65-74yrs	59	15.3	16.9	62.7	5.1
Badulla	12yrs	80	12.5	58.8	28.8	0.0
	15yrs	80	16.3	28.8	51.3	3.8
	35-44yrs	80	15.0	31.3	47.5	6.3
	65-74yrs	74	28.4	23.0	41.9	6.8
Monaragala	12yrs	60	11.7	86.7	1.7	0.0
	15yrs	60	10.0	71.7	16.7	1.7
	35-44yrs	60	10.0	25.0	63.3	1.7
	65-74yrs	60	23.3	15.0	50.0	11.7
Ratnapura	12yrs	80	36.3	43.8	20.0	0.0
	15yrs	80	16.3	33.8	43.8	6.3
	35-44yrs	80	17.5	32.5	47.5	2.5
	65-74yrs	78	34.6	21.8	41.0	2.6
Kegalle	12yrs	80	0.0	71.3	23.8	5.0
	15yrs	80	0.0	31.3	62.5	6.3
	35-44yrs	79	7.6	34.2	50.6	7.6
	65-74yrs	76	15.8	9.2	59.2	15.8

Table 6.18: Percentage distribution of participants according to the 'type of dental clinic last visited'

District	Age group	N	Type of dental clinic last visited (%)						
			Never visited	Hospital	Private	School	Mobile	Any other	Do not know
Colombo	12yrs	179	7.3	25.7	8.9	48.6	7.8	0.0	1.7
	15yrs	180	15.0	30.0	12.8	28.3	4.4	0.6	8.9
	35-44yrs	178	3.4	48.3	41.0	1.7	0.0	1.1	4.5
	65-74yrs	176	13.6	43.8	28.4	1.1	0.0	0.6	12.5
Gampaha	12yrs	180	9.4	12.2	6.7	57.2	7.2	0.0	7.2
	15yrs	181	12.2	16.6	8.3	52.5	6.6	0.0	3.9
	35-44yrs	177	8.5	27.7	57.1	2.8	0.0	1.7	2.3
	65-74yrs	179	24.0	38.0	27.4	0.0	0.0	0.0	10.6
Kalutara	12yrs	100	0.0	20.0	4.0	73.0	2.0	0.0	1.0
	15yrs	102	0.0	21.6	5.9	58.8	7.8	0.0	5.9
	35-44yrs	100	6.0	52.0	33.0	2.0	1.0	2.0	4.0
	65-74yrs	100	11.0	55.0	23.0	0.0	0.0	0.0	11.0
Kandy	12yrs	140	9.3	30.0	4.3	50.0	2.1	0.0	4.3
	15yrs	140	15.7	32.1	6.4	39.3	2.9	0.0	3.6
	35-44yrs	136	10.3	54.4	30.9	0.7	0.0	0.7	2.9
	65-74yrs	134	12.7	46.3	30.6	0.7	0.7	0.7	8.2
Matale	12yrs	40	0.0	17.5	0.0	72.5	7.5	0.0	2.5
	15yrs	40	5.0	37.5	0.0	55.0	0.0	0.0	2.5
	35-44yrs	40	10.0	67.5	17.5	0.0	0.0	2.5	2.5
	65-74yrs	39	10.3	59.0	17.9	0.0	0.0	0.0	12.8
Nuwara-Eliya	12yrs	99	18.2	15.2	3.0	60.6	3.0	0.0	0.0
	15yrs	100	13.0	26.0	4.0	49.0	4.0	1.0	3.0
	35-44yrs	99	15.2	66.7	15.2	1.0	2.0	0.0	0.0
	65-74yrs	98	35.7	53.1	8.2	0.0	1.0	0.0	2.0
Galle	12yrs	99	12.1	9.1	5.1	72.7	0.0	0.0	1.0
	15yrs	100	22.0	19.0	7.0	44.0	0.0	0.0	8.0
	35-44yrs	99	8.1	51.5	32.3	8.1	0.0	0.0	0.0
	65-74yrs	100	17.0	52.0	27.0	3.0	0.0	0.0	1.0
Matara	12yrs	80	0.0	11.3	3.8	85.0	0.0	0.0	0.0
	15yrs	80	5.0	15.0	3.8	56.3	11.3	1.3	7.5
	35-44yrs	79	5.1	39.2	51.9	1.3	1.3	1.3	0.0
	65-74yrs	79	27.8	34.2	38.0	0.0	0.0	0.0	0.0
Hambantota	12yrs	60	10.0	18.3	1.7	61.7	0.0	1.7	6.7
	15yrs	60	10.0	15.0	6.7	65.0	0.0	0.0	3.3
	35-44yrs	59	10.2	40.7	39.0	1.7	0.0	0.0	8.5
	65-74yrs	60	28.3	33.3	15.0	0.0	0.0	0.0	23.3
Jaffna	12yrs	60	26.7	20.0	1.7	25.0	25.0	0.0	1.7
	15yrs	60	23.3	28.3	1.7	21.7	21.7	0.0	3.3
	35-44yrs	60	16.7	71.7	8.3	0.0	0.0	1.7	1.7
	65-74yrs	59	39.0	50.8	8.5	0.0	0.0	0.0	1.7
Kilinochchi	12yrs	20	25.0	75.0	0.0	0.0	0.0	0.0	0.0
	15yrs	20	25.0	45.0	10.0	10.0	0.0	0.0	10.0
	35-44yrs	20	20.0	50.0	30.0	0.0	0.0	0.0	0.0
	65-74yrs	20	15.0	70.0	15.0	0.0	0.0	0.0	0.0
Mannar	12yrs	21	47.6	52.4	0.0	0.0	0.0	0.0	0.0
	15yrs	20	80.0	20.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	20	30.0	65.0	5.0	0.0	0.0	0.0	0.0
	65-74yrs	20	5.0	75.0	5.0	0.0	0.0	0.0	15.0
Mullaitivu	12yrs	20	50.0	25.0	0.0	25.0	0.0	0.0	0.0
	15yrs	20	70.0	30.0	0.0	0.0	0.0	0.0	0.0
	35-44yrs	21	19.0	81.0	0.0	0.0	0.0	0.0	0.0
	65-74yrs	20	35.0	35.0	10.0	0.0	0.0	0.0	20.0

Table 6.18: Percentage distribution of participants according to the 'type of dental clinic last visited' (contd.)

District	Age group	N	Type of dental clinic last visited (%)						
			Never visited	Hospital	Private	School	Mobile	Any other	Do not know
Vavuniya	12yrs	20	5.0	10.0	0.0	85.0	0.0	0.0	0.0
	15yrs	20	10.0	30.0	15.0	45.0	0.0	0.0	0.0
	35-44yrs	20	30.0	15.0	45.0	0.0	0.0	5.0	5.0
	65-74yrs	19	52.6	31.6	5.3	0.0	0.0	0.0	10.5
Batticaloa	12yrs	60	56.7	31.7	8.3	3.3	0.0	0.0	0.0
	15yrs	60	45.0	25.0	28.3	1.7	0.0	0.0	0.0
	35-44yrs	60	11.7	61.7	21.7	0.0	1.7	3.3	0.0
	65-74yrs	58	17.2	56.9	12.1	0.0	0.0	0.0	13.8
Ampara	12yrs	99	38.4	20.2	2.0	32.3	0.0	0.0	7.1
	15yrs	100	21.0	23.0	1.0	30.0	15.0	0.0	10.0
	35-44yrs	97	10.3	64.9	21.6	1.0	0.0	1.0	1.0
	65-74yrs	95	17.9	47.4	24.2	0.0	0.0	0.0	10.5
Trincomalee	12yrs	39	61.5	30.8	7.7	0.0	0.0	0.0	0.0
	15yrs	40	60.0	27.5	10.0	0.0	2.5	0.0	0.0
	35-44yrs	40	12.5	45.0	40.0	0.0	0.0	0.0	2.5
	65-74yrs	39	28.2	41.0	15.4	0.0	2.6	2.6	10.3
Kurunegala	12yrs	160	1.3	10.0	2.5	74.4	4.4	2.5	5.0
	15yrs	160	2.5	17.5	2.5	47.5	19.4	5.6	5.0
	35-44yrs	159	8.8	58.5	27.0	1.3	0.0	1.9	2.5
	65-74yrs	160	13.8	48.1	21.9	0.0	0.6	0.0	15.6
Puttalam	12yrs	60	3.3	10.0	1.7	83.3	0.0	0.0	1.7
	15yrs	60	6.7	33.3	6.7	38.3	0.0	6.7	8.3
	35-44yrs	60	8.3	28.3	43.3	1.7	0.0	1.7	16.7
	65-74yrs	60	11.7	43.3	30.0	0.0	1.7	0.0	13.3
Anuradhapura	12yrs	100	27.0	22.0	7.0	29.0	9.0	0.0	6.0
	15yrs	100	20.0	11.0	9.0	37.0	19.0	1.0	3.0
	35-44yrs	99	14.1	50.5	22.2	7.1	3.0	2.0	1.0
	65-74yrs	97	19.6	56.7	15.5	0.0	1.0	1.0	6.2
Polonnaruwa	12yrs	60	5.0	25.0	8.3	53.3	5.0	1.7	1.7
	15yrs	60	20.0	20.0	3.3	50.0	6.7	0.0	0.0
	35-44yrs	60	3.3	66.7	28.3	0.0	0.0	0.0	1.7
	65-74yrs	59	15.3	64.4	18.6	0.0	0.0	0.0	1.7
Badulla	12yrs	80	12.5	13.8	2.5	61.3	10.0	0.0	0.0
	15yrs	80	16.3	17.5	2.5	56.3	5.0	0.0	2.5
	35-44yrs	80	17.5	66.3	10.0	0.0	3.8	0.0	2.5
	65-74yrs	74	29.7	52.7	12.2	0.0	1.4	0.0	4.1
Monaragala	12yrs	60	13.3	16.7	0.0	43.3	25.0	0.0	1.7
	15yrs	60	11.7	16.7	1.7	21.7	46.7	0.0	1.7
	35-44yrs	60	11.7	56.7	25.0	1.7	5.0	0.0	0.0
	65-74yrs	60	26.7	58.3	13.3	0.0	0.0	0.0	1.7
Ratnapura	12yrs	80	36.3	17.5	5.0	36.3	2.5	0.0	2.5
	15yrs	80	17.5	20.0	6.3	36.3	10.0	7.5	2.5
	35-44yrs	80	17.5	46.3	30.0	0.0	2.5	1.3	2.5
	65-74yrs	78	34.6	28.2	34.6	0.0	0.0	0.0	2.6
Kegalle	12yrs	80	0.0	10.0	1.3	77.5	7.5	0.0	3.8
	15yrs	80	0.0	23.8	6.3	60.0	2.5	3.8	3.8
	35-44yrs	79	7.6	64.6	20.3	1.3	0.0	1.3	5.1
	65-74yrs	76	15.8	59.2	10.5	0.0	0.0	1.3	13.2

