

## Site specific reports

### 7.4 Orissa - District Cuttack



Indicators (Orissa)	Rate
Total Population	36,804,660
Population - Male	18,660,570
Population - Female	18,144,090
Sex-ratio	972
Total Literacy Rate	63.1%
Literacy Rate - Male	75.3%
Literacy Rate - Female	50.5%

As per 2001 Census

	Sample Area (Tangi-Choudwar Block)	Sample Area (Cuttack)	
		Rural	Urban
1	Athabatia	Cuttack Municipal Corporation	Ward No. 19
2	Haripur	Cuttack Municipal Corporation	Ward No. 36
3	Kujibara	Charbatia	
4	Salagaon	Choudwar	Ward No. 9

## Introduction

The state of Orissa is situated in the eastern coast with a long border along the sea. It has diversity of customs, culture and eating habits and there are significant differences in the area along the coast and away from coast. The state is having poor economy and the development is slower as compared to other adjoining states. The population of the state is more than 4 crores and is spread in an area of about 1.55 lacs sq. km. The gender ratio is better than national average (927) to about 972 females for 1000 males. Due to its geographic conditions, this state is plagued by natural calamities and industrialization and overall infrastructural development is slow.

There are only 2 medical colleges in the Govt. sector and all 30 Districts have District hospitals in the state in which there is a post of dental surgeon. The number of Dental Surgeons in the state is only 419 as per state dental council register (June 2006). The overall health facilities are poor with lack of adequate infrastructure and manpower in remote rural areas. Most of the Govt. Dental Services are suffering from lack of equipment, machinery, and materials and they are unable to provide basic services to the patients. There are one Govt and three recently opened private dental colleges in the state supporting the dental health care services.

## Profile of Cuttack District

### Administrative Setup

The district is divided into three sub-divisions, 11 Sub divisions and 14 developmental blocks.

### Human Resources

	Total	Male	Female
Population	2341094	1207781	1133313
Rural	1699964	865591	834373
Urban	641130	342190	298940
Total Literates	1574742	909527	665215
Total Workers	794034	638088	155946
Cultivators	161216	141393	19823

Household Size : Average 5.0

Proportion of urban population - 27.4

Gender ratio (Female: Male): 938:1000

## Profile of the Study Population

### *Occupation*

#### 35–44 years

Only 22% in this age group were skilled workers/professionals, while 20% were unskilled worker and housewives constituted 47%. Males were more in both, non-skilled and skilled work force (41 vs. 12 and 36 vs. 4) Unskilled workers were more in rural than urban area (28 vs. 12 ) 0.1% of this group were unemployed.

#### 65–74 years

In this group, 44.5% were housewives and 19% were skilled workers, more in rural than in urban and majority being male (34.4 vs. 7.1% and 39.3% males Vs. 2.7% females) Interestingly, unemployed persons in urban area were double the number than those in rural area (25.7 vs. 12.7%) signifying that elders in rural area, probably engaged in agriculture work even in older age, till their health permitted, unlike in urban area where persons in this age group retire from service. Only 9% were skilled workers/professionals (14 vs. 4.5%), women constituting a meager 1.9% against 16.7% men.

### *Educational Status*

#### 12 years

Parents/guardians of almost 40% of 12 years old were non-respondents. Of the respondents, 20% had lower than primary education, more in rural and women compared to urban and men population (29 vs. 11% and 23 vs. 7.7%). Middle level of education, i.e. till unfinished secondary special was found in 34%; more in rural and men compared to urban and women (56 vs. 50 and 54 vs. 35% respectively) Thirty percent in this group had secondary special to graduation level education. The proportion of persons with higher education was remarkably higher in urban compared to rural (38 vs. 14%). The difference between male: female was small (i.e. 28% male vs. 24% females).

#### 15 years

Of the parents/guardians of 15 years old children, 27% did not respond 18% had below primary level, 57% had below secondary sp. level and 24.5% had up

to graduation level education. The same trend of difference as 12 years olds parents was noted; lower education status in rural than in urban, with very minor differences between sexes.

