



ISSN NO. 2320-5407

*Journal homepage: <http://www.journalijar.com>*

**INTERNATIONAL JOURNAL  
OF ADVANCED RESEARCH**

## RESEARCH ARTICLE

### PRACTICE OF PREVENTIVE DENTISTRY BY DENTAL PROFESSIONALS IN CENTRAL INDIA.

**\*Sudhanshu Saxena<sup>1</sup> and Shashikiran N.D.<sup>2</sup>**

1. Ph.D. scholar, Pacific Academy of Higher Education and Research University, Udaipur, Rajasthan, India.
2. Dean, Faculty of Dental Sciences, Krishna Institute of Medical Sciences Deemed University, Karad, Maharashtra, India.

#### **Manuscript Info**

#### **Abstract**

##### **Manuscript History:**

Received: 15 January 2016  
Final Accepted: 29 February 2016  
Published Online: March 2016

##### **Key words:**

Oral health,  
Preventive dentistry,  
Dentists.

##### **\*Corresponding Author**

**SudhanshuSaxena.**

Oral diseases significantly impact both society and individual. Treating oral diseases is very costly for existing health care system in India. Most oral diseases are nevertheless largely preventable. Thus, prevention is the only feasible strategy for control of oral diseases in India. The present cross-section study was conducted to access practice of preventive dentistry by dental professionals in Central India. A cross-sectional web-based questionnaire survey was conducted among 280 practicing dental professionals of Madhya Pradesh state, India. Questionnaire contains questions regarding personal data, recommendation on use of fluoridated toothpaste, demonstration of proper brushing technique, diet and nutrition counselling, topical fluoride application, sealant application and tobacco cessation counselling. The responses on preventive matters were recorded by means of a four-point Likert scale. Frequency and percentages of responses was calculated. Pearson's chi-square test was used for further data analysis. None of the participants reported practice of preventive strategies on 'always or almost always' basis. Significantly more postgraduate dental practitioners were 'seldomly' performing topical fluoride and sealant application than graduates. Preventive practices by dental professionals in Central India are not as per the recommended guidelines. There is a need to motivate dental professionals and reform dental education with this regard

*Copy Right, IJAR, 2016.. All rights reserved.*

#### **Introduction:-**

Oral diseases are highly prevalent and their impact on both society and the individual is significant. Pain, discomfort, sleepless nights, limitation in functions and absenteeism from school or work are common effects of oral diseases (Petersen, 2003; Watt, 2005). The most common oral problems, dental caries and periodontal disease, are bacterial in origin, exacerbated by dietary sugars, ineffective plaque removal, and less than optimal fluoride availability (Blinkhorn, 1998). At a society level, treating dental diseases is very costly for health care systems (Tseveenjav, 2004). Most oral diseases are nevertheless largely preventable (Wagle *et al.*, 2014). Hence prevention is the only feasible option for control of oral problems in developing countries like India (Petersen, 2003).

In India, the numbers of dental schools have grown significantly in the past three decades (Elangovan *et al.*, 2010) and large numbers of dental graduates are entering into dental practice. Dental professionals are educated to promote better oral hygiene in the society. Also, it is their responsibility to integrate preventive procedures and to encourage and educate their patients about preventive oral health behaviors. However, there is no research available which has investigated the practice of preventive dental care by dental professionals for their patients in Central India. Therefore present cross-sectional study was conducted to access practice of preventive dentistry by dental professionals in Madhya Pradesh state, India.

## Material and methods:-

**Study Population:-** The study population comprised of practicing dentists of Madhya Pradesh state, India. The practicing dentists were represented by registered active practitioners in Madhya Pradesh state, India in 2014.

**Pilot study:-** The English version of the web-based questionnaire was first pre-tested among ten dentists of Madhya Pradesh state in December 2013. As per discussion with them and experts, revision of the questionnaire was carried out to obtain the final version of the questionnaire. Practicing dentists among whom pilot testing was performed were excluded from the final data collection.