Chapter 7

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Chapter 8

Annexure

Annexure 1: Distribution of clusters according to districts

Table 8.1: Distribution of clusters according to districts

Cluster No.	District	Total student population	Cumulative total	No. of clusters			
				Total	Urban	Rural	% Urban clusters
1	Colombo	361,661	-	9	6	3	66%
2	Gampaha	343,911	705,572	9	3	6	33%
3	Kalutara	210,300	915,872	5	1	4	20%
4	Kandy	270,687	1,186,559	7	2	5	28.5%
5	Matale	95,240	1,281,799	2	0	2	0%
6	Nuwara-Eliya	156,366	1,438,165	5	2	3	40%
7	Galle	217,676	1,655,841	5	1	4	20%
8	Matara	160,489	1,816,330	4	2	2	50%
9	Hambantota	126,006	1,942,336	3	1	2	33%
10	Jaffna	130,468	2,072,804	3	1	2	33%
11	Kilinochchi	26,158	2,098,962	1	0	1	0%
12	Mannar	27,820	2,126,782	1	1	0	100%
13	Mullaithivu	12,020	2,138,802	1	0	1	0%
14	Vavuniya	43,199	2,182,001	1	1	0	100%
15	Batticaloa	130,770	2,312,771	3	0	3	0%
16	Ampara	160,299	2,473,070	4	1	3	25%
17	Trincomalee	99,468	2,572,538	2	1	1	50%
18	Kurunegala	312,757	2,885,295	8	1	7	12.5%
19	Puttlam	160,079	3,045,374	4	0	4	0%
20	Anuradhapura	175,710	3,221,084	5	1	4	20%
21	Polonnaruwa	73,691	3,294,775	2	0	2	0%
22	Badulla	182,211	3,476,986	4	0	4	0%
23	Monaragala	94,905	3,571,891	3	0	3	0%
24	Ratnapura	208,864	3,780,755	5	3	2	60%
25	Kegalle	159,317	3,940,072	4	0	4	0%
	TOTAL	3,940,072	-	100	28	72	28%

Sampling interval = 3,940,072/100 = 39,400
Random number = 19,330

Annexure 2: List of schools visited - National Oral Health Survey 2015-2016

Table 8.2: List of schools visited

Cluster No	District	Sector: U:Urban, R:Rural	School name	Address	Selection S: Selected, A: Additional
1	Colombo	U	ST.ANTHONY'S B.V.	DEMATAGODA ROAD, COLOMBO-09.	S
2	Colombo	U	YASODARA B.V.	KYNSEY ROAD,COLOMBO-08	S
3	Colombo	U	MAHANAMA COLLEGE	COLOMBO-03.	S
4	Colombo	R	SEDAWATTA SIDDHARTHA CENTRAL COLLEGE	WELLAMPITIYA	S
5	Colombo	U	DE SOYSA M.V.	MORATUWA	S
6	Colombo	U	COLOMBO CENTRAL HINDU M.V.	MAHA VIDYALA MW, COLOMBO-13.	S
7	Colombo	R	M.D.H.JAYAWARDENE M.V.	THALANGAMA NORTH, BATTARAMULLA	S
8	Colombo	R	MAGAMMANA M.V.	MAGAMMANA, HOMAGAMA	S
9	Colombo	U	PRESIDENT'S COLLEGE	HIGH LEVEL RD., MAHARAGAMA	S
10	Gampaha	R	VIDYALOKA M.V.	KERAWALAPITIYA, WATTALA	S
11	Gampaha	R	KURUWAMULLA M.V.	WATHURUGAMA.	S
12	Gampaha	R	SIRI PERAKUMBA M.V.	PARAKANDENIYA, IMBULGODA	S
13	Gampaha	R	MAHAGAMASEKARA M.V.	RADAWANA	S
14	Gampaha	U	GURUKULA M.M.V.	KELANIYA.	S
15	Gampaha	U	NEWSTEAD GIRLS COLLEGE	NEGOMBO	S
16	Gampaha	R	WELIHENA SINHALA MIX K.A.	KOCHCHIKADE	S
17	Gampaha	R	SRI RAHULA M.V.	KOTUGODA	S
18	Gampaha	U	AL-HILAL M.M.V.	SIR RAZIK FAREED MW, NEGOMBO	S
19	Kalutara	U	UPADYAYA M.V.	PANADURA	S
20	Kalutara	R	MEEWANAPALANA M. V.	MEEWANAPALANA	S
21	Kalutara	R	DODANGODA M.V.	DODANGODA	S
22	Kalutara	R	MORONTHUDUWA DHAMMANANDA M.V.	MORONTHUDUWA	S
23	Kalutara	R	ALUTHGAMWEEDIYA MUSLIM B.M.V.	DHARGA TOWN	S
24	Kandy	R	ANKUMBURA PARACKRAMA M.M.V.	ANKUMBURA	S
25	Kandy	R	MINIPE JUNIOR S.S.	AMBAGAHAPELASSA	S
26	Kandy	R	AZHAR C.C.	AKURANA	S
27	Kandy	R	BERREWAERTS COLLEGE	AMPITIYA, KANDY	S
28	Kandy	U	DHARMAWICKRAMA B. V.	KANDY	S
29	Kandy	U	ST.JOSEPHS BALIKA M.V.	GAMPOLA	S
30	Kandy	R	DOLOSBAGE TAMIL VIDYALAYA	DOLOSBAGE	S
31	Matale	R	MEDABEDDA M.V	MEDABEDDA,WAHAKOTTE	S
32	Matale	R	WEERAPARAKRAMA M. M. V.	YATAWTTA, MATALE	S
33	Nuwara-Eliya	U	GAMINI N.S.	NUWARA- ELIYA	S
34	Nuwara-Eliya	R	SIDUHATH M.V.	THERIPEHE, NILDANDAHINNA	S
35	Nuwara-Eliya	R	NORWOOD TAMIL M.V.	NORWOOD	S
36	Nuwara-Eliya	U	GOOD REST CONVENT	NUWARA-ELIYA	S
37	Nuwara-Eliya	R	RIKILLAGASKADA MODEL SCHOOL	RIKILLAGASKADA	S
38	Galle	R	BANDULASENADHIRA M.V.	KARANDENIYA	S
39	Galle	R	G/VIDYARAJA NATIONAL SCHOOL	THAWALAMA	S
40	Galle	R	MAWADAWILA MALIYADEWA M.V.	RATHGAMA	S
41	Galle	U	SAINT ALL0YSIUS COLLEGE	KALUWELLA, GALLE	S
42	Galle	R	THITHTHAGALLA ATANIKITHA K.V.	THITHTHAGALLA, AHANGAMA	S
43	Matara	R	MR/GINNALIYA M.V.	GINNALIYA, URUBOKKA.	S
44	Matara	R	GODAPITIYA SADATH M.V.	GODAPITIYA,AKURESSA	S
45	Matara	U	MR/ARAFA NATIONAL COLLEGE	WELIGAMA	S
46	Matara	U	MAHAMAYA BALIKA M.V.	BEACH ROAD, MATARA	S
47	Hambantota	R	MEEGASARA.M.V.	JULAMPITIYA	S
48	Hambantota	R	WELIPATANWILA M.V.	NONGAMA, LUNAMA, AMBLANTOTA	S
49	Hambantota	U	ST. MARY'S NATIONAL SCHOOL	HAMBANTOTA	S

Table 8.2: List of schools visited (cont.)

