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## RESEARCH ARTICLE

# AWARENESS AND ATTITUDE TOWARDS ORAL HYGIENE PRACTICES AMONGST MEDICAL PROFESSIONALS IN AHMEDNAGAR CITY

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**ABSTRACT**

**Background:** The purpose of the study is to estimate the knowledge, attitude and practice of the oral hygiene, and dental treatment, and its correlation with everyday oral hygiene practices among the health care professionals of Ahmednagar, Maharashtra.
**Methods:** A cross sectional survey was conducted on 300 health care professionals. Two hundred health professionals were asked to answer a questionnaire containing 20questions.Data once collected was analysed.
**Results:** 14% health professionals visited the dentist once in a year. Dental caries followed by dental pain was the main cause for making dental appointments.42%obtained information on oral hygiene practices directly from the dentist followed by 36 % who obtained it from mass media.48%brushed their teeth twice daily.48% used soft bristle tooth brush. 51 % had a brushing time of 1-3 min. 54% did not use any other oral hygiene aid .58% had never got scaling done.28% frequently had complains regarding sensitivity. Only 20% bought toothpaste for sensitivity.24% felt that scaling caused loss of enamel.
**Conclusion:** The knowledge, attitude, and awareness of oral hygiene practices and dental treatment in health care professionals of Ahmednagar district is good. Though there is need of more awareness and knowledge regarding other oral hygiene practices and aids.



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## INTRODUCTION

Oral health is an integral part of general health and well-being. Tooth decay and gum disease are among the most widespread conditions in human populations. (Global oral health data bank Geneva: World Health Organization 2004) Periodontal diseases are one among the major chronic infections afflicting mankind at present. Even though these are preventable diseases, their prevalence is increasing in the world. (Jin *et al*., 2011) The burden of periodontal diseases is comparatively higher in developing countries. (Petersen *et al*., 2005) Periodontal disease has become a major public health problem in India and the prevalence ranges from 50 to 100% in various parts of the Indian subcontinent and hence, is a matter of deep concern. (Agarwal *et al*., 2010) Bacterial plaque plays a critical role in the host response leading to the pathogenesis of periodontitis. Poor oral hygiene and exogenous infection change the normal flora into a pathogenic flora leading to oral diseases which constitute public health problem in developing countries due to their high prevalence and negative impact on the quality of life of affected individuals. (Offenbacher, 1996) Oral health care practices have been proved to be aneffective preventive measure at individual level for maintaining good oral health as a part of general health in the form of proper tooth brushing, use of dental floss, dental visits and proper dietary practices. (Axelsson *et al*., 2002) The behavior of health providers and their attitudes towards their own oral health reflect their understanding of the importance of preventive dental procedures and improving the oral health of their patients. Dental professionals are an "underutilized" workforce, when it comes to advocating for prevention and wellness in populations. The aim of the current study was to investigate knowledge, attitude and practices of oral hygiene

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and the attitude towards preventive dental visits among health care professionals in ahmednagar, Maharashtra

## MATERIALS AND METHODS

A cross sectional survey was conducted amongst professionals from the field of Medicine, Homeopathy and Ayurveda. Ethical clearance was obtained and consent was taken from all the subjects. Total of 300 medical professionals were asked to answer a questionnaire containing 20 questions. The questions were in relation to the knowledge, attitude and practice of oral hygiene and attitude towards preventive dental visits among health care professionals. Once the forms were collected, Data was entered in an MS Excel spreadsheet and analyzed.

## RESULTS

Table 1. Gathers the answers concerning the sources of information about of oral hygiene practices and also about the knowledge regarding oral prophylaxis and use of dental floss.

**Table 1. Comparison of Percentage (%) values of responses for knowledge of oral hygiene practices and dental treatment in health care professionals in Ahmednagar**

| 1) From where do you get information regarding oral hygiene practices and maintenance? | |
|---|---|
| **doctor /dentist** | **42%** |
| **Newspaper** | **6%** |
| **Television** | **36%** |
| **Internet** | **3%** |
| **Hoardings** | **2%** |
| **family/aquaintances** | **13%** |
| 2)Do you feel scaling of teeth leads to loss of enamel? | |
| **Yes** | **24%** |
| **No** | **45%** |
| **Don't know** | **31%** |
| 3)Do you know when and how to use dental floss? | |
| **No** | **72%** |
| **Yes** | **28%** |

