



## AWARENESS AND ORAL HYGIENE PRACTICE AND ITS RELATION TO SOCIO-DEMOGRAPHIC FACTORS AMONG PATIENTS OF JHARKHAND POPULATION

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### ABSTRACT

**Background:** Indian community comprises of Periodontal diseases, dental caries, malocclusion, and oral cancer as the most prevalent dental diseases affecting the population. **Objective:** The study was conducted to assess the awareness and practices of oral hygiene and its association with the sociodemographic factors among patients of Jharkhand population. **Materials and Methods:** A cross-sectional study was conducted among 448 patients attending the dental OPD of the HCDSH and Srinivas Hospital, Hazaribag, Jharkhand, India, from 1 February to 31 March, 2019. **Results:** 69.2% of the participants used a toothbrush with toothpaste as a method of cleaning their teeth; 35.7% brushed twice in a day; 33.03% brushed both in the morning and at bedtime; and 8.94% used mouthwash. About 40.62% visited the dentist during the last six months; among them 61.18% attended because of pain. Almost three-fourth of the participants knew that tooth decay and bad breath were the effects of not cleaning the teeth. It was known to 71.42, 63.39, 70.53, and 73.21% of the respondents, respectively, that excess sweet, cold drink, alcohol, and smoking/pan chewing were bad for dental health. Television was the source of knowledge to 57.15% of the participants and 35.71% acquired their knowledge from a dentist. Females, literates, urban residents, users of mouthwash, and regular visitors to the dentist had good oral hygiene practices. **Conclusion:** Oral health awareness and practices among the study population are poor and need to improve.

**KEYWORDS :** Oral hygiene, Awareness, Practices, Sociodemographic factors

### INTRODUCTION

According to the World Health Organization (WHO), "Promotion of oral health is a cost-effective strategy to reduce the burden of oral disease and maintain oral health and quality of life.[1]" Oral Diseases are a major public health concern with their higher prevalence and has effects on the individual's quality of life.[2] Periodontal diseases, dental caries, malocclusion, and oral cancer are among the most prevalent dental diseases affecting people worldwide as well as in the Indian population.[3] Dental caries, with a prevalence as high as 60-80% in children, is a major public health problem in India.[4]

Oral cancer has also been a major problem in this country since long.[5] The possible etiological factors contributing to these oral diseases are genetic predisposition, developmental problems, poor oral hygiene, and traumatic incidents. Oral health-related education; thus, improves the oral health attitude and practices among the general population.[6] It is essential to combat oral diseases as a preventive approach, with the focus on health education and promotion.[7] Preventive dental care is almost non-existent in the rural areas and very limited in the urban areas of India.[8] The National Oral Health Survey, conducted in 2005, by the Indian Dental Association (IDA), highlighted that 95% of the population in India suffers from gum disease, only 50% use a toothbrush, and just 2% of the population visit the dentist.[9] The National Oral Health Program (NOHP); an initiative of IDA, states that oral health is essential for general health and well-being.[9]

The National Oral Health Care Program was launched as a pilot project in 1999, to reduce the increasing morbidity due to oro-dental problems in our country. The main focus of this program is primary prevention through awareness. The project was reviewed by the National Institute of Health and Family Welfare in 2004.[10] Apart from these, the oral cancer programs are dealt under the National Cancer Control Program at the national level.[11]

Keeping this background in mind, the present study was

conducted with the objectives of assessing the awareness and practices with regard to oral hygiene among patients attending the dental OPD of HCDSH and Srinivas Hospital, Hazaribag, and to find out any association with the sociodemographic profiles relating to oral hygiene practices.

### MATERIALS AND METHOD

An observational, descriptive, cross-sectional hospital-based epidemiological study was conducted among patients attending the dental Outpatient Department (OPD) of the HCDSH and Srinivas Hospital, Hazaribag, Jharkhand, India. 448 patients attending the OPD were studied. Data were collected during a span of 2 month (1February to 31 March, 2019).

The study schedule included information related to the patient's sociodemographic profiles like age, gender, residence, education, occupation, socioeconomic classification by Per Capita Monthly Income (PCMI), as per the modified B.G. Prasad Scale,[12] knowledge (effect of not regularly cleaning the teeth and effect of different food items on dental health), and practices (method, frequency, timing of cleaning teeth, use of mouthwash, frequency, and cause of visit to dentist). Study technique was by exit interview either with the patient or with the accompanying guardians in case of patients less than or equal to 18 years.

### INCLUSION CRITERIA:

Patients above 12 years of age, willing to participate, who gave verbal consent, and were able to understand and answer the questions, were included in the study.

### EXCLUSION CRITERIA:

Patients suffering from debilitating diseases were excluded from the study.

### Procedure of data collection

Patients were informed about the objective of the study, and were assured about the confidentiality. After getting verbal consent, the data were collected by an exit interview method.