Cluster No	District	Sector: U:Urban, R:Rural	School name	Address	Selection S: Selected, A: Additional
50	Jaffna	R	J/DR.A.THIYAGARAJAH M.M.V.	KARAINAGAR	S
51	Jaffna	R	J/VAYAVILAN M.M.V.	URUMPIRAI	S
52	Jaffna	U	DRIEBERG COLLEGE	KANDY ROAD, CHAVAKACHCHERI	S
53	Kilinochchi	R	KN/KILINOCHCHI CENTRAL COLLEGE	ANANTHANAGAR WEST,KILINOCHCHI	S
54	Mannar	U	TALAIMANNAR PIER G.T.M.S.	TALAIMANNAR	S
55	Vavuniya	U	VAVUNIYA HINDU COLLEGE	KOVILPUTHUKULAM,VAVUNIYA	S
56	Mulaitivu	R	MU/PALINAGAR M.V.	PALINAGAR VAVUNIKKULAM	S
57	Batticaloa	R	BT/AL AZHAR VIDYALAYA	KADDUPPALLI ROAD, ERAVUR.	S
58	Batticaloa	R	BT/PUTHUKUDIYIRUPPU KANNAKI M.V.	PUTHUKKUDIYIRUPPU (30158)	S
59	Batticaloa	R	BT/ODDAMAVADY FATHIMA B.M.V.	ODDAMAVADY-02	S
60	Ampara	R	AM/ POLWATHTHA M.V.	POLWAGA JANAPADAYA- AMPARA	S
61	Ampara	U	KM/ZAHIRA COLLEGE (N.S)	ZAHIRA COLLEGE ROAD,KALMUNAI	S
62	Ampara	R	AN-NOOR VIDYALAYA	ADDALAICHCHENAI 32350	S
		R	AL-ARHAM VIDYALAYA	ADDALAICHCHENAI	A
63	Ampara	R	AM/DEHI/KUDAGALA M.V.	KUDAGALA,DEHIATTAKANDIYA	S
64	Trincomalee	U	ZAHIRA C.	MOOR STREET, TRINCOMALEE	S
65	Trincomalee	R	T/AL-HITHAYA M.V.	MUTTUR	S
66	Kurunegala	R	KU/WADAKADA M.V.	WADAKADA	S
67	Kurunegala	R	SRI GNANODAYA M.M.V.	WARIYAPOLA	S
68	Kurunegala	R	MAYURAPADA K.V.	NARAMMALA	S
69	Kurunegala	U	KU/HISBULLA C.C.	THELIYAGONNA, KURUNEGALA.	S
70	Kurunegala	R	BARAGEDARA M.M.V.	ATHUNGAHAKOTUWA	S
71	Kurunegala	R	ELABADAGAMA SINHALA M.V.	ELABADAGAMA	S
72	Kurunegala	R	VIJABA M.M.V.	MAHO	S
73	Kurunegala	R	HULUGALLA M.V.	NIKAWERATIYA	S
74	Puttalam	R	THABBOWA M.V.	THABBOWA, PUTTALAM	S
75	Puttalam	R	KADAYAMOTTE K.V.	MADURANKULIYA	S
76	Puttalam	R	KARUKKUWA SUGATHANANDA M.V.	MADAMPE	S
77	Puttalam	R	MARAWILA BOYS K.V.	MARAWILA	S
78	Anuradhapura	R	MAHADIVULWEWA V.	MAHADIVULWEWA,ETAWEERAGOLLEWA	S
79	Anuradhapura	U	A/SWARNAPALI B.M.V.	ANURADHAPURA	S
80	Anuradhapura	R	VIDYARTHA MAHA VIDYALAYA	PAHALAMARAGAHAWEWA	S
81	Anuradhapura	R	GALKULAMA DAMMADINNA M.V.	GALKULAMA	S
82	Anuradhapura	R	IKIRIGOLLEWA MUSLIM M.V.	IKIRIGOLLEWA, WAHAMALGOLLEWA	S
83	Polonnaruwa	R	ROYAL CENTAL COLLEGE	NEW TOWN,POLONNARUWA	S
84	Polonnaruwa	R	RADAVIGEOYA K.V.	ATTANAKADAWALA,POLONNARUWA	S
85	Badulla	R	D.S.SENANAYAKA JATIKA PASALA	KANDAKETIYA	S
86	Badulla	R	BANDARAWELA M.M.V.	KINEGAMA, BANDARAWELA	S
87	Badulla	R	B/PRAGHNASENA M.V.	NUWARAELIYA ROAD, BORAGAS	S
88	Badulla	R	CRAIG T.M.V.	DOOLGOLLA S.P.O, BANDARAWELA	S
		R	BANDARAWELA T.V.	BANDARAWELA	A
89	Monaragala	R	MO/DODAMGOLLA M.V.	DODAMGOLLA-BIBILE	S
90	Monaragala	R	MALWATTAWALA M.M.V.	WELLAWAYA.	S
91	Monaragala	R	VIPULANANDA T.M.V.	MONARAGALA	S
92	Ratnapura	U	ST.ALOYSIUS NATIONAL SCHOOL	CHURCH ROAD, RATHNAPURA	S
93	Ratnapura	U	SRI BUDDHA JAYANTHI M.M.V.	BALANGODA	S
94	Ratnapura	R	UDAWELA M.V.	OPANAYAKA	S
95	Ratnapura	R	WALALGODA V.	PANAMURA	S
96	Ratnapura	U	BALANGODA T.M.V.	RASSAGALA ROAD, BALANGODA	S
97	Kegalle	R	DERANIYAGALA K.V.	DERANIYAGALA	S
98	Kegalle	R	SUJTHA K.V.	DALUGGALA,RAMBUKKANA	S
99	Kegalle	R	HATHGAMPOLA M.V.	HATHGAMPOLA,ARANAYAKA	S
100	Kegalle	R	BELIGALA BODIRAJA M.V.	BELIGALA	S

Annexure 3: Instruction for selection of subjects – National Oral Health Survey 2015 -2016

FOURTH NATIONAL ORAL HEALTH SURVEY SRI LANKA 2015-2016
Instruction for selection of subjects

(A) Selection of children

Children are admitted to grade one at the age of 5 years. Based on this;

- Majority of 5-year-olds are in grade one
- Majority of 12-year-olds are in grade eight
- Majority of 15-year-olds are in grade eleven

According to this assumption, index grades (grade 1, grade 8 and grade11) were selected to recruit index age groups of 5-year, 12-year, and 15-year-olds respectively.

- However this pattern might change at the time of examination of children. For example at the end of the calendar year, in grade 1, most of students will be over 5 years. Similarly most of grade 8 students will be over 12 years and most of grade 11 students will be over 15 years. Therefore, in such situations you have to look for eligible students in grades below the index grade (grade 7 and 10).There may be some eligible students in grades above the index grade as well.

Procedure:

1. Take all the school registers of index grades
2. Copy the name of students (strictly as appearing in the school register) who are within the index groups separately, class by class and arrange in the order of 1A, 1B, 1C etc.
   Eg – assuming the date of examination on 1/03/2015
   5-year-olds should be born between 02/03/2009 to 01/03/2010
   12-year-olds should be born between 02/03/2002 to 01/03/2003
   15-year-olds should be born between 02/03/1999 to 01/03/2000
3. Follow this procedure for the grade below the index grade and also for the grade above the index grade. Then arrange the list in the order of: index grade, grade below and grade above it.
   Note –The above procedures 1 to 3 could be carried out before the date of examination if the exact date of examination is known.
4. Delete the names of the students who are not available for the examination. (eg. absentees, gone for sports events)
5. Give a serial number to available students.
6. If the total number of available students is more than the number need to be examined, apply the following procedure.
   - Calculate the sampling interval by dividing the total number of eligible students by number need to examine. (Eg. If there are 30 students and only 20 are needed, divide 30 by 20, equals 1.5.)
   - Approximate the sampling interval to the nearest whole number (1.5 becomes 2 and 1.4 becomes 1)
   - Locate the first student to be examined by selecting the appropriate random number given for this particular index age group for particular school . **The selected random number should be less than the total number of children available.**

     Note: for a particular index age group three numbers are given in the list . Always start checking from the first number. If the first number is more than the total number of students available, look for the second. If both numbers are not suitable , take the third. If all three are not suitable , take '01' as the starting number

01

- Select the remaining number of students by adding the sampling interval to the starting number

  Note: During the procedure , in some instances you may have to pass the starting point of the list and sometimes you may not have to go through the entire list to get the required number of children. (See examples)

7. If the total number of eligible students is less than the required number, examine all of them in that particular school. Then visit the next school given in the list and take the balance. You have to follow the above steps 1 to 6 to select those students.