#### 35–44 years

Forty–six percent in this age group had below primary level education, 42.7% had middle level and 11.2% had graduation level education. Lower education level was, as expected, was higher in rural and women population ( 51.4 rural vs. 40.8 urban and 55.7 % women vs. 36.3% men respectively). Conversely persons with graduate level education were more in urban and male population ( 16 vs. 7% and 16.6 vs. 5.8% respectively)

#### 65–74 years

Almost 3/4<sup>th</sup> of the persons in this group had below primary level education, i.e 71.8%, 21% had middle to more than secondary special level and only 7% had secondary special to tertiary level education. The difference in persons with higher level education between U\urban and rural was most striking: 14% in urban and only 0.7% in rural population.

## Results of Children (12 and 15 years)

### Oral Health Perception

#### *Status of teeth and gums*

##### 12 years

14.28% urban and 3.48% rural respondents rated health of their gums and teeth as excellent or very good, 74.23% urban and 88% rural as good or average and 11.47% urban and 8% rural rated them as poor or very poor. 5.52% males and 12.2% female respondents rated health of their gums and teeth as excellent or very good, 84.92% male and 78% female as good or average and 9.54% male 11.8% female rated them as poor or very poor.

##### 15 years

13.63% urban and 7.53% rural respondents rated health of their gums and teeth as excellent or very good, 71.96% urban and 85% rural as good or average and 14.64% urban and 8% rural as poor or very poor. 10.37% males and female

respondents rated health of their gums and teeth as excellent or very good, 78% males and females as good or average and 10.88% males and 12% females as poor or very poor.

Most of the respondents in both the age groups rated the health of teeth and gums as good or average,

#### *Pain in teeth during past one year*

12 years

35.11% urban and 31% rural respondent reported of toothache occasionally. 31.15% males and 22.22% female respondents reported of tooth ache occasionally.

15 years

27.48% urban and 13% rural respondents reported of toothache occasionally. 23.91% males and 17% female respondents reported of tooth ache occasionally. 25 % of the respondents of both the sexes and in both the populations reported of toothache and/or discomfort during the past 12 months.

### Oral Health Seeking Behaviour

#### *Visit to the dentist during past one year*

12 years

14% urban and 7% rural respondents visited a dentist 1–3 times in last 12 months. 11.9% males and 9.7% females visited dentist 1–3 times in the last 12 months.

15 years

12.9% urban and 6.2% rural respondents visited dentist 1–3 times in last 12 month. 11.1% males and, 8.4% females visited dentist 1–3 times in last 12 month.

It was observed that in both the sexes and in both rural as well as urban population, most of the respondents (Approx. 76%), did not visit a dentist in the past one year.

In spite of 50 % of the respondents of both the sexes and in both the populations reporting of toothache and/or discomfort during past 12 months, it was seen that, their were no regular visits to the trained dentist.

Even though approx. 50% of the responds had toothache/discomfort during the past one year, only 25% had visited a dentist. It is obvious that respondent visited a dentist only in the event of pain and that too, only half of those suffering from pain, which reflects poor health care seeking behaviour.

### Reason of last visit to the dentist

12 years

66.7% urban and 70% rural respondents visited dentist with the complain of pain in teeth or gums in last 12 months, whereas 33.33% urban and 34% rural respondents visited dentist for check up in last 12 months. 58.9% males and 85% females visited dentist with the complain of pain whereas 41.09% males and 14.28% female respondents visited dentist for check up in last 12 months

15 years

84.9% urban and 49% rural respondents visited dentist with the complain of pain in teeth or gums in last 12 months, whereas 15.09% urban and 50% rural respondents visited dentist for check up in last 12 months. 85.1% males and 53.2% females visited dentist with the complain of pain whereas 14.89% males and 46% female respondents visited dentist for check up in last 12 months

Approximately 70% of the respondents in both the populations and sexes, visited the dentist when in pain, it is observed that irrespective of 50 % of the population having dental related problems, the visits to the dentist for regular check ups was minimal (Approx 15%).