The overall practices concerning oral hygiene were assessed based on their responses to questions pertaining to oral hygiene practice. The correct answers were given a value of one (1) and incorrect answers were given a value of zero (0). It was categorized as 'good' or 'not good' based on the cumulative result and the related mean value of responses. Scores above the mean value were categorized as 'good practice,' while scores below the mean value were considered as 'not good practice'. The scores were then cross-tabulated with the independent variables to look for possible associations.

**Operational definitions**

**Good practices:** Mode of cleaning of teeth with toothbrush and toothpaste, cleaning frequency twice or more per day, cleaning time both in the morning and at bedtime, users of mouthwash, and visit to dentist within the last six months.

**Not good practices:** Mode of cleaning of teeth without toothbrush and toothpaste, cleaning frequency less than twice per day, cleaning time either only in the morning, only at bedtime or anytime; non-users of mouthwash, and not visited the dentist in the last six months.

**STATISTICAL ANALYSIS**

The statistical analysis was done using SPSS (version-20) software. The association between the categorical variables was tested by the Pearson's Chi-square test statistic. A p-value of less than 0.05 was considered to be statistically significant.

**RESULTS**

The age ranged from 16 to 67 years of the 448 subjects that were included in the study, with a mean age of 40.75 years (standard deviation 9.19). The majority of the study population belonged to the age group of 20 to 40 years i.e. 51.9%. Males formed 74.11% of the population, 77.68% belonged to the rural areas, 25.89% were skilled workers, and 15.18% were illiterate. As per the modified B. G. Prasad Classification of socioeconomic status; 24.19% belonged to the Class II socioeconomic status [Table 1].

**Table 1: Distribution of the study population according to the sociodemographic profiles (n = 448)**

Profile	Number	Percentage
<b>Age (years)</b>		
<20	16	3.6
20-40	232	51.8
40-60	172	38.4
≥60	28	6.25
<b>Gender</b>		
Male	332	74.11
Female	116	25.89
<b>Residence</b>		
Urban	100	22.3
Rural	348	77.70
<b>Occupation</b>		
Unskilled workers	36	8.04
Skilled workers	116	25.9
Service	88	19.6
Business	64	14.3
Unemployed	40	8.9
Others including students, home makers	104	23.2
<b>Education</b>		
Illiterate	68	15.18
Primary	116	25.89
Mid School	68	15.18
Secondary	44	9.82
Higher secondary	48	10.71
Graduate	84	18.76
Postgraduate and above	20	4.46

*Socioeconomic status		
I	84	18.75
II	108	24.11
III	64	14.29
IV	104	23.21
V	88	19.64

**\*Modified B. G. Prasad Classification 2013**

Most of the study subjects (69.2%) used both toothbrush and toothpaste together, followed by the manual use of toothpaste or tooth powder (22.3%) as a method of cleaning their teeth. 35.71% of the subjects cleaned their teeth twice daily, while 58.93% cleaned them once daily. More than half of the subjects (55.4%) cleaned their teeth in the morning, followed by 33.03% in both morning and at bedtime. Moreover, 9.82% of the subjects did not have any fixed time for cleaning of their teeth; 91.07% of the subjects did not use any mouthwash, and 59.38% had not visited a dentist in the last six months preceding the study [Table 2].

**Table 2: Distribution of the study population according to practices with regard to oral hygiene (n = 448)**

Practices	Number	Percentage
<b>Method of cleaning of teeth</b>		
Toothbrush + toothpaste	310	69.2
Manually by toothpaste/toothpowder	100	22.32
Salt with finger	10	2.23
Herbal products (Neem stick etc.)	28	6.25
<b>Frequency of cleaning/day</b>		
Less than once	4	0.89
Once	264	58.93
Twice	160	35.71
More than twice	20	4.47
<b>Time of cleaning</b>		
Morning	248	55.36
Bedtime	08	1.79
Morning + Bedtime	148	33.03
Anytime	44	9.82
<b>Use of mouthwash</b>		
Yes	40	8.93
No	408	91.07
<b>Visit to dentist within the last six months</b>		
Yes	182	40.62
No	266	59.38

About 74.11% of the subjects stated tooth decay as a result of not cleaning teeth regularly, followed by bad breath (70.5%) and gum disease (68.75%). Moreover, 73.21% of the subjects blamed smoking/pan chewing/gutkha/other tobacco products for having deleterious effects on dental health. Excessive sweet, alcohol, and cold drinks were also cited as harmful food items by 71.42, 70.53, and 63.39% of the subjects, respectively [Table 3].

**Table 3: Distribution of the study population with regard to knowledge of oral health**

Knowledge about oral health	Number	Percentage
<b>Effect of not cleaning of teeth regularly*</b>		
Tooth decay	332	74.11
Bad breath	316	70.53
Gum disease	308	60.75
<b>Effect of food items on dental health*</b>		
Excess sweet	360	71.42
Cold drinks	284	63.39
Alcohol consumption	316	70.53
Smoking/pan chewing/gutkha/ other tobacco products	328	73.21

A majority of the subjects (57.14%) acquired information on oral health from the television, followed by advice from the dentist (35.7%), magazines (21.97%), and so on [Table 4].