**Sample size:-** Based on the results of the pilot study, sample size calculated was 243 dental professionals. It was increased by 15% to compensate for non-response or incomplete responses of participants. Hence the final sample size for the present study was 280 subjects.

**Sampling technique:-** Systematic random sampling technique was followed for data collection.

**Study designs:-** Cross-sectional design was used for data collection.

**Questionnaire:-** Questionnaire had two parts. First part of questionnaire was designed to collect personal data, inquiring about age, gender and educational background. Second part comprises questions on preventive practices by dentists for their patients. This section contains questions regarding recommendation on use of fluoridated toothpaste, demonstration of proper brushing technique, diet and nutrition counselling, topical fluoride application, sealant application and tobacco cessation counselling. The responses on preventive matters were recorded by means of a four-point Likert scale.

**Data collection:-** Ethical clearance was obtained from the ethical committee of the institution. During April-May 2014, web-based questionnaires were sent by e-mail to practicing dentists. They were requested to submit the responses within a week. Those who did not submit were contacted after one week and two weeks accordingly. After second reminder (second week), no further attempt was made to collect data.

**Statistical Analysis:-** Frequency and percentages of responses was calculated. Pearson's chi-square test was used for further data analysis. P values <0.05 were considered statistically significant. Data analyses were performed using SPSS v21.0.

## Result and Discussion:-

The World Health Organization (WHO) suggested orienting oral health services towards prevention and health promotion as one of primary action area for developing countries when initiating or strengthening oral health programs (Petersen *et al.*, 2005). Considering the direct and indirect costs of oral diseases, prevention is the only realistic option to control oral problems in India (Petersen, 2003).

The present study was designed to collect data on preventive practices by dental professionals in Central India (Madhya Pradesh state). Out of 280 questionnaires mailed, 249 were completely filled. Hence the response rate was 88.93%.

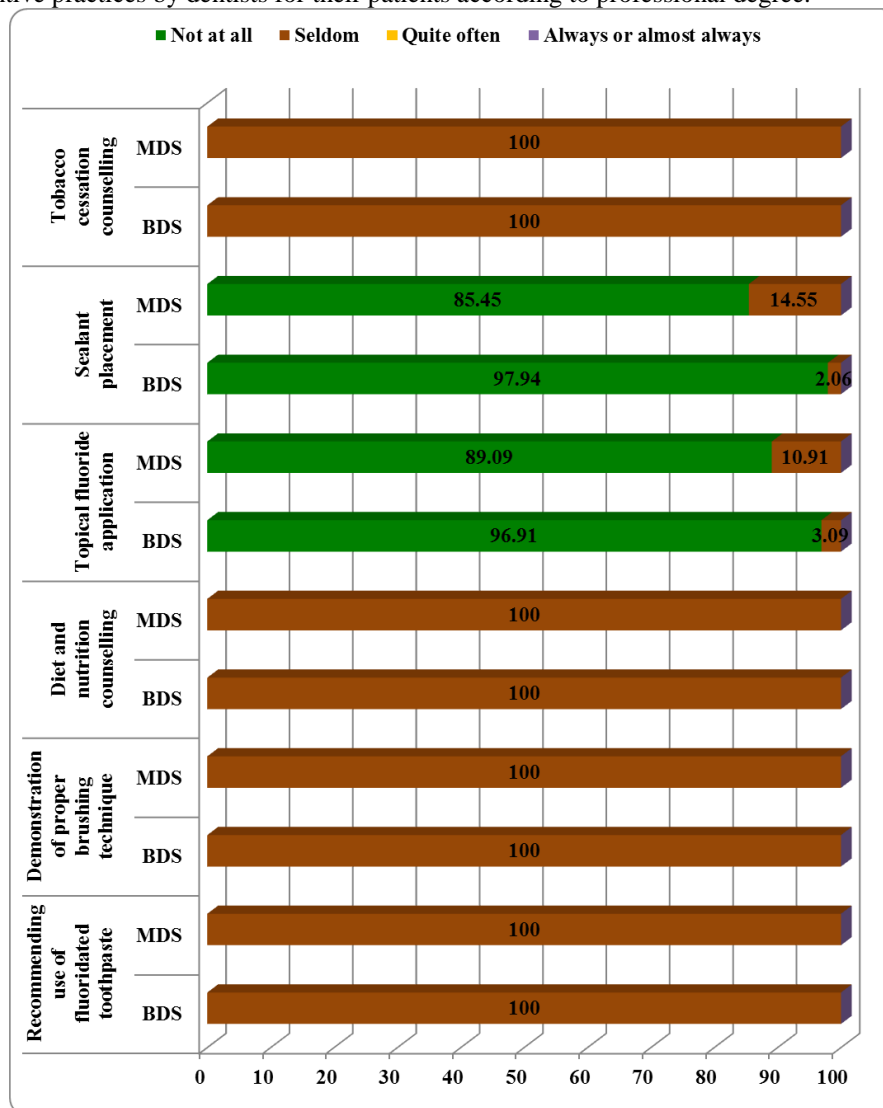
Table 1:- Characteristics of the dentists.