### Oral Health Practices

#### *Frequency of teeth cleaning*

12 years

58.3% of the urban respondents cleaned their teeth once a day and 41.5% two or more times a day. The Rural Population 60.1% of the respondents clean their teeth once a day, 37.4% twice or more times a day, whereas 2.4% cleaned their teeth not even once a day. 61.1%of males and 57.3% females clean their

teeth once a day, 37.2% of males and 41.8% of females twice or more times a day and twice 1.5% of males and 0.9% of females cleaned their teeth not even once a day.

15 years

In the urban population 50% of the respondents cleaned their teeth once a day and 48% twice or more times a day, whereas 1.9% of the respondents did not brush their daily. In the rural population, 59.3% of the respondents cleaned their teeth once a day, 40.3% twice or more times a day, whereas 0.6% of the respondents cleaned their teeth less than once a day. 58.5% of males and 50.8% females cleaned their teeth once a day, 40.5% of males and 47.8% of females twice or more times a day, 1.1% of males and 1.3% of females clean their teeth less than once a day.

Approx. 97% of the total respondents cleaned their teeth at least once a day, though the number of respondents cleaning their teeth twice a day was also very significant in both the populations (Approx. 40%) and more so in females by 8%.

#### *Use of tooth paste containing fluoride*

12 years

30.1% urban and 17% rural respondents used fluoridated toothpaste, whereas 12.3% urban and 60% rural respondents did not use tooth paste at all. 18.6% males and females used fluoride tooth paste, whereas 45.8% males and 26% females did not use toothpaste for cleaning their teeth.

15 years

50.7% urban and 25% rural respondents used fluoridated tooth paste, whereas 17.9% urban and 48% rural respondents don't use tooth paste at all. 46.1% males and 26% females used fluoride tooth paste, whereas 31.6% males and 38% females did not use toothpaste for cleaning their teeth.

The use of fluoridated toothpaste was more in the urban population than in the rural. It was surprising to see that a large number of populations (Approx. 40%) did not use toothpaste at all.

### *Methods of teeth cleaning*

#### 12 years

91.8% of the urban respondents cleaned their teeth with toothbrush, whereas 0.3% use charcoal/chew sticks or Miswak to clean their teeth. 99.2% of the rural respondents cleaned their teeth with toothbrush, whereas 1.3% use charcoal/chew sticks or Miswak to clean their teeth.

95.2% of males and 95.8% females cleaned their teeth with tooth brush, 1.6% of males and 0% of females used wooden or plastic tooth picks to clean their teeth.

#### 15 years

93.3% of the urban respondents cleaned their teeth with toothbrush, whereas 4.3% used charcoal/chew sticks or Miswak to clean their teeth. 99.8% of the rural respondents cleaned their teeth with tooth brush, whereas 1.3% used charcoal/chew sticks or miswak to clean their teeth. 95.5% of males and 97.5% females cleaned their teeth with toothbrush, 2.6% of males and 3% of females used wooden or plastic tooth picks to clean their teeth.

It was observed that irrespective of the sex, age and location, approximately all of the respondents used tooth brush for cleaning their teeth. The use of Miswak, charcoal and chew sticks was almost negligible (Approx 1%)

### **Dietary Habits**

#### 12 and 15 year old children

Bakery products were consumed once or more than once a day by about 32% and candies by 19% of all children in 12 and 15 year age groups. Fresh fruit consumption was high to the extent that more than 73% of 12 and 15 years consumed fresh fruits once or more times a day. An average of 10% of both the age groups reported use of chewing gums. The urban population was using bakery foods, sweets and candies more frequently than rural. However, the use of sweets and candies was found more in girls than boys in both age groups.

## Tobacco Habits

### *Smoking cigarettes, cigars or pipe*

12 years

Of the studied population, 4 respondents responded, out of which 1 smoke occasionally, whereas 3 smoked regularly. Most of the respondents were from the urban population.

15 years

In this age group, only 2 respondents smoke occasionally.

### *Chewing tobacco or snuff*

12 years

Of the studied population, 89 respondents responded; out of which 66 chew tobacco occasionally and 23 regularly. It was observed that more of the males (59) were chewing tobacco than the females (30) and more in the urban areas (58) than in the rural (31).

