



Original Article

A Community Based Survey of Oral Health of Adults in a Rural Area of North India

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Introduction: The public health problems that are associated with various oral diseases are a major burden on countries all over the world. A sound basis is provided by basic oral health surveys for assessing the oral health status of a particular population. **Material and Methods:** This was a community based cross-sectional study, conducted in rural area of north India. WHO technique of ‘Self-assessment of oral health through use of questionnaires’ was used for this study. All the subjects, who were permanent residents of the area, were 20-45 years of age, and consented to be part of the study, were included. Thus the sample size was 2856 individuals, out of which, 1466 were male and 1390 were female. **Results:** Out of the 731 subjects who had one or more natural teeth missing, some had a partial denture in place. All of them cleaned their teeth once or twice a day. While all used a toothbrush and toothpaste to clean their teeth, there were multiple answers in some cases. Out of the total, there were 1158 subjects who had ever received dental care. Pain or trouble with teeth, gums or mouth was the most significant complaint received in all age groups. **Discussion:** In the present study, it was evident that oral health is not prioritized by the subjects, till the time they actually have some related problem. In fact, similar results have been found in other studies too. **Conclusion:** Community-based oral disease prevention programs are definitely needed urgently for the improved promotion of oral health in this region.

Keywords: Adults, Dental, Health, Oral, Rural.

1. INTRODUCTION

The public health problems that are associated with various oral diseases are a major burden on countries all over the world¹. A sound basis is provided by basic

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oral health surveys for assessing the oral health status of a particular population as well as its future requirements for the care of oral health. The World Health Organization (WHO) has devised various epidemiological survey methods. These include a description of diagnostic criteria that are readily understood as well as applied in public health programmes, the world over. Guidelines have been laid down for practical as well as economical sample designs that are suitable for recording the prevalence of different oral diseases, and in turn, required for planning the oral health programmes. In addition to this, WHO sets out clear principles for summarizing data and analyzing results¹. Conducting regular oral health surveys in many countries has revealed some important trends in the oral health status, especially among children. In many high-income countries, oral health of the children has been observed to improve after the introduction of oral disease prevention programmes. On the contrary, rapidly increasing instances of oral disease, have been observed in many low- and middle-income countries. This is found in conjunction with changes in living conditions as well as adoption of an unhealthy lifestyle. In addition to the social determinants, many behavioural risk factors have been found to influence oral health. These include a sugar-rich diet, tobacco, excessive consumption of alcoholic beverages and weak oral hygiene traditions. Besides, limited availability as well as accessibility of services for oral health and the lack of promotive and preventive programmes have also been found to be associated with poor status of oral health¹. WHO has developed various new tools for oral health surveys. Besides, certain instruments have also been developed for surveillance of self-reported oral health as well as related risk factors¹. There are index age groups recommended by the WHO for population

surveys². These are 5, 12, 15, 35–44 years (mean = 40 years) and 65–74 years (mean = 70 years).

2. MATERIAL AND METHODS

This was a community based cross-sectional study, conducted in rural area of north India. The Medical Officer in charge of the dependent Primary Health Centre (PHC), as well as the village authorities were liaised with. WHO technique of 'Self-assessment of oral health through use of questionnaires' was used for this study. According to the STEPS approach, Step 1 represents collection of health data by means of questionnaires. The WHO Oral Health Questionnaire for adults was used as a template and was modified for the target subjects, so as to keep the questions simple and the language easily understandable¹⁻³. A pilot study was conducted so as to assess the validity and acceptability of questions. All the subjects, who were permanent residents of the area, were 20-45 years of age, and consented to be part of the study, were included. Thus the sample size was 2856 individuals, out of which, 1466 were male and 1390 were female. Since the subjects varied in their educational qualifications and intelligence, the questionnaires so prepared were completed via an interview that was conducted by the health care workers, after a brief training in this exercise by the principal investigator. The purpose and main objectives of the survey were explained to the study population and informed consent was taken. Data was recorded after conducting a pilot study. The WHO questionnaire has a set of sixteen questions with multiple choice answers. The questions range from knowledge about cleaning of teeth, frequency of cleaning, use of toothpaste etc. During this phase of the study, dental conditions that required immediate attention were referred to the authorized dental attendant for needful treatment. As recommended by the WHO, courtesy reporting was done to the village authorities and the respective

individuals as well as their families, once the survey findings were compiled.