   Example 1

   Assume in school 'A' , there are 25 eligible students for 15-year-old age group and we need to select 20 out of them

   Calculate the sampling interval: 25/20 = 1.25
   Approximate to the nearest whole number: 1.25 becomes 1
   Select the appropriate random number: assume it is 12
   Select the first child: 12th student in the list
   Add the sampling interval to locate the rest: 12,13,14,15,16,,17,18,19 ,20,21,22,23,24,25,1,2,3,4,5,6
   There is no chance for the selection of students from 7 to 11

   Example 2

   Assume in school 'B' , there are 50 eligible students for 5-year-old age group (and we need 20).
   Calculate the sampling interval: 50/20 = 2.5
   Approximate to the nearest whole number: 2.5 becomes 3
   Select the appropriate random number: assume it is 12
   Select the first child: 12th child in the list
   Add the sampling interval to locate the rest : 12,15,18,21,24,27,30,33,36,39,42,45,48,1,4,7,10,13,16,19
   There is no chance for the selection of children from 20 to 11

(B) Selection of adults

1. Visit the physically nearest house to the selected school.
2. Eligible people for examination are those who aged 35–44 years and 65–74 years on the day of examination.
3. Second house will be the one physically nearest to the first measured from main entrance to the main entrance
4. Third house is the one physically nearest to second and so on…

Exclusion for the selection: Households outside the selected GN area
Military establishments
Institutions such as prisons, hospitals, lodges, hostels

Note: Especially in urban areas there will be a difficulty to determine the nearest house from the house just completed. In such situation, use the following procedure.

- *When two houses appear to be at the same distance from the house immediately completed before, select the house on the left if the examination is taking place on odd dates.(eg. 1, 3, 5, 7) and if the examination is on even dates (eg. 2, 4, 6, 8, etc) select the house on the right side.*
- *In blocks of flats, complete the examination of all the houses in the ground floor by applying the above criteria and then move to the floor immediately above.*

N.B. For adults, within a cluster male -female balance should be maintained, i.e. for each index age group, 10 males and 10 females should be examined.

02

Annexure 4: Oral health survey assessment form- National Oral Health Survey 2015-2016

ORAL HEALTH ASSESSMENT FORM (2015/2016)

A. COUNTRY (All age groups)

Identification No.	Date of examination	Examiner	Original (1) / Duplicate (2)
(1) ☐☐☐☐☐☐☐ (7)	(8) ☐☐☐☐☐☐ (13)	(14) ☐☐ (15)	(16) ☐
Cluster no. Age group Serial no.	Year Month Day		

B. GENERAL INFORMATION (All age groups)

Surname with initials ……(In Block Letters)

Date of birth (17) Year ☐☐ Month ☐☐ (20)

Age in Years (21) ☐☐ (22)

Sex (23) ☐ (1 = Male, 2 = Female)

Ethnic group (24) ☐ (1 = Sinhala, 2 = Tamil, 3 = Muslim, 4 = Others)

Education (25) ☐

Geographical location (District) (26) ☐☐ (27)

Location type (28) ☐ (1=Urban, 2=Rural)

0 = No schooling
1 = Year 1-5
2 = Year 6-11
3 = Year 12-13
4 =Technical/Vocational
5= Degree/Professional
6 = Do not know
9 = Not recorded

C. HABITS

a.Tooth cleaning (All age groups)

Frequency/day (29) ☐
0 = None
1 = Once
2 = Twice
3 = More than twice

Mode of brushing (30) ☐
1 = Brush
2 = Finger
3 = Chewing stick
4 = Other …… (Specify)

Ingredient (31) ☐
0 = Nothing
1 = Fluoridated toothpaste
2 = Non-fluoride toothpaste
3 = Tooth powder
4 = Other …….. (Specify)

b. Dietary habits (Not for 5 years)

Fresh fruits (32) ☐
Biscuits/ Buns/ Cakes (33) ☐
Candy (Toffee) (34) ☐
Fizzy drinks (35) ☐

0 = Never/Seldom
1 = Several (2-3) times a month
2 = Once a week
3 = Several (2-6) times a week
4 = Everyday
5 = Several times a day

c. Other habits (Not for 5 & 12 years) **Question: How often do/did you use any of the flowing habitually?**

Betel chewing (36) ☐
Alcohol (37) ☐
Areca-nut packets (38) ☐
Smoking (39) ☐
Any other …… (40) ☐ (Specify)

0 = No habit
1 = Past (Not within last 12 months)
2 = Seldom (Once a month or less)
3 = Several times a month (2-3 times a month)
4 = Once a week
5 = Several times a week (2-6 times a week)
6 = Everyday

If chewing betel habitually, what ingredients usually use?

Betel (41) ☐ Areca-nut (42) ☐
Tobacco (43) ☐ Lime (44) ☐
Other (45) ☐ …… (Specify)

0 = No 1 = Yes

D. ORAL MUCOSAL CONDITION (All age groups)

Condition

0 = No abnormal condition
1 = Malignant tumour (Oral cancer)
2 = Leukoplakia
3 = Lichen planus
4 = Ulceration (Aphthous, Traumatic, Herpetic)
5 = Oral submucous fibrosis
6 = Candidiasis/Denture stomatitis
7 = Angular chelitis
8 = Any other (Abscess, Mucocele)……(Specify)
9 = Not recorded

(46) ☐ (47) ☐ (48) ☐

☐ (49) ☐ (50) ☐ (51)

Location

0 = Vermillion boarder
1 = Commissure
2 = Lips
3 = Sulci
4 = Buccal mucosa
5 = Floor of the mouth
6 = Tongue
7 = Hard & or soft palate
8 = Alveolar ridges/ Gingiva
9 = Not recorded

E. ENAMEL FLUOROSIS (Not for 5 & 65-74 years)

0 = Normal
1 = Questionable (Occasional spots)
2 = Very Mild (White opacity <25%)
3 = Mild (White opacity 25%-50%)
4 = Moderate (Brown stains +)
5 = Severe (Hypoplasia +)
8 = Excluded (Crown, Restoration, 'Bracket')
9 = Not recorded (Un-erupted tooth)

(52) ☐

F. TOOTH WEAR (Not for 5 & 65-74 years)

No. of teeth affected (53) ☐☐ (54)

G. DENTAL TRAUMA (Not for 65-74 years)

0 = No signs of injury
1 = Treated injury
2 = Enamel fracture only
3 = Enamel and dentine fracture only
4 = Pulp involvement
5 = Missing tooth due to trauma
6 = Other damage
9 = Excluded tooth

	Type of injury	No. of teeth affected
	(55) ☐	(58) ☐☐ (59)
	(56) ☐	(60) ☐☐ (61)
	(57) ☐	(62) ☐☐ (63)

H. DENTOFACIAL ANOMALY (Not for 5, 35-44 & 65-74 years)

0 = None (64) ☐
1 = Slight but need no treatment
2 = Severe anomalies needing treatment
- ○ Maxillary Over-jet 9mm or more
- ○ Mandibular Over-jet
- ○ Cross-bite equal to or greater than full tooth depth
- ○ Open-bite
- ○ Spacing of more than 4mm between any two anterior teeth
- ○ Overlapping of teeth more than 2mm in upper jaw

Back to index

I. DENTITION STATUS (*Root status not record for 5 & 12 years)

		18	17	16	55 15	54 14	53 13	52 12	51 11	61 21	62 22	63 23	64 24	65 25	26	27	28	
Crown	(65)																	(80)
Root*	(81)																	(96)

		48	47	46	85 45	84 44	83 43	82 42	81 41	71 31	72 32	73 33	74 34	75 35	36	37	38	
Crown	(97)																	(112)
Root*	(113)																	(128)

Primary teeth	Permanent teeth		Description
	Crown	Root	
A	0	0	Sound
B	1	1	Caries
C	2	2	Filled with caries
D	3	3	Filled, no caries
E	4	-	Missing due to caries

Primary teeth	Permanent teeth		Description
	Crown	Root	
-	5	-	Missing for any another reason
F	6	-	Fissure sealant
G	7	7	Fixed dental prosthesis/ Crown, abutment, veneer, implant
-	8	8	Un-erupted tooth (Crown)/ Unexposed root
-	9	9	Not recorded

J. PERIODONTAL STATUS (CPI modified)

		18	17	16	55 15	54 14	53 13	52 12	51 11	61 21	62 22	63 23	64 24	65 25	26	27	28	
Bleeding	(129)																	(144)
Pocket*	(145)																	(160)

		48	47	46	85 45	84 44	83 43	82 42	81 41	71 31	72 32	73 33	74 34	75 35	36	37	38	
Bleeding	(161)																	(176)
Pocket*	(177)																	(192)

Gingival bleeding (All age groups)
0 = Absence of bleeding
1 = Presence of bleeding
9 = Tooth excluded
X = Tooth not present