15 years

In this age group, 115 respondents responded, out of which 93 chew tobacco occasionally, whereas 22 regularly. It was observed that more of the males (81) were chewing tobacco than the females (34) and more in the urban areas (69) than in the rural (46).

## Results for Adults (35–44 and 65–74 years)

### Oral Health Perception

#### *Number of natural teeth present*

35 – 44 years

Only 2% of the studied population had <20 natural teeth. There were only minor differences between urban: rural and male: female population.

65 – 74 years

In this age group, 65% respondents of both sexes and populations had more than 20 natural teeth present, 16% respondents had 10–19 natural teeth,

whereas 15% of the respondents had no natural teeth. There were no marked differences in the percentages of male: female and rural: urban populations.

#### *Oral discomfort / pain*

35 – 44 years

Of the studied population, 50% of the respondents complained of toothache occasionally, whereas remaining 50% had no complain. There were no marked differences in the percentages of male: female and rural: urban populations

65 – 74 years

Respondents showed the same pattern as 35 – 44 age groups.

#### *Use of removable prosthesis*

35–44 years

Of the studied population, 1.5% respondents wore partial dentures, and 0.5% wore upper and/or lowers complete dentures. It were observed that the prosthesis were more common with the urban (60%) then the rural (40%) population.

65–74 years

In this age group, 3% respondents wore partial dentures, and 1% wore upper and/or lowers complete dentures. It were observed that the partial prosthesis were more common with the urban (65%) than the rural (35%) population.

It was observed that no respondent from the rural population wore a complete denture.

#### *Status of teeth and gums*

The various categories were summarized into three groups: good, average and poor

35 –44 years

Of the studied population, majority of the respondents of both the sexes and populations rated health of their gums and teeth as average (70%), 3% as good and 27% rated them as poor. There were no significant differences between urban: rural and male: female respondents.

65 – 74 years

In this age group, 66% rated the health of their gums as average, 32% as poor and only 2% respondents rated as good. There were no significant differences between urban: rural and male: female respondents.

## Oral Health Practices

### *Frequency of teeth cleaning*

35 – 44 years

Of the studied population, 75% of the total respondents clean their teeth once a day, whereas 28% urban, 20% rural, 21% males, and 26% of female respondents clean their teeth two or more times a day.

65 – 74 years

In this age group, 70% respondents clean their teeth once a day, whereas 29% respondents clean their teeth two or more times a day. There were no significant differences between urban: rural and male: female respondents.

### *Methods of teeth cleaning*

35 – 44 years

Of the studied population, majority of the respondents clean their teeth with a tooth brush 68%, and out of 30% population using charcoal, chew sticks or Miswak, 11% were urban, 37% rural, 25% males and 27% females.

65 – 74 years

In this age group, 41% of the respondents clean their teeth with a tooth brush, and out of 33% population using charcoal, chew sticks or Miswak, 17% were urban, 43% rural, 22% males and 18% females.

### *Use of tooth paste with or without fluoride*

35 – 44 years

Of the studied population, 22% of the respondents use fluoride tooth paste; it was observed that fluoride tooth paste was used extensively in the urban population (75%) then in the rural (25%). 48% of the total respondents did not

use tooth paste at all, It was seen that 75% rural respondents were not using tooth paste as compared to the 25% urban respondents.

65 – 74 years

In this age group, 16% of the respondents use fluoride tooth paste; it was observed that fluoride tooth paste were used extensively in the urban population (64%) then in the rural (36%). 54% of the total respondents did not use tooth paste at all and there were no significant difference between urban: rural and male: female respondents.

## Dietary Habits

35–44 years and 65– 74 years

Among the adult and geriatric age groups, the use of bakery product was reported by 42% of 35–44 year olds and 51% of the 65–74 year olds were found to be having habit of using bakery foods daily. Once or more than once use of candies and sweets was reported by 50% and 57% of the respondents in adult and geriatric age group respectively. A significantly large proportion (more than 75%) of respondents in both the groups used colas and beverages once of more times a day. There were no significant differences in dietary habits among males, females and urban: rural population in both age groups.

## Tobacco Habits

*Smoke cigarettes, cigars or pipe*

35 –44 years

Of the studied population, 3% respondents were occasional smokers whereas 14% were regular smokers.