3. RESULTS

A set of sixteen questions, mostly with multiple choice answers were posed to the study population in the form of a standardized questionnaire. Individuals were in the age group of 20-45 years. A total of 2856 individuals were included in the study, out of which, 1466 were male and 1390 were female.

The distribution of the study population based on age groups and gender is as shown in table-1 and figure-1.

Table 1: Distribution of study population based on age groups and gender

Age group	Male	Female	Total
20 to >25	388	254	642
25 to >30	256	202	458
30 to >35	234	345	579
35 to >40	335	322	657
40 to 45	253	267	520
Total	1466	1390	2856

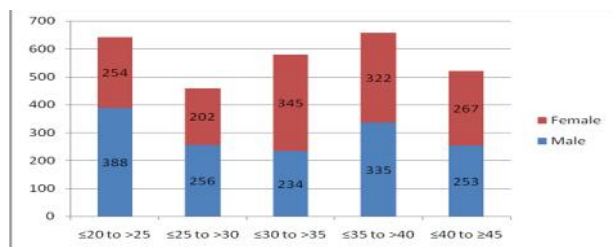


Fig 1: Distribution of study population based on age groups and gender

The distribution of study population based on number of teeth present is as shown in figure-2. All the study subjects had all or some natural teeth.

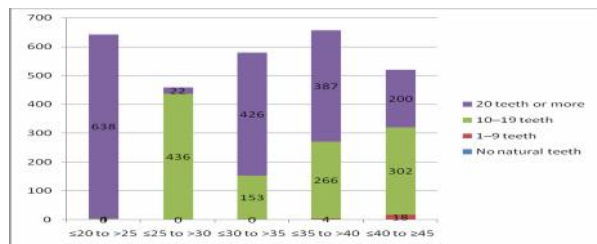


Fig 2: Distribution of study population based on number of teeth present (Question-3)

Figure-3 shows the distribution of study population based on answer to the question, “During the past 12 months, did your teeth or mouth cause any pain or discomfort?”

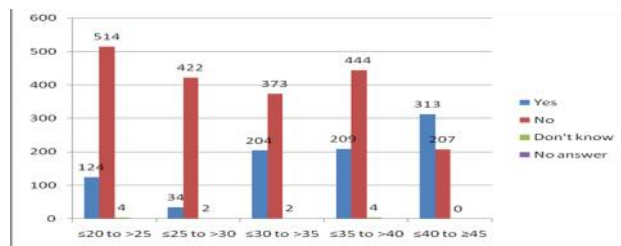


Fig 3: Distribution of study population based on answer to the question, “During the past 12 months, did your teeth or mouth cause any pain or discomfort?” (Question-4)

Out of the 731 subjects who had one or more natural teeth missing, some had a partial denture in place (figure-4). There were none who had a full upper or lower denture.

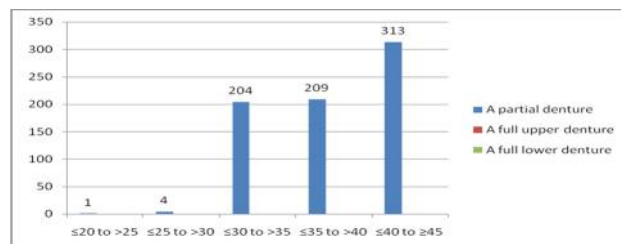


Fig 4: Distribution of study population based on answer to the question, “Do you have any removable dentures?” (Question-5)

On being asked the question, “How would you describe the state of your teeth and gums?”, most were of the view that they were very good or excellent (figure-5).