Pocket* (Not for 5 & 12 years)
0 = Absence of condition (Less than black band)
1 = Pocket 4-5mm (Black band pertly visible)
2 = Pocket 6mm or more (Black band not visible; within the pocket)
9 = Tooth excluded
X = Tooth not present

K. LOSS OF ATTACHMENT (Not for 5 & 12 years)

	17/16	11	26/27	
(193)				(195)
(196)				(198)
	47/46	31	36/37	

0 = LoA 0-3mm (CEJ less than black band)
1 = LoA 4-5mm (CEJ within black band)
2 = LoA 6-8mm (CEJ between upper limit of black band & 8.5mm ring)
3 = LoA 9-11mm (CEJ between 8.5mm ring & 11.5mm ring)
4 = LoA 12mm or more (CEJ beyond 11.5mm ring)
X = Excluded sextant
9 = Not recorded (CEJ not detectable)

L. PRESENCE OF CALCULUS

(All age groups)

0 = No (199) ☐
1 = Yes

M. TREATMENT NEED (All age groups)

0 = No treatment needed
1 = Routine care (200) ☐
2 = Immediate care: Acute infections, Malignancy, OPMD

N. DENTURE STATUS (Not for 5 & 12 years)

0 = No dentures
1 = Partial dentures
2 = Complete dentures
9 = Not recorded

Upper (201) ☐
Lower (202) ☐

O. UTILISATION OF SERVICES (Not for 5 years)

A. Access to government dental clinic
1 = 1km>
2 = 1-5km (203) ☐
3 = > 5km

B. Last visit to a dental clinic
0 = Never visited
1 = Within the last year (204) ☐
2 = More than one year ago
8 = Do not know/Cannot remember

C. Type of clinic visited at last visit
0 = Never visited
1 = Hospital dental clinic
2 = Private dental clinic
3 = 'School' dental clinic (SDC, ADC & routine school out-reach mobiles)
4 = Mobile dental clinic
5 = Any other.....
8 = Do not know (205) ☐

D. Type of treatment/s received at the last visit
0 = No treatment
1 = OHI/ Advice
2 = Extraction (206) ☐
3 = Temporary filling
4 = Permanent filling (207) ☐
5 = Scaling
6 = Drugs only (208) ☐
7 = Any other.....
8 = Do not know

P. COMMENTS (209)

Annexure 5: Examination guideline - National Oral Health Survey 2015-2016

FOURTH NATIONAL ORAL HEALTH SURVEY 2015-2016 SRI LANKA
Description of the Clinical Examination Criteria and Codes used
Oral Health Assessment Form

As a general principle please adhere to the criteria in this leaflet. The following points will serve as guidance and must be followed strictly.
Please READ THEM CAREFULLY and familiarize yourself.

- Always remember the 'rule of thumb' when in doubt. **Say no or give the lower score.**
- **Use pencil to record. Write clearly** letters and numbers.
- If two or three schools fall in one cluster please write the name of the school on the top left hand corner of the form used for first child and last child.
- While recording oral health status always start with upper-right segment. Examining teeth (dentition status, perio status, fluorosis and tooth-wear) start with 18 (upper right third molar).
- **Ensure correct entries are made by the recorder** as they are new to the survey form
- Call out teeth as 'one-one' for the tooth 11 (the first incisor in the right side of maxilla for permanent teeth), and as 'five one' for 51, 'seven three' for 73 in primary teeth.
    - *Example:for one-one; one zero means, for an upper right first incisor with crown status is decayed, root status is exposed & sound.* ***Caution: Do not read-out crown status of teeth separately and then root status, as it will lead to incompatible entries of teeth***
- Tooth is always present once any part of it has penetrated the mucosa. When both primary and permanent teeth are present, (in a case of mixed dentition), record only the permanent tooth
- The form consists of sections. Section P (Comments) is to record any important finding of the subject that you have observed, but not recorded under any section before.
- It is not necessary to record all sections for all age groups. The details are given below. To prevent unnecessary entries, it is advisable to cut the irrelevant section of the age group before examination.

Age group (in Years)	5	12	15	35-44	65-74
Sections do not need recording	C Dietary habits & 'Other' habits E F H I Root status J Pockets K N O	C 'Other' habits I Root status J Pockets K	Nil	H	E F G H

SECTION A **BOXES 1-16**	**COUNTRY**

- **Boxes 1-7** **Identification number**
    - **Boxes1 - 3** Indicate the **cluster number** as given in the leaflet
    - **Boxes 4 & 5** for the age group. E.g. 5 year-olds – recorded as '05', 35-44 group recorded as '35'
    - **Boxes 6 and 7** used to enter the serial number of the subject examined. First child will be entered as 01 and 20th child will be entered as 20. *Example: Cluster number 7, 20th subject of 05 year old written as '007 05 20'*
- **Boxes 8-13** **Date of examination** Year, month & day – 6th September 2015 recorded as '15 09 06'
- **Boxes 14-15** **Examiner number:** Insert the examines number given to you
- **Boxes 16** **Original/ duplicate:**
    - To indicate whether this examination is an original or duplicate/ repeat examination.
        - Original – Please enter '1'
        - Repeat or subsequent examination enter '2'

1

SECTION B BOXES 17-28	General Information

- **NAME** Write the name of the subject in BLOCK LETTERS. Surname and the initial only beginning with the surname e.g. KRISHNARASA K.V.
- **BOXES 17-20 Date of Birth :** Please enter **Year of Birth** in boxes **17** and **18** and **month** of birth in 19 and 20. **For example** 1998 November enter as '9811'
- **BOXES 21-22 Age:** Enter age **in years** and record **as age at last birthday** . For 12 years old enter 12, and if the age is less than 10 enter '0' in box 21 and 5 in box 22. E.g. '05'
  - For school children , go by the date of birth in the class register. If not a*ailable ask the child. If date of birth is not available from either source* ***omit from examination*** .
  - *In case of adult and elderly obtain from identity card or from person concerned. If not* ***omit from examination*** .

BOX 23 **Sex:** Enter '1' for Male and '2' for Female in box 23

BOX 24 **Ethnic Group:** Please follow the following coding system and enter the suitable code.
1= Sinhala, 2= Tamil, 3= Muslim, 4= Other

BOX 25 **Education:** Find out the numbers of years of schooling or education completed. **Question:** Up to what class have you studied? Or what are your educational qualifications?

Codes

0 = No Schooling
1 = Year 1 to Year 5
2 = Year 6 to Year 11 (up to O/L)
3 = Year 12 to Year 13 (up to A/L)
4 = Technical or Vocational training
5 = University education
6 = Do not know
9 = Not recorded

BOXES 26-27 **Geographic Location** This goes by districts and please follow the codes given

Colombo	01	Jaffna	10	Puttlam	19
Gampaha	02	Kilinochchi	11	Anuradhapura	20
Kaluthara	03	Mannar	12	Polonnaruwa	21
Kandy	04	Mullaitivu	13	Badulla	22
Matale	05	Vavuniya	14	Monaragala	23
NuwaraEliya	06	Batticaloa	15	Ratnapura	24
Galle	07	Ampara	16	Kegalle	25
Matara	08	Trincomale	17		
Hambantota	09	Kurunagala	18		

BOX 28 **Location Type** Please stick to the classification as given to you in the list of schools

- **Urban – 1** Municipality and Urban Council areas
- **Rural – 2** Town Council and Village Council areas

SECTION C BOXES 29-45	HABITS

BOXES 29-31 **a. Tooth cleaning**

BOX 29 **Frequency of brushing :** Question- How **many times did you clean your teeth in the past 24 hours?**
0 = None 1 = Once 2 = Twice 3 = More than twice

BOX 30 **Brushing device :** Question: **What did you use to clean your teeth last time?**
1 = Brush 2 = Finger 3 = Chewing stick 4 = Other…… (Specify)

BOX 31 **Ingredient :** Question: **What is the material/ ingredient used last time?**

Note: if the answer is "toothpastes", *ask probing questions to differentiated between fluoridated and non-fluoridated tooth paste*

0 = Nothing
1 =Fluoridated tooth paste
2 = **Non–fluoridated** tooth paste
3 = Tooth powder
4 = Other (Specify)

2

BOXES 32-35 **b. Dietary habits** Four items included

Box 32 for fruits;
Box 33 for Biscuits/buns/cakes;
Box 34 for Candy (toffee, Chocolates)
Box 35 for Fizzy Drinks.

Question: How often do you eat or drink any of the following foods, even in small quantities?

- Use the following codes for each item

0 =Never/Seldom (once a month or less or do not eat)
1 =Several times a month (2-3 times a month)
2 = Once a week
3 =Several times a week (2-6times a week)
4 = Everyday
5 = Several times a day

BOXES 36-40 **c. Other habits**

- Four items included.