**Table 2. Comparison of Percentage (%) values of responses for attitude of oral hygiene practices and dental treatment in health care professionals in Ahmednagar**

| 4) How often do you visit a dentist? | |
|---|---|
| **Every 3 months** | **13%** |
| **Every 6 months** | **15%** |
| **Once in a year** | **14%** |
| **no definite frequency** | **58%** |
| 5)How many times have you undergone professional scaling | |
| **Not yet** | **58%** |
| **Once in year** | **27%** |
| **Twice in year** | **5%** |
| **Once in 2-3 year** | **10%** |
| 6)Which of the following substances you drink regularly? | |
| **Tea** | **68%** |
| **Coffee** | **6%** |
| **Juices** | **6%** |
| **Carbonated drinks** | **1%** |
| **None of above** | **18%** |
| 7)Do you have any habit among following? | |
| **Smoking** | **18%** |
| **Betel nut chewing** | **2%** |
| **Pan chewing** | **2%** |
| **Tobacco chewing** | **3%** |
| **None of above** | **75%** |

42% obtained the Information directly from the dentist. 36% obtained it from mass media television. Family and acquaintances were the source for the remaining 13%. 24% of the health care professional felt that scaling caused loss of enamel. Among all the subjects 28% had information regarding flossing and 72% were ignorant about flossing.

Table 2 The results concerning the frequency of dental visits revealed that 58% subjects did not have any definite frequency.13% of them visited once in 3 months.15% subjects made a dental visit every 6 months and 14% visited the dentist once in an year. Table also showed when last the health professionals got their teeth professionally cleaned. It can be seen that 27% got it cleaned in every year.10% got their teeth cleaned within 2-3 year. The remaining 5% get it done within every two year.58% never got their teeth cleaned. Prevalence of smoking was found to 18% followed by 3% tobacco chewing. 75% did not have any deleterious habits. Dietary habits depicted high proportion of healthcare professionals consumed tea which amounts to 68% followed by coffee 6% and juices 6%.

**Comparison of Percentage (%) values of responses for awareness of oral hygiene practices and dental treatment in health care professionals in ahmednagar**

**Table 3. Oral hygiene**

| 6)How many times do you brush daily? | |
|---|---|
| **After every meal** | **9%** |
| **Twice in a day** | **48%** |
| **Once in a day** | **42%** |
| 7) Which type of tooth brush bristle you use? | |
| **Soft** | **48%** |
| **Medium** | **40%** |
| **Hard** | **7%** |
| **Don't know** | **5%** |

| 8)How long do you brush (Average Brushing time)? | |
|---|---|
| **Less than 1 min** | **9%** |
| **1-3 min** | **51%** |
| **3-5 min** | **28%** |
| **More than 5 min** | **12%** |
| 9) How often do you change your toothbrush? | |
| **Once in a month** | **8%** |
| **Once in 2 months** | **22%** |
| **Once in 3 months** | **39%** |
| **Once in 6 months** | **13%** |
| **As needed** | **17%** |

The remaining few questions were regarding oral hygiene practices of the subjects. It was noticed that 48% subjects had a brushing frequency of twice daily. 42% brushed once daily. Brushing after every meal was done by 9 % subjects. Regarding the type of bristle used by the subjects. 48% of the subjects used soft bristle.40% used medium bristle. 7% used hard bristle and 5 % were not sure about the type of bristle they used. Brushing time varied in different subjects with brushing for more than 5 min was seen in 12% subjects. 28% brushing for 3-5 min, followed by 51% who brushed for 1-3min. Less than 1 min brushing time was seen in 9% of the population. Survey regarding change of toothbrush was carried out. 39% changed their tooth brush in every 3 months.13% in every 6 months and 17 % as needed.

**Table 4. Oral hygiene aids**

| 10)Do you use any other oral hygiene aid? | |
|---|---|
| **Floss** | **7%** |
| **Mouthwash** | **35%** |
| **Interdental brush** | **4%** |
| **Don't use** | **54%** |
| 12)Do you use dental floss and if yes how many times? | |
| **Not yet** | **74%** |
| **Once in a day** | **11%** |
| **Alternate day** | **3%** |
| **Once in a week** | **13%** |
| 13)Do you clean your tongue? | |
| **Yes** | **87%** |
| **No** | **13%** |

Table 4 discussed the usage of other oral hygiene aids in healthcare professionals 41.5 % subjects did not use any other oral hygiene aid.29.5% used mouthwash. Only 15.5 subjects used floss. And 14.5% used interdental brush. The prevalence of using dental floss was found to be 11% once daily.13% used dental floss once in a week.74% did not had a habit of using dental floss. Tongue cleaning was regularly found in 87% of the healthcare professionals.