Characteristics (n = 249)		
Gender	Male {n (%)}	156 (62.65)
	Female {n (%)}	93 (37.35)
Age (Years)	Mean $\pm$ SD	30.12 $\pm$ 6.14
Professional degree	BDS {n (%)}	194 (77.91)
	MDS {n (%)}	55 (22.09)

In present study, maximum dentists were males (62.65%) and graduates (77.91%). Mean (SD) of age was 30.12 (6.14) years (Table 1).

In present study, all the dentists were ‘seldomly’ recommending use of fluoridated toothpaste, demonstrating proper brushing technique and performing diet and tobacco cessation counselling. Hence, there was no difference between BDS and MDS dental practitioners (Figure 1).

Figure 1: Preventive practices by dentists for their patients according to professional degree.



In a study by Togoo *et al.* (2012), 71.3% of dentists said that they always give health education to patients. In a study by Nagaraj *et al.* (2015) in Jaipur, India 83.39% dental practitioners provided diet counselling. However, only 19.49% of study participants stated recording of diet chart. Tobacco is a leading preventable cause of mortality and morbidity throughout the world. In a study lack of remuneration discouraged 40% Scottish primary care dental practitioners from providing smoking cessation advice (McCann *et al.*, 2000). Similar observations were reported by other studies (Nagarajappa *et al.*, 2015).

In present study, application of topical fluoride was ‘not at all’ performed by 237 (95.18%) dental professionals. More postgraduate dental professionals (10.91%) were ‘seldomly’ performing it than graduates (3.09%). Chi-square test showed significant difference between graduates and post graduates (Yates’  $\chi^2 = 4.131$ ,  $df = 1$ ,  $P = 0.042$ ).

Similar to topical fluoride, sealant placement was also ‘not at all’ performed by 237 (95.18%) dental professionals. More postgraduate dental professionals (14.55%) were ‘seldomly’ performing it than graduates (2.06%). Chi-square

test showed significant difference between graduates and post graduates (Yates'  $\chi^2 = 11.964$ ,  $df = 1$ ,  $P = 0.001$ ) for sealant placement (Figure 1).

In a study by Nagaraj *et al.* (2015) in Jaipur, India use of topical fluoride and pit and fissure sealants was reported by 0.39% and 13.36% practitioners, respectively. Trueblood *et al.* (2008) observed that 17% of Texas pediatric dentists applied fluoride and 67% placed pit and fissure sealants. It is well documented that pit and fissure sealants are effective in preventing caries on occlusal surface (Beauchamp *et al.*, 2008; Ahovuo-Saloranta *et al.*, 2016). They are recommended as a part of caries preventive programs (Splieth *et al.*, 2010). Togoo *et al.* (2012) has reported that 48% Saudi Arabian dentist practiced topical fluoride application while 38.4% were doing sealant application. Shorter time required for topical fluoride application may be one of the reasons for such practices (Togoo *et al.*, 2012).