Box 36 for Betel chewing;
Box 37 for Alcohol;
Box 38 for Areca-nut packets.(Commercial products)
Box 39 for Smoking
Box 40 for any other habit & specify

- Use the following code for each item

0= No habit
1 =Past (not within last 12 months)
2= Seldom (once a month or less)
3 = Several times a month (2-3times a month)
4 = Once a week
5 = Several times a week (2-6 times a week)
6 = Everyday

Question: **How often do you use/used any of the following HABITUALLY?** (Read each item)

Note: specify the word habitually. If a person do not take it habitually code as no habit.
*For example if any one smoked **once or twice in a lifetime but not as a habit,** code as 0 (no habit).*

If having the habit of betel chewing ; what are the ingredients usually use?

(41) ☐ Betel (42) ☐ Areca-nut (43) ☐ Tobacco; (44) ☐ Lime (45) ☐ Other (Specify)

Code: 0 = No 1 = Yes

SECTION D
BOXES 46-51

ORAL MUCOSAL CONDITION

- **Record for all age groups.**
- Use two mouth mirrors or one mouth mirror and handle of the periodontal probe to retract
- Boxes 46, 47 and 48 are to denote conditions and boxes 49, 50 and 51 are to denote the location. Codes use as in the printed form. If a condition is found in two or more locations all those location should be marked.
- E.g., if a person has leukoplakia on both the buccal mucosa and the commissures, the coding would be as follows.

(46)	2	4	(49)
(47)	2	1	(50)
(48)			(51)

- If two or more conditions are found e. g. oral cancer in the commissure and the lower lip and candidiasis on the tongue, the coding should be as follows.

(46)	1	1	(49)
(47)	1	2	(50)
(48)	6	6	(51)

3

- If oral mucosa is normal, enter '0' in the box 4 6 & then proceed to box 52.

Oral mucosa

Condition

0- No abnormal condition
1- Malignant tumor (Oral Cancer)
2- Leukoplakia / Erythroplakia
3- Lichen planus
4- Ulceration (aphthous, herpetic, traumatic)
5- Oral submucous fibrosis
6- Candidiasis/ Denture stomatitis
7- Angular chelitis
8- Any other ……(specify)
9- Not recorded

Codes used

Location

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

SECTION E
BOX 52

ENAMEL FLUOROSIS

- **Record only for 12, 15 & 35-44 years age groups**
- Two teeth that are severely affected will be taken for the score.
- If **two teeth not equally affected, score for the less affected will be** recorded.
- If any doubt, **lower score** should be recorded.
- Codes

Normal- enamel smooth & glossy.
Questionable – Enamel shows slight aberrations – may range from few white flecks to occasional spots.
2- Very Mild – Enamel shows small, opaque, paper white areas scattered irregularly in **less than 25%** of the total labial tooth surface.
3- Mild – Enamel shows white opacity more than 25% but **ess than 50%** of the labial surface.
4- Moderate - Enamel shows marked wear and **brown stain**.
5- Severe – Enamel surface badly affected and the **hypoplasia** is so marked that the general from of the tooth may be affected. There are, pitted or worn areas & brown stain are widespread, corroded appearance.
8- Excluded – (e. g. Crowned tooth), Veneered tooth.
9- Not recorded.

SECTION F
BOX 53-54

TOOTH WEAR

- **Record only for 12, 15, and 35-44 years of age.**
- **Tooth wear** – Surface loss of hard tissue in the incisal edge / occlusal, labial or buccal surface of teeth to the extent of **exposing dentine or pulp**.
- **Examine 28 teeth (excluding 3rd Molars)** and insert the total number of affected teeth

SECTION G
BOXES 55-63

DENTAL TRAUMA

- **Record for 5, 12, and 35-44 years of age groups only.**
- Boxes 55-57 are to record type of trauma to teeth.
- **Codes**

0- No signs of injury
1- Treated injury
2- Enamel fracture only
3- Enamel & dentine fracture only
4- Pulp involvement
5- Missing tooth due to trauma
6- Other damage
9- Excluded tooth

- Boxes 58-63 are to record number of teeth affected by type of trauma.

4

SECTION H
BOX 64

DENTOFACIAL ANOMALY

- Record only for 12 and 15 years

Code

0- None - No anomaly or malocclusion.

1- Slight but needs no treatment -slight anomalies such as

a. One or more rotated or titled teeth

b. Slight crowding or spacing that disturbs the regular alignment of teeth.

2- Severe anomalies needing treatment

Presence of one or more of the following conditions of the four anterior incisors.

- Maxillary Over-jet 9mm or more
- Mandibular Over–jet
- Cross Bite equal to or greater than full tooth depth.
- Open bite
- Spacing of more than 4mm in the upper or lower anterior region, between any two teeth
- Overlapping of teeth more than 2mm in upper jaw.

SECTION I
BOXES 65-128

DENTITION STATUS

- Boxes 65 to 96 are for upper teeth. Boxes 97 to 128 are for lower teeth**.**
- **START examining** from tooth 18, right 3rd upper molar and go up to tooth 28… left upper 3rd molar. **Then lower jaw** tooth 48 to 38 (right lower 3rd molar. to left lower 3rd molar).
- **Letters** are used to record condition of crown **primary t**eeth**. Numbers** are used to record condition of crown, root of Permanent **teeth** whichever is present. If both are present in the same **tooth space, record permanent**
- Always record condition of crown followed by condition of root for the whole tooth and move to the adjacent tooth.
- An entry must be made in every box pertaining to the coronal and root status of a tooth. In children, root status is not assessed and record only crown status.

Code Primary Teeth Crown	Permanent Teeth Crown	Root	Dentition Status
A	0	0	**'Sound'** **Crown** is recorded as sound if **no evidence** of treated or untreated c**linical caries.** Following defects are coded as sound. • White or chalky spots • Discolored or rough spots not soft t**o metal CPI probe or blunt sickle probe** • Stained pits/fissures with no sign of undermined enamel, softened floor or wall with metal CPI probe • Dark, shiny, hard pitted areas with moderate to severe fluorosis. • Lesions due to abrasions. Root is recorded as sound when it is exposed and shows no evidence of treated or untreated clinical caries **Unexposed root recorded as '8'**
B	1	1	**Decayed** • Crown has an Unmistaken Cavity, Undermined Enamel, Detectable Softened Wall or Floor. • Tooth with a Temporary Filling. • Sealed but also has Decayed. • **Crown destroyed** by Caries partially or **completely ,** Root is left, record **Crown as carious**. Root could be entered as '8' if unexposed. **Floating Root enter as '9'**. • **Any doubt**s, don't record as Caries Present. Root Lesion feels Soft or Leathery to Probe • If **Root Caries discrete** from Crown – record as Root decayed, code '1'

5

Annexure

- **Single carious lesion** in both Crown and Root the likely **site of origin** record as Decayed or if **not** possible to judge site of origin of Caries both Crown and Root mark as Decayed.

C 2 2 **Filled with decay**

- **Crown/ Root** with one or more permanent restoration due to caries and one more areas that are decayed (primary & secondary caries)
- Filling involving both crown & root with secondary caries most likely site of primary carious lesion is recorded as filled with decay.
- If not possible to decide both crown and root should be recorded as filled with decay.

D 3 3 **Filled, no decay**

- **Crown / Root** with one or more permanent restoration due to caries and there is no caries anywhere on the crown/root.
- Tooth with a crown because of previous decay '3'
- A tooth crowned for any other reason coded as '7' or 'G'
- Filling involving both crown & root, most likely site of primary carious lesion is recorded as filled with no decay.
- If not possible both crown & root should be recorded as filled.

E 4 - **Missing as a result of caries**

- Extracting because of caries and record under coronal status '4'.
- Primary Teeth – if normal exfoliation would not be a sufficient explanation for absence
- **Root Status of a tooth scored '4' , should be coded '9'.**
- Missing (due to caries **) replaced by Bridge Pontics, '4'** for crown status.
- Some age group difficult to distinguish between un-erupted (Code 8) & missing teeth (code 4&5). Tooth eruption pattern, appearance of alveolar ridge, caries status of other teeth may help in differential diagnosis between un-erupted & extracted teeth.

- 5 - **Missing any other reason**

- **Congenitally absent permanent teeth**
- Extracted for orthodontic reasons
- Extracted for periodontal reason/ Trauma
- Missing (other reason) **replaced by Bridge Pontics '5'**
- **Root status of a Tooth scored '5', should be coded as '9'**

F 6 - **Fissure Sealant**

- Fissure sealant on the occlusal surface with **no decay**
- Occlusal fissure has been **enlarged with a bur & composite material placed with no decay.**

G 7 7 **Bridge Abutment, Special Crown, Veneer / Implant**

- **Crown –** Tooth forms a part of a fixed bridge (abutment), Crown placed for reason other than caries, Veneers/Laminate of a tooth with no evidence of decay.
- **Fillings not due to caries (tooth wear, trauma) should be coded as '7'**
- **Root** – Implant placed as an Abutment

- 8 8 **Un- erupted teeth (crown) / Unexposed root**

- **For permanent teeth –** tooth space with an un-erupted permanent tooth without a primary tooth.
- Unexposed Root – Root surface is not exposed. No gingival recession beyond CEJ.