**Table 4: Distribution of the study population according to sources of oral health information**

Sources	Number	Percentage
Television	256	57.14
Dentist	160	35.71
Medical doctor	60	13.39
Magazine	98	21.87
Newspaper	44	9.82
Radio	38	8.48
Friends/Relatives	58	12.94
Others (Books, Pamphlets)	22	04.90

Out of the study subjects, 38.39% had 'good oral hygiene practices' and the rest of the 61.61% had 'not so good oral hygiene practices'. Moreover, females, literates, urban residents, and higher socioeconomic status (class I) study subjects had more 'good practices' compared to males, illiterates, rural residents, and lower socioeconomic status (class V), respectively; and the differences appeared to be statistically significant ( $P < 0.05$ ) by the chi-square test. [Table 5].

**Table 5: Association of the sociodemographic factors and practices of oral hygiene (n= 448)**

Variables	Good practices N (%)	Not good practices N (%)	Chi-square test	P-value
<b>Gender</b>				
Female	100	16	75.65	<0.05
Male	72	260		
<b>Education</b>				
Literate	160	220	7.29	<0.05
Illiterate	12	36		
<b>Residence</b>				
Urban	88	12	66.97	<0.05
Rural	44	264		
<b>Socioeconomic status</b>				
I	44	40	13.02	<0.05
II	40	68		
III	36	28		
IV	28	76		
V	24	64		

**DISCUSSION**

Oral health-related quality of life is difficult to define because the concept is illusive, personal, multidimensional and without clear demarcations of its different components. [13] The present study says that brushing with toothbrush and toothpaste was the most commonly used method of teeth cleaning (69.20%). Similar findings were also noted by Pandya *et al.*[13] Jain *et al.*,[14] Sharda *et al.*,[15] Chandra Shekhar *et al.*,[16] and Bhat *et al.*,[17].

Similar to the findings of Parveen *et al.*[6]and Dasgupta *et al.*,[18] the present study revealed that 35.71% of the subjects used to brush their teeth twice daily. However studies by Jain *et al.*,[14] Sharda *et al.*,[15] Chandra Shekhar *et al.*,[16] Bhat *et al.*,[17] and Pandya *et al.*,[13] revealed the findings to be somewhat lower compared to the present study, where only 23.0, 15.4, 22.0, 11.6, and 13.96%, respectively, used to brush twice a day.

Only 8.93% of the subjects used mouthwash as an oral hygiene aid in this present study; which was in accordance with Jain *et al.*'s study.[14] However, Sharda *et al.*,[15] found mouthwash users to be 64.10%.

Regarding a visit to the dentist, the findings of the present study (40.62%) were in agreement with the findings of Parveen

*et al.*,[6] and Chandrashekhar *et al.*[16] Although, it was much lower as compared to the findings of Bhat *et al.*,[17] (80.1%), this finding was quite high when compared to the study by Jain *et al.*,[14] and Pandya *et al.*,[13] where only 10.0 and 3.65%, respectively, would regularly visit a dentist every six months.

Approximately 70% of the subjects stated that oro-dental diseases were a result of not cleaning teeth regularly, which was in consistent with the finding of Chandrasekhar *et al.*[16] Similar to the findings of Parveen *et al.*,[6] the present study also revealed that about three-fourth of the subjects were aware of the harmful effects of excess sweet, cold drinks, alcohol consumption, and smoking/pan chewing/gutkha and other tobacco products on oral hygiene. However, Chandrashekhar *et al.*[16] reported awareness among one-third of the participants.

A majority of the subjects (57.14%) acquired information on oral health from television, consistent with the findings of other studies. [6,15,17] However community-based educational programs by health professionals, in association with print and media would also be effective in spreading the awareness and importance of proper dental care.

The present study revealed good oral hygiene practices among 38.39% of the participants, which was much higher compared to the findings of Bhat *et al.*[17] (6.2%). Similar to the present study, literate and higher socioeconomic status subjects were found to have significantly good oral hygiene practices in the studies by Chandra Sekhar *et al.*,[16] Al-Wahadni AM *et al.*,[19] Barrieshi-Nusair K *et al.*,[20] and Kawamura M *et al.*[21]

**CONCLUSION**

This study suggests that oral health awareness and practices among the study population are poor and need to be improved. The oral hygiene problems in the population can be prevented by providing awareness, which is a more convenient technique than the expensive dental procedures. Periodic oral health awareness programs at schools, colleges, universities, and community levels should be undertaken. Dental professionals, Dental Marketing Agencies, and media too may join hands with the government to help in the prevention of oral health problems by improving knowledge, attitudes and oral hygiene practices among the general population.

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