**Table 5. Chief complaint**

| 3)What is the main reason for making a dental appointment? | |
|---|---|
| **Deposits and stains** | **11%** |
| **Dental caries** | **52%** |
| **gum disease** | **4%** |
| **Dental pain** | **28%** |
| **Orthodontic treatment/other causes** | **5%** |

| 14)Do you feel you have bad breath? | |
|---|---|
| **Yes** | **14%** |
| **No** | **78%** |
| **Don't know** | **8%** |
| 19)Have you ever noticed bleeding from your gums? | |
| **Yes** | **20%** |
| **No** | **80%** |
| 20)Do you sometimes feel that there is food caught in between your teeth?If yes , have you taken any treatment for it? | |
| **Yes** | **33%** |
| **No** | **67%** |

Table 5 lists most common causes that motivate to make a dental appointment. Dental caries was mentioned by 52% as the main cause of making a dental appointment.28% felt that dental pain was the main cause followed by 11% subjects who felt deposits and stains on the teeth was the main cause. Malodor is common among all ages. 14% of the respondents claimed to have noticed that their oral breath smelled bad.78% did not notice bad oral breath. 20% of the subjects noticed bleeding from gums.80% did not have any complain of bleeding gums. 33% showed food lodgment complaint.

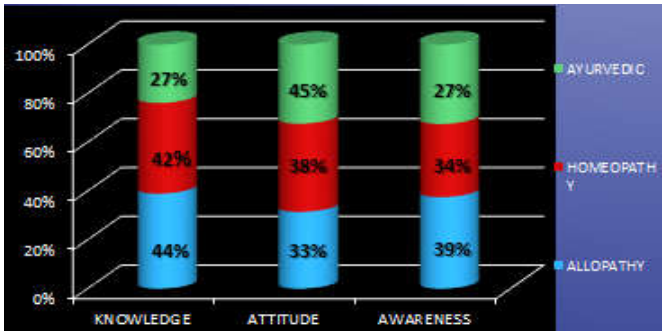
**Table 6. Sensitivity**

| 17)How often do you experience tooth sensitivity to things like hot and cold liquids? | |
|---|---|
| **Frequently & severely** | **8%** |
| **Frequently & but not severely** | **28%** |
| **Occasionally** | **36%** |
| **Not yet** | **28%** |

| 18)How often, if ever, have you purchased special toothpaste to relieve you sensitivity? | |
|---|---|
| **Purchase regularly** | **13%** |
| **Purchase occasionally** | **20%** |
| **Tried but haven't purchased recently** | **7%** |
| **Never purchased** | **60%** |

Table 6 shows complaint regarding sensitivity.36% of patients showed occasional sensitivity to hot and cold liquids followed by 28 % showing frequent but not severe sensitivity. 8% had complaint of severe sensitivity. Only 13 % of subjects bought toothpaste for relieving their sensitivity while 20% of subjects occasionally purchased toothpaste for sensitivity.60% never purchased.

**Bar chart:**




The bar chart represents knowledge attitude and awareness regarding oral hygiene practices amongst health care professionals of ahmednagar. Study reveals, positive attitude toward oral hygiene practices. The level of knowledge and awareness regarding oral hygiene is marginally higher with MBBS professionals than Homeopathy and Ayurvedic professionals.

## DISCUSSION

The present study investigated the knowledge, practice and attitude towards oral hygiene practices of health care professionals. Their attitude towards preventive dental visits was also evaluated. In the cross sectional study questions regarding knowledge about oral hygiene practices were asked. When questioned about the source of knowledge on oral hygiene practices, it was observed that 42% obtained it directly from the dentist. 36% obtained the information from mass media Family and acquaintances were the source for the remaining 13%. The subjects were asked whether they had any information regarding dental floss and flossing techniques. It was noticed that among all the subjects 28% had information regarding flossing and 72% were ignorant about flossing. There is a common misnomer that scaling causes loss of enamel. Enamel is 97% mineralized. Scaling once in six months will not cause any harmful effect on enamel. The general population should be educated about this fact that undergoing a professional scaling once in six months is very beneficial and should be encouraged. The attitude towards oral hygiene practices and dental visits were evaluated. The subjects answered questions related to the main cause of visiting adentist. Dental caries was mentioned by 52% as the main cause of taking a dental appointment. Following which

28% felt its dental pain. 11% subjects who felted posits and stains on the teeth was the main cause. This showed that subjects were more concerned about dental problems which were related to pain and which effected aesthetics. Hence subjects should be educated about other dental problems which are usually ignored, for instance bleeding gums, recession, mobility etc and thus they should be motivated to treat these problems too at the right time.