- 9 9 Not recorded

- **Crown** – any erupted permanent tooth that cannot be examined . E.g.
  Orthodontic Bands Severe Hypoplasia Covered with calculus
- **Root** – Tooth has been extracted
  - Calculus present, Root examination impossible
  - Crown totally destroyed & root is seen floating in gum.

SECTION J
BOXES 129-192

PERIODONTAL STATUS (CPI Modified)

- Two indicators of periodontal status are used for this assessment: gingival bleeding and periodontal pockets.
- A specially designed, lightweight CPI metallic probe with a 0.5 mm ball tip is used, with a black band between 3.5 and 5.5 mm, and rings at 8.5 and 11.5 mm from the ball tip.
- All teeth present in the mouth should be examined for absence or presence of gingival bleeding and absence or presence of periodontal pockets; pocket depth is measured with the WHO CPI periodontal probe.

BOXES 129 -144 & 16 1-176 **Assessment of gingival bleeding**

- For all age groups
- Only functional teeth are considered for examination (roots, grossly broken teeth, floating teeth/roots are not considered)
- Gingivae of all teeth present in the mouth should be examined by carefully inserting the tip of the WHO CPI probe between the gingiva and the tooth to assess absence or presence of bleeding response. The sensing force used should be no more than 20g. A practical test for establishing this force is to ask examiners to place the probe point under their thumbnail and press until blanching occurs.

Gingival bleeding scores

0 = Absence of condition.
1 = Presence of condition
9 = Tooth excluded
X = Tooth not present

BOXES 145-160& 177-192 **Assessment of pocket depth**

- Periodontal pockets are not recorded for 5 and 12 age groups .
- Probe tip should be inserted gently into the gingival sulcus or pocket and the full extent of the sulcus or pocket explored. For example, place the probe in the pocket at the disto-buccal surface of the second molar, as close as possible to the contact point with the third molar, keeping the probe parallel to the long axis of the tooth. Move the probe gently, with short upward and downward movements, along the buccal sulcus or pocket, to the mesial surface of the second molar. A similar procedure is carried out for lingual surfaces, starting on the disto-lingual aspect of the second molar.
- **Pocket scores**

0 Healthy
1 Pocket 4- 5 mm (Gingival Margin within the Black Band)
2 Pocket 6 mm or more (Black Band Not Visible)
9 Tooth excluded
X Tooth not present

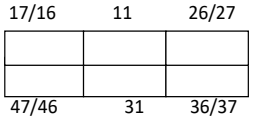
SECTION K
BOXES 193-198

LOSS OF ATTACHMENT

- Recorded for 15, 35-44 & 65 -74 groups.
- The most reliable method of examination for loss of attachment in each sextant is to record this immediately after recording the gingival status and pocket scores.

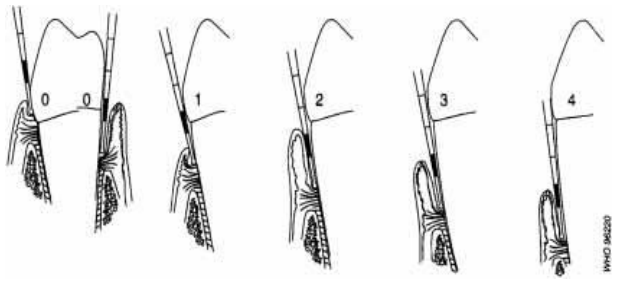
Index teeth

The index teeth, which are the teeth to be examined, are given below.



- Only functional teeth are considered for examination (roots, grossly broken teeth, floating teeth/roots are not considered)
- The two molars in each posterior sextant are paired for recording and, if one is missing, there is no replacement.
- If no index tooth /teeth are present in a sextant qualifying for examination, all remaining teeth that are present in that sextant are examined and the highest score is recorded as the score for the sextant. **(even a single functioning tooth present in the sextant it should be examined)**

- The extent of loss of attachment is recorded using the CPI probe and applying the following codes.



0 = 0-3mm (CEJ visible &< black band or CEJ not visible but CPI score 0-1(< 6mm)
1 = Loss of attachment 4-5 mm (CEJ within black band)
2 = LoA 6-8 mm (CEJ between black band & 8.5 mm ring)
3 = LoA9-11 mm (CEJ within 8.5 mm & 11.5 mm rings)
4 = LoA 12 mm or more (CEJ beyond 11.5 mm ring)
X = Excluded sextant
9 = Not recorded (CEJ not detectable)

SECTION L
BOX 199

PRESENCE OF CALCULUS

- Record for all age groups
- Codes : 0 = No 1 = Yes

SECTION M
BOX 200

TREATMENT NEED

- Record for all age groups
- Codes:
  0 = No treatment needed
  1 = Routine care
  2 = Immediate care: Criteria for immediate care: Any acute dental infection, OPMD/Malignancy

SECTION N
BOXES 201-202

DENTURE STATUS

- Record only for **15yrs, 35-44yrs and 65-74yrs**
- The presence of Prosthesis should be recorded for **each jaw separately.**
- Follow the codes given in the data entry form
- Codes :

0 = No dentures 1 = Partial dentures 2 = Complete dentures 9 = Not recorded

SECTION O
BOXES 203-208

UTILIZATION OF SERVICES Not for 5yrs,

BOX 203 **a. Access to dental clinic**

Question: In your opinion what is the distance to the nearest dental clinic?
(12yrs include SDCC, 15yrs include Adolescent dental clinic)

- Codes: 1 = Less than 1km 2 = 1 -5km 3 = More than 5 km

BOX 204 **b. Last visit to dental clinic**

Question: When did you visit to a dental clinic last?

- Codes:

0 = Never 1 = Within one year 2 = More than one year ago 8 = Do not know /not remember

8

BOX 205 **c. Type of Dental Clinic visited**

Question: What type of dental clinic did you visited last?

- Codes:

0 = Never visited
1 = Hospital Dental Clinic
2 = Private Dental Clinic
3 = School Dental clinic (ADC & routine school mobiles)
4 = Mobile Dental Clinic
5 = Any other (Specify ……)
8 = Do not Know /not remember

- Code 3 : School dental clinic includes Adolescent dental clinics and **any mobile dental (out-reach) clinic set-up in schools under school dental programme.**
- Code 4 includes any mobile clinic specially conducted for people other than routine school dental programme.

BOXES 20 6- 208 **d. Type of treatment**

Question: What type of treatment did you received at the last visit?

- Codes

0 = No treatment
1 = OHI//advices
2 = Extraction
3 = Temporary filling
4 = Permanent Filling
5 = Scaling
6 = Drugs only
7 = Any other (Please specify …)
8 = Do not know

SECTION P BOX 209	COMMENTS

- Indicate any special findings of the subject

Annexure 6: Examiner training and calibration

The examiner training and calibration was carried out during a 02-day programme and the PI and two senior examiners who participated in the National Oral Health Survey in 2003 were considered as the gold-standard. The schedule of the programme is given below.

Day 1	Day 2
An introductory lecture by the PI on the purpose of the survey, examination criteria and recording forms (02hrs)	Discussion on the identified errors (02hrs)
Calibration exercise 1 (02hrs) (details given below)	Calibration exercise 03 (02hrs)
Discussion (01hr)	Calibration exercise 04 (02hrs)
Calibration exercise 02 (02hrs)	Discussion (02hrs)
Discussion (01hr)	

Calibration exercise:

Due to difficulty in finding patients and minimizing repeated examination of a given patient, the following method was used for the calibration exercise.

Two 05-patient-sets (total 10 patients) were taken from the hospital out-patient department. In order to represent index ages, the selection was restricted to either a child with the mixed dentition or an adult between 35-75-year-olds. All selected patients were examined by one of the senior examiners.

Subsequently, all examiners (20 were in the first training session) were divided into 10 groups with 02 examiners in a group. A group was given 02 patients and was requested to mark the clinical measurements. One examiner conducted the examination while the other functioned as the data recorder. For the next patient, the procedure was reversed. Examiners were arranged in a systematic way so that each examiner had to examine one child and an adult. A similar procedure was followed for the second patient set. Examiners who could not examine either a child or an adult was given an additional patient of the relevant age category (e.g. for examiners H & I - no child patient as given in the example).

Example (for one patient-examiner set)

- 05 patients: A1,A2,C3,C4,A5, (A: Adult, C: Child)
- 05 examiner groups: AB, CD, EF, GH, IJ
- 04 examination rounds: each patient was examined by 04 examiners

	Pt A1	Pt A2	Pt C3	Pt C4	Pt A5
ROUND 1	A	C	E	G	I
ROUND 2	J	B	D	F	H
ROUND 3	G	I	A	C	E
ROUND 4	F	H	J	B	D

All examiners were asked to double-check data entries before submitting them to the senior examiners. The accuracy of their examination was then compared with the senior examiner's records and also between examiners. The calibration exercise was confined to caries and periodontal disease only. Tooth by tooth comparison was done. The common problems (>60%) identified were related to the 'DMFT' count due to misclassification of un-erupted teeth as 'missing' and bleeding counts; probably due to repeated measurements or due to excessive force used when probing.