65 – 74 years

In this age group, 4% respondents were occasional smokers whereas 15% were regular smokers.

*Chew tobacco or snuff*

35 –44 years

Of the studied population, 3% were occasional tobacco chewers whereas 36%

were regulars. There were no significant differences between urban: rural population.

65 – 74 years

In this age group, 2.1% were occasional tobacco chewers whereas 49% were regulars.

There were no significant differences between urban: rural population.

## Oral Health Status (all age groups)

### *Oral mucosal condition*

35–44 years

The striking finding in this group was leukoplakia in 14% of population, which was almost equally distributed among urban: rural and male: female population (14.2 vs. 13.8 and 16.5 and 11.5% respectively.)

65–74 years

Leukoplakia was the major finding in this group as well, i.e. 14.3%. However, it was more prevalent in rural than urban and more in women than men (17.2 vs. 11.3 and 19.3 vs. 9.1 respectively.) Surprisingly even though leukoplakia prevalence was high, oral malignancy was recorded in only one case (0.3%) Probably, in this region, people habitually chew betel quid more than only areca nut +lime or tobacco+lime mixture, which is more carcinogenic. It is known that betel leaf affords some protection. to oral mucosa against the areca nut alkaloids and chemical toxins from tobacco. Other reason for high leukoplakia could be that constant chewing could cause uneven attrition of teeth to cause sharp cuspal edges and inclines rubbing against oral mucosa, causing leukoplakia. Oral ulceration in 0.8% and other findings such as submucous fibrosis were recorded in 1.8%.

### *Denture wear*

There was virtually no denture wear in both 35–44 years age 65–74 years' age groups. In 35–44 years group, only one rural male had partial denture and in 65–74 years only 6 persons had partial denture (0.7%) and one urban man had complete denture. The findings bring out the stark neglect of oral health care in the studied group.

### *Dentition Status*

#### 12 years

Decayed teeth were recorded in 22%, missing teeth in 1.6% and filled teeth in only 0.2%. There were only small differences in caries prevalence between urban rural and male: female; ( 25% urban vs. 19% rural and 20% males vs. 24% females.) The total caries experience was thus recorded in 23% children with >4 DMFT constituting only 2.6%.

#### 15 years

Decayed teeth were noted in 24% and missing teeth in 3%. There were no filled teeth recorded. DMFT >4 was recorded in 5.6%

#### 35–44 years

Prevalence of decayed teeth increased to 37.6% in this group and missing teeth were recorded in 25.4%. Again the filled teeth were found in only 5 persons (0.6%) Hence, the total caries experience was 48% and >4 DMFT was found in 16% of those examined in this group.

#### 65–74 years

Decayed teeth in 39.5 %, missing teeth 25.5% and filled teeth in 0.2% ( 2 persons only) was recorded. The total caries experience was recorded in 51.6%, of which DMFT of >4 were found in 24.4%

Overall, in adults decayed teeth were more in urban than in rural area and more in females compared to males in both 35– 44 and 65–74 years age groups. In 35–44 years, urban: rural and male: female ratio for decayed teeth was (44 vs. 31 and 46 vs. 29% respectively). In 65–74 age group 50% urban vs. 29% rural and 43% females vs. 36% males had decayed teeth. Missing teeth were also recorded more in urban than in rural population in both the age groups, while it was more prevalent in women in 35–44 years group than in men ( 29.5 vs. 21.2%)

### *Average DMFT score in only caries affected persons*

In was 2, 2.4, 3.5 and 5.7 for the age group of 12, 15, 35–44 and 65–74 years. In children, the DMFT was marginally higher in rural compared to urban, while in both the adult age groups, it was significantly higher in urban population

(3.8 vs. 3 in 35–44 years. group and 6.3 vs. 4.8 in 65–74 years group). DMFT was also significantly higher in women compared to men in adult age groups (4.2 vs. 2.5 in 35–44 years. and 6.1 vs. 5.3 in 65–74 yr. group).

#### *Periodontal status*

##### 12 years

In 70% of children, bleeding was recorded with very minor differences between urban: rural and male: female.