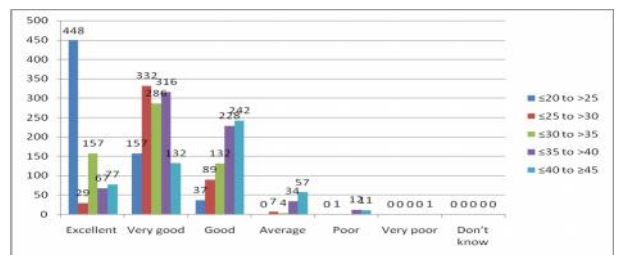


Fig 5: Distribution of study population based on answer to the question, “How would you describe the state of your teeth and gums?” (Question-6)

As per the questionnaire, the subjects were asked about the frequency of cleaning of teeth?” (Question-7). All of them cleaned their teeth once or twice a day.

Figure-6 shows the distribution of study population based on the mode of cleaning of the teeth. While all used a toothbrush and toothpaste to clean their teeth, there were multiple answers in some cases.

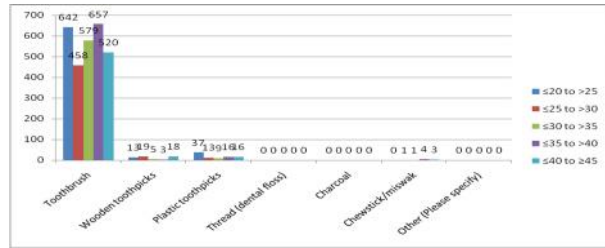


Fig 6: Distribution of study population based on answer to the question, “Do you use any of the following to clean your teeth?” (Question-8)

*There were multiple answers in some cases.

Distribution of study population based on answer to the question about fluoride toothpaste is as shown in figure-7.

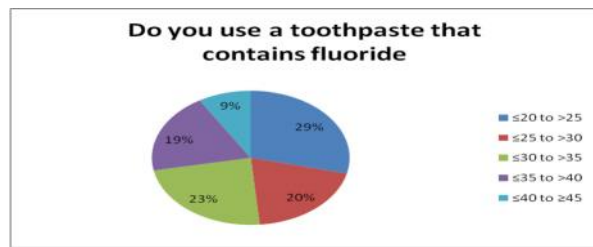


Fig 7: Distribution of study population based on answer to the question about fluoride toothpaste (Question-9)

In order to find out about their visit to the dentist, they were asked the question, “How long is it since you last saw a dentist?” The distribution of study population based on answer to this is as shown in figure-8.

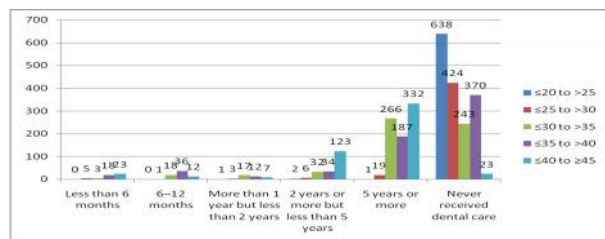


Fig 8: Distribution of study population based on answer to the question, “How long is it since you last saw a dentist?” (Question-10)

Out of the total, there were 1158 subjects who had ever received dental care. These were further asked the question, “What was the reason of your last visit to the dentist?”. The responses obtained are as shown in figure-9. Pain or trouble with teeth, gums or mouth was

the most significant complaint received in all age groups.

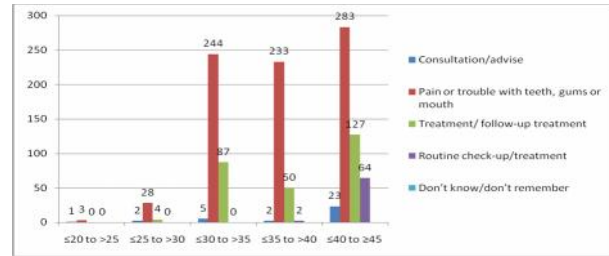


Fig 9: Distribution of study population based on answer to the question, “What was the reason of your last visit to the dentist?” (Question-11)

There were variable as well as multiple responses to the questions like, “Because of the state of your teeth or mouth, how often have you experienced any of the following problems during the past 12 months?”. While most of those affected said that they felt tense because of problems with teeth or mouth, fairly often there were many who had difficulty in biting or chewing foods. There were only 1.2% of the subjects who gave history of chewing of tobacco. All of these were men. Similarly, there were 5.4% of the subjects who took an occasional drink of alcohol. All of these were also men. The educational qualification of the subjects was not found to have any significant role in the oral health of this rural population.