On the second day a similar procedure was followed. In addition, the examiners were briefed on how to rectify errors that occurred on the previous day. If an examiner did not achieve the required degree of consistency, additional patients were given for such an examiner. At the end of the second day, it was ensured that each examiner had examined a minimum of 04 children and 04 adults.

Due to difficulty in recruiting all examiners at a given time, two calibration programmes had to be conducted. Twenty (20) examiners participated in the first programme. While the data collection in the field was in progress, 09 additional examiners were recruited. They followed the second programme prior to going to the field for data collection.

Measurement of consistency of examinations

Consistency of examinations was further measured by requesting examiners to make duplicate examinations on a sample of 5, 12 and 15 year old children. Interclass-correlations were used as a measure of consistency for selected variables that were subjected to errors during examiner calibration. Except for bleeding on probing measures, the interclass correlation coefficients using single measures were above 0.75. Details are given below.

Table 8.3: Examiner calibration - interclass correlations for selected variables

Item	Number of examiners evaluated	*Number of replicate pairs evaluated*	*Mean (with 95% CI)*	*Variance*	*Interclass correlation coefficient* (with 95% CI)*	*Significance (F test)*
Total number of teeth	24	218	24.9 (24.8-25.1)	0.044	0.75 (0.68-0.8)	0.000
DMFT	24	218	0.7 (0.6-0.8)	0.003	0.85 (0.81-0.87)	0.000
Bleeding on probing	24	218	3.2 (2.9-3.4)	0.139	0.56 (0.46-0.64)	0.000
No bleeding on probing	24	218	18.6 (15.4-21.8)	20.769	0.60 (0.51-0.68)	0.000
Total no. of deciduous teeth: 5yrs	22	70	19.4 (19.3-19.4)	0.010	0.88 (0.81-0.92)	0.000
Deciduous caries: 5yrs	22	70	2.8 (2.7-2.8)	0.002	0.87 (0.79-0.92)	0.000
dmft: 5yrs	22	70	3.0 (2.9-3.0)	0.000	0.86 (0.78-0.91)	0.000
Total no. of permanent teeth: 12yrs	24	75	25.3 (25.3-25.5)	0.075	0.91 (0.86-0.94)	0.000
Total no. of deciduous teeth: 12yrs	24	75	0.98 (0.96-1.0)	0.001	0.99 (0.98-0.99)	0.000

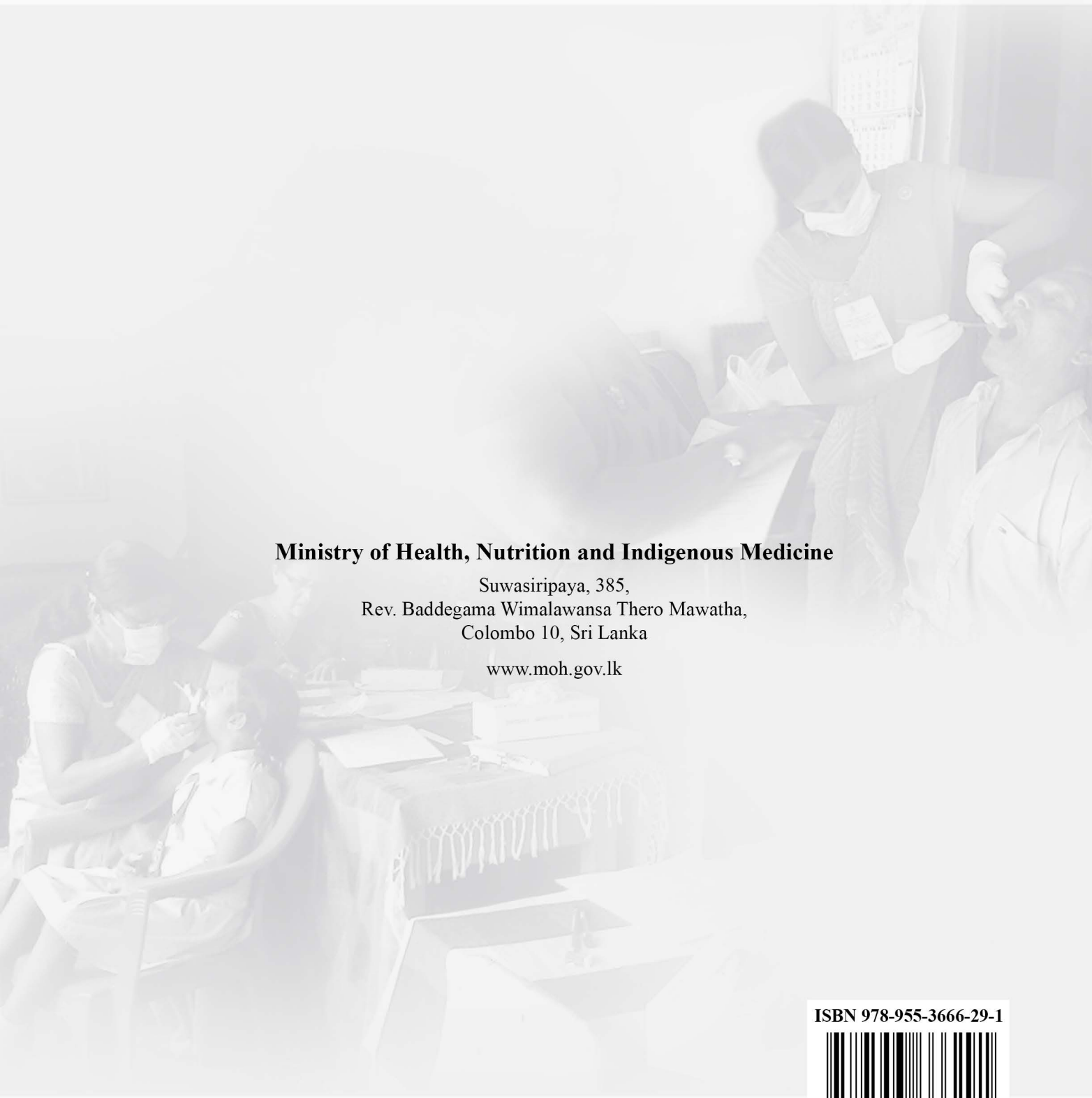
*single measure estimate: The estimator is the same, whether the interaction effect is present or not.

Annexure 7: Examiners participated in the survey and their total number of examinations

Table 8.4: Number of examiners participated in the survey and their total number of examinations

Examiner No	Name of the examiner	Clusters visited	Number examined by age group					Total examined
			5yrs	12yrs	15yrs	35-44yrs	65-74yrs	
1	Dr. P.S. Abeyruwan	17	140	101	96	124	124	585
2	Dr. W.P.M.M. Abeysekara	14	231	204	192	59	44	730
3	Dr. A.D. Bollegala	12	53	95	118	79	73	418
4	Dr. H.H.M. Dhanpriyanka	9	52	54	55	64	61	286
5	Dr. R.M. Hettiarachchi	5	35	35	32	36	33	171
6	Dr. K.A.R. Jayathilake	12	76	77	69	74	69	365
7	Dr. A.S.P.D. Karunaratne	15	78	101	100	90	95	464
8	Dr. K.M.S.H. Kosgallana	18	139	133	134	103	111	620
9	Dr. N.A.R. Nanayakkara	14	72	71	69	114	123	449
10	Dr. N.V.K. Nanayakkara	15	46	26	32	126	123	353
11	Dr. K.A.K.D. Perera	2	12	13	13	14	13	65
12	Dr. I.R. Perera	5	38	37	40	37	38	190
13	Dr. N.C. Ratnayake	17	70	86	91	110	112	469
14	Dr. S.M.A.D.C.G. Sammandapperuma	12	92	97	80	51	57	377
15	Dr. S.R.M.I. Udayamalee	13	79	88	56	77	61	361
16	Dr. A.M.U. Amilani	18	108	107	108	114	119	556
17	Dr. S.R. Weerasuriya	3	24	24	23	21	22	114
18	Dr. N.C. Wellappuli	3	20	19	22	21	17	99
19	Dr. D. Wickramasinghe	16	130	97	101	112	106	546
20	Dr. W.M.P.N.R. Wickramasinghe	14	86	87	87	78	81	419
21	Dr. T.G.T.I.D. Wijesiri	12	68	68	69	74	69	348
22	Dr. A.A.H.K. Amarasinghe	11	68	76	71	59	70	344
23	Dr. N. Ranasinghe	13	79	80	85	85	79	408
24	Dr. R. Dissanayake	14	73	97	105	80	79	434
25	Dr. B.K.G. Tilakaratne	10	58	63	65	63	64	313
26	Dr. P.L.P. Jayashantha	2	16	16	16	0	0	48
27	Dr. N. Karunachandra	5	25	21	31	20	23	120
28	Dr. C.A. Rupasinghe	7	27	23	23	40	48	161
29	Dr. D.S. Delpachitra	6	0	0	20	57	45	122
Total			1995	1996	2003	1982	1959	9935

Notes



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