Limitation of the study: This was a self-reported questionnaire study. The chances of bias due to under or over-reporting cannot be excluded.

Based on the results of present study it can be concluded that preventive practices by dental professionals in Central India are not as per the recommended guidelines. There is a need to motivate dental professionals in this important aspect. Also, more emphasis on preventive approaches in dental education is needed.

### References:-

1. Ahovuo-Saloranta, A., Forss, H., Hiiri, A., Nordblad, A. and Makela M. (2016). Pit and fissure sealants versus fluoride varnishes for preventing dental decay in the permanent teeth of children and adolescents. Cochrane Database Syst Rev. 1: CD003067.
2. Beauchamp, J., Caufield, P.W., Crall, J.J., Donly, K., Feigal, R., Gooch, B., *et al.* (2008). Evidence-based clinical recommendations for the use of pit-and-fissure sealants: a report of the American Dental Association Council on Scientific Affairs. J Am Dent Assoc. 139(3): 257-268.
3. Blinkhorn, A.S. (1998). Dental health education: what lessons have we ignored? Br Dent J. 184(2): 58-59.
4. Elangovan, S., Allareddy, V., Singh, F., Taneja, P. and Karimbux, N. (2010). Indian dental education in the new millennium: challenges and opportunities. J Dent Educ. 74(9): 1011-1016.
5. McCann, M.F., Macpherson, L.M., Binnie, V.I. and Stephen, K.W. (2000). A survey of Scottish primary care dental practitioners' oral cancer-related practices and training requirements. Community Dent Health. 17(1): 24-30.
6. Nagaraj, A., Vishnani, P., Yousuf, A., Ganta, S., Singh, K. and Acharya, S. (2015). Perception of dentists about caries-risk assessment tools in Jaipur, India: A cross-sectional study. J Int oral Heal. 7(8): 77-81.
7. Nagarajappa, R., Sanadhya, S., Batra, M., Daryani, H., Ramesh, G. and Aapaliya, P. (2015). Perceived barriers to the provision of preventive care among dentists of Udaipur, India. J Clin Exp Dent. 7(1): e74-e79.
8. Petersen, P.E. (2003). The World Oral Health Report 2003: continuous improvement of oral health in the 21st century-the approach of the WHO Global Oral Health Programme. Community Dent Oral Epidemiol. 31 Suppl 1: 3-23.
9. Petersen, P.E., Estupinan-Day, S. and Ndiaye, C. (2005). WHO's action for continuous improvement in oral health. Bull World Health Organ. 83(9): 642.
10. Splieth, C.H., Ekstrand, K.R., Alkilzy, M., Clarkson, J., Meyer-Lueckel, H., Martignon, S., *et al.* (2010). Sealants in dentistry: outcomes of the ORCA Saturday Afternoon Symposium 2007. Caries Res. 44(1): 3-13.
11. Togoo, R.A., Al-Rafee, M.A., Kandyala, R., Luqam, M. and Al-Bulowey, M.A. (2012). Dentists' opinion and knowledge about preventive dental care in Saudi Arabia: a nationwide cross-sectional study. J Contemp Dent Pract. 13(3): 261-265.
12. Trueblood, R., Kerins, C.A. and Seale, N.S. (2008). Caries risk assessment practices among Texas pediatric dentists. Pediatr Dent. 30(1): 49-53.
13. Tseveenjav, B. (2004). Preventive Dentistry in Mongolia (dissertation). University of Helsinki.
14. Wagle, M., Trovik, T.A., Basnet, P. and Acharya, G. (2014). Do dentists have better oral health compared to general population: a study on oral health status and oral health behavior in Kathmandu, Nepal. BMC Oral Health. 14: 23.
15. Watt, R.G. (2005). Strategies and approaches in oral disease prevention and health promotion. Bull World Health Organ. 83(9): 711-718.