The subjects were asked when last did they get their teeth professionally cleaned. The effects of periodontal maintenance care provided every 6months were compared over 4 years according to Lightner *et al*. (1971) Results indicated that plaque and gingivitis scores improved more in groups receiving more frequent maintenance. (Listgarten *et al*., 1989) Similar results was found by Listgarten *et al.* and by Rosen *et al*, they suggested that recall intervals can be extended upto a year for the purpose of reducing periodontal disease progression in individuals with a history of limited susceptibility to the disease. (Rosen *et al*., 1999) It could be seen in our study that 5% got it cleaned in the last 6 months. 58% never got their teeth cleaned.27% got their teeth cleaned once in a year. The remaining 10% got it done once within 2-3 years. It's well known that, professional plaque removal and regular follow up combined with patient oral hygiene instructions could minimize the level of gingival inflammation and swelling. (Raber-Durlacher *et al*., 1994) Lang *et al*. demonstrated that students who thoroughly removed plaque at least every second day, did not develop clinical signs of gingival inflammation over a 6-week period. (Lang *et al*., 1973) This included the use of inter-proximal aids as well as the toothbrush. A recommendation to brush the teeth twice daily should be considered, particularly in patients showing gingival inflammation. (Echeverria *et al*., 1987) The results in the present study indicate that 48% subjects had a brushing frequency of twice dialy, 42 % brushed once daily. 9% had the practice of brushing after every meal. Opinions regarding the merits of hard and soft bristles are based on studies that are not comparable are often inconclusive, and contradict one another. (Hinijkerjj and Forscher, 1954) Softer bristles are more flexible, clean slightly below the gingival margin when used with a sulcular brushing technique and farther into proximal surfaces. (Echeverria *et al*., 1987) Use of hard bristled tooth brushes is associated with more gingival recession, and frequent` brushers who use hard bristles have more recession than those who use soft bristles. (Khocht *et al*., 1993) In our study, we could see that 40% health care professionals preferred to use medium bristle tooth brush.

Results showed that, 28 % subjects had a brushing time of 3-5 min followed by 51%, who had a brushing time of 1- 3 min. Many studies proved that by inter dental cleaning, periodontal patients are able to improve clinical outcomes and reduce clinical signs of disease and inflammation. (Christou *et al*., 1998) In our study 54 % subjects did not use any other oral hygiene aid like mouth wash, floss and tooth pick. It was seen that 35% used mouthwash. 7% subjects used floss and 4% used interdental brush. Hence there is a clear need for motivation among the subjects to use other oral hygiene aids. Many individuals are affected by the oral pain condition of dentine hypersensitivity. For the majority of suffers the pain is episodic while for less fortunate individuals the pain is far more severe, lasting for hoursor days. Zero and Lussi *et al*. (98), stated that following the decline of tooth loss in the 20th century, the increasing longevity of the teeth with tooth wear in the 21st century will be far more demanding on the preventive and restorative skills of the dental professionals. (Zero and Lussi A. Erosion, 2005) Our study reveals that 8% had complaint of severe sensitivity sensitivity to hot and cold liquids. 36% of patients showed occasional followed by 28% showing frequent but not severe sensitivity. Clinically there are many treatment modalities for dentine hypersensitivity that the clinician finds successful in alleviating the pain of dentine hypersensitivity. The first line of treatment should be the least invasive, such as a low abrasive strontium-based or potassium-based toothpaste. (Nicola, 2008) Survey showed 60% of subjects never bought special toothpaste for sensitivity.13 % purchased regularly followed by 20% bought it occasionally.

**Conclusion**

Medical professionals deal in providing health care services to people. Their own understanding and knowledge about basic oral hygiene practices and various oral conditions is important and may contribute to create awareness amongst common people. Survey reveals that majority of the medical professionals are quite aware about the various oral health care practices. Knowledge and awareness is comparatively more among MBBS professionals than Homeopathy and Ayurvedic professionals. Though more emphasis should be put on usage of other oral hygiene aids. They should be educated about the advantages of using other oral hygieneaids and should be encouraged to use the same. It can be clearly seen that most of the subjects had main chief complaint of caries and dental pain. These symptoms are important and subjects tend to notice them as they are associated with pain and aesthetics. Deposits and stains on teeth, bleeding gums, recession, and mobility are mostly ignored, so the subjects should be educated about these symptoms. They should be told the consequence of not getting the right treatment at the right time. The misconception among subjects about loss of enamel during scaling should be corrected. Enamel is the most mineralized tissue in the body with 97% mineral content, so undergoing scaling once in 6 months would not be detrimental to the enamel. Subjects should be encouraged to undergo a scaling once in six months. Hence, Professional plaque removal and regular follow up combined with patient oral hygiene instructions can minimize the level of dental and periodontal diseases.

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