##### 15 years

Bleeding gums was present in almost 60% of children with slightly higher percentage of rural children affected compared to urban (62 vs. 57%).

##### 35–44 years

Bleeding was recorded in 89%, shallow pockets in 35.7% and deep pockets in 9.7%.

##### 65–74 years

Bleeding was found in more than 82%, shallow pockets in 42% and deep pocket in 15.6%. Surprisingly, deep pockets were recorded in higher percentage of urban than rural population (21.7 vs. 9.7%).

#### *Loss of attachment*

35–44 years Attachment loss of 4–5 mm was reported in 20% and >6mm.in another 7%. Severe attachment loss in urban population was surprisingly more than in rural and in males than in females (8.4 in urban vs. 5.4 rural and 7.7 males vs. 6.2 females respectively) In 2%, there were excluded sextants.

##### 65–74 years

Attachment loss of 4–5 mm was recorded in 21% but >6 mm in 17%, which was significantly higher than found in younger adult of 35–44years group. There were no differences found between urban: rural or male: female with regard to severity of attachment loss. In 38%, excluded sextants were recorded, suggesting loss of multiple teeth in this age group.

## *Fluorosis*

### 12 years

Questionable to mild female was recorded in 11% and mild to moderate in another 4.7%. There was not able difference between urban and rural population more fluorosis was recorded in rural compared to urban. (18.6 vs. 12.5)

### 15 years

Questionable to mild female was recorded in 10.8% and in 6% mild to moderate which correlated well with that found in 12 years old. The same urban: rural difference in fluorosis level was found, more in rural compared to urban (22.8 vs. 11%). There was no sex difference.

### 35–44 years

Evidence of fluorosis was negligible in this age group. Only 0.4% had questionable to very mild and 1.1% had mild to moderate level of fluorosis. But most of it was found in urban population (2.4% in urban and 0.5% in rural) probably, higher tooth loss in rural population could explain this finding.

### 65–74 years

No fluorosis was recorded in this age group.

## Summary

Located on eastern coast of India, Orissa is relatively less developed than other states in the country. It has poor economy and development is comparatively slow. The literacy rate is comparatively low, with an average of 62%. Health care is not well organized and remote places do not have any health care facilities.

The self perception about own oral health was good and excellent in about 75% of the children but only in 44% of adults and 38% of elderly. Oral health seeking behaviour in the population was poor; 60% of elderly and 67% of adults had never received any dental care. However, more than 50% of adults and elderly had complaint of pain in their teeth and gums during the past 12 months.

Dental caries prevalence in Orissa was found to be the lowest among all 7 states studied. It was about 24% for children and 48–55% for adults and elderly.

The DMFT score was also low; 0.47, 0.59 and 1.73 in 12,15 and 35–44 year age group. About 93% of children were using tooth brush and once or more times. Only 67% adults and 42% elderly reported use of toothbrush. Brushing once or more than once a day was reported by more than 97% of total adult population. Eating sweets was reported to be low in the population; only 32% of children and 46% of adults were eating bakery sweets frequently but consumption of sweet beverages was high among adults (71%). However, sweet liquids are less cariogenic than solid, sticky sweets, which could explain lower prevalence and DMFT index in the state.

Mild to moderate dental fluorosis was reported in about 8.9% of 12 year olds, 9.4% of 15 year olds and only 1.5% of adults. Probably, this was another reason contributing towards unusually low prevalence of dental caries and low DMFT score. Higher fluorosis could be due to the fact that people in the coastal area consume a lot of sea food which is known to have high fluoride content. Prevalence of gingival bleeding was 65% in children and 100% in adult and elderly population studied. Loss of attachment of 3 mm or more was recorded in 68% of adults and 89% of the elderly population. Tobacco use in both forms was reported high in adults. Smoking habit was reported in 14% of adults chewing was reported in 35% of adults and 49% of the geriatric population. Understandably, prevalence of leukoplakia and other pre cancerous conditions were also high (14%)

In conclusion, oral health indicators suggest the need for oral health education, tobacco cessation activities and strengthening of oral health care provision in the state.