4. DISCUSSION

In the present study, it was evident that oral health is not prioritized by the subjects, till the time they actually have some related problem. In fact, similar results have been found in other studies too. A study conducted in Riyadh to assess the oral health KAP among health care professionals showed a variable attitude towards visits to dentists. 66.7% of the medical students were found to visit the dentist only whenever they get toothache. Majority of the health professionals stated that the fear of drilling was, in fact, the main reason for avoiding going to the dentist. Almost all of the study subjects said that they cleaned their teeth by using toothbrush and toothpaste. Less than 10% of them used Miswak and/or toothpick⁴.

Similar study conducted in China also showed that the knowledge of causes as well as prevention of various dental diseases was quite low, along with somewhat negative attitudes towards prevention. The authors had observed that systematic community-based oral health promotion needed be strengthened. Preventive-oriented oral health care systems were needed to be stressed, including promotion of self-care practices and the use of fluoridated toothpaste⁵. Another study conducted to assess knowledge, attitude and practices (KAP) regarding oral health, oral hygiene and dental caries among Anganwadi workers (AWWs) of Bareilly city showed that majority of AWWs did not know the association between tobacco consumption and oral cancer and also use of fluorides and reduction of dental caries. When AWWs were asked about rinsing oral cavity with plain water after every meal, 94.7% were found not following this practice. The findings showed that 60% AWWs consumed sugar less than three times in a day. The findings showed that majority (53.6%) of the AWWs visited the dentist only due to dental pain. Majority (64.2%) of AWWs were suffering from dental caries. In fact, the authors concluded that AWWs of Bareilly have moderate awareness about oral health in few dimensions; their KAP is less than desirable and very poor in specific dimensions like oral cancer and its relationship with tobacco. Anganwadi workers need to be trained in these dimensions⁶. Other studies conducted in India observed that dental diseases had a negative influence on the oral health-related quality of life (OHRQoL) of people. This in turn, had an effect on their perceived need for dental care⁷. Also, there is a requirement for initiating enough awareness regarding oral hygiene, particularly primary prevention, which could help in the reduction of prevalence of oral diseases⁸. A study conducted in Turkey to estimate severity of dental caries status of children and adults showed that the prevalence of caries was much higher

among the females than males. Rural subjects had more severe oro-dental problems compared to their urban counterparts⁹. A pilot study of dental caries status, conducted in Myanmar in relation to KAP in oral health, showed that the mean number of decayed teeth (DT) found in the rural areas was much higher than in urban areas. At the same time, the mean number of filled teeth (FT) in the rural subjects was quite lower than in urban areas. Urban subjects also had a higher mean knowledge as well as attitude scores for correct answers¹⁰. In yet another study, on oral health status among school children, the results suggested a need for continuous monitoring as well as strengthening of activities, besides cooperation of the oral health preventive program.

5. CONCLUSION

Community-based oral disease prevention programs are definitely needed urgently for the improved promotion of oral health in this region. For effective surveillance, WHO recommends that oral health surveys should be conducted regularly. The recommendation is - every five to six years and in the same community or setting¹. Poor oral health or untreated oral diseases and conditions have been found to have a significant impact on the quality of life of any individual. This, in turn, affects the most basic human needs, that include eating and drinking, swallowing, maintaining proper nutrition, smiling and communication. In India, such disparities in oral health, become obvious with lower income groups exhibiting higher disease rates as well as limited or no access to oral health care. This has led to the formulation of National Oral Health Programme which was initiated to accurately assess the needs, monitors outcomes, decrease the disparities as well as improve access to care, so as to ultimately improve oral health. This programme strives to address the 'silent epidemic of oral diseases, which aims at prevention of

various oral diseases in school children, their timely interception as well as treatment and appropriate oral health care for the rural population¹².

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