



Dentists' Opinion and Knowledge about Preventive Dental Care in Saudi Arabia: A Nationwide Cross-sectional Study

Rafi Ahmed Togoo, Mohammed A Al-Rafee, Reena Kandyala, Master Luqam, Mohammed A Al-Bulowey

ABSTRACT

Aim: The aim of this study was to determine the dentists' opinions on causes for high prevalence of dental caries in the country and to assess their level of knowledge about preventive dental care.

Materials and methods: A questionnaire based national cross-sectional survey among 500 dentists was conducted under the auspices of Directorate of Dentistry, Ministry of Health. The data was analyzed using SPSS software version 11.0 and descriptive statistics were obtained.

Results: The response rate was 87.8% (n = 439). 83% of dentists identified poor oral hygiene as the major reason for high prevalence of caries, only 39% of patients reportedly brushed teeth at least once a day, oral prophylaxis (83%) is the most common preventive practice followed, social factors (62.5%) are the most challenging barriers in preventive dental programs, 71.3% always give chair side dental health education, school based programs (66.6%) are most effective tools for dental health education.

Conclusion: Majority of dentists in Saudi Arabia are adequately informed and motivated toward preventive dental care but they are in need of further support from policy makers to enhance preventive dental programs in the Kingdom.

Clinical significance: Oral hygiene should be improved in the country by reaching out to the entire community through extensive and continued education programs.

Keywords: Dental caries, Oral hygiene, Dental health education.

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INTRODUCTION

Dental caries (DC) is a significant public health problem and the most prevalent, infectious, oral disease particularly

among children.¹ The prevalence of caries is declining in the developed world, increasing in less developed countries and is an epidemic in countries with emerging economies. Decline in the prevalence of the disease has been associated with improved oral hygiene practices with emphasis on prevention unlike in developing countries, where the focus is mostly on curative care.² Clinical and public health research has shown that a number of individual, professional and community preventive measures are effective in preventing dental caries.³

A number of caries preventive measures practiced worldwide either emphasize on the patient's own responsibility in managing the disease, or rely on the dental professionals for disease management, and some of them are implemented at the community level. The choice of which preventive methods to employ, alone or in combination, can be influenced not just by the oral health care policy and availability of therapeutic materials, but also by dental professionals' knowledge, skills, beliefs and attitudes.⁴

Dental caries is a major public health concern in the children of Saudi Arabia and is the main cause of tooth mortality, presentation of dental emergencies and tooth extraction in this group. The many causes of DC may include poor dietary habits, poor oral hygiene and lack of dental care.⁵⁻⁸ The practices of dentists' and what they tell their patients are influenced, in part, by their own knowledge and opinions. The purposes of this study were to determine their opinions on causes for high prevalence of DC in the country and to assess their level of motivation toward prevention of the disease.

MATERIALS AND METHODS

A questionnaire based national cross-sectional survey was conducted under the auspices of the Directorate of Dental

Services, Ministry of Health (MOH), Saudi Arabia. 500 dentists from all the 22 health provinces of the country working for the MOH dental facilities were selected by systematic random sampling to form the study group. The questionnaire, written in English had questions on dentists' opinions about reasons for high prevalence of DC in the country, patients' brushing frequency, preventive practices, perception of barriers to the provision of preventive dental care, oral hygiene status of their own children and their attitude toward receiving updates on preventive dentistry. Questionnaires were distributed and then collected by official mail. Questionnaires were filled and returned anonymously. Completed questionnaires were returned by 439 dentists and those 61 who did not return were excluded. The data was analyzed using SPSS software version 11.0.

RESULTS

A total of 439 questionnaires were received and analyzed, giving a response rate of 87.8%.

Dentists were questioned about the causes for high prevalence of DC in the country. As shown in Figure 1, majority of the dentists (83%) identified poor oral hygiene was the major cause, followed by changed dietary factors (48.7%), socioeconomic factors (35.5%) and lack of dental services (28.5%). Based on their day-to-day interaction with their patient the dentists further opined that approximately only 39% of their patients brush their teeth at least once a day.

When asked about the preventive procedures they employ in their day-to-day practice, majority of the dentists (83%) cited oral prophylaxis, followed by topical fluoride application (48%) and pit and fissure sealant application (38.4%) (Fig. 2).

When asked about their opinions on attitudes toward preventive care that need to be changed on a priority basis

(Fig. 3), majority (55%) felt that attitude of parents need to be changed on a priority basis, followed by attitude of community (40%), youth (31.25%), teachers (32.5%) and authorities (27.3%).

When asked about their opinions on the most challenging aspect in the implementation of preventive dental programs (Fig. 4) 62.5% of the dentists cited social factors, followed by inadequate work force (41.6%), lack of cooperation from schools (40%) and lack of motivation of dental staff (33.3%).

When enquired about their ability to give dental health education (DHE) to all their patients either before, during or after the treatment, majority of the dentists (71.3%) answered as 'always', 26.5% said 'occasionally' and 2.2% of them answered as 'never' as shown in Figure 5.

Majority of them (66.6%) felt school based programs would be effective tool in DHE, followed by visual and print media (41%), community dental camps (35.7%) and hospital based dental programs (34.4%) as shown in Figure 6.

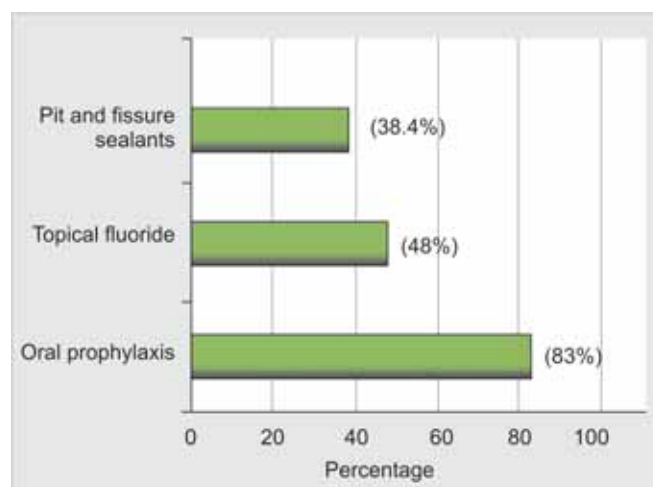


Fig. 2: Dentists' preventive practices in day-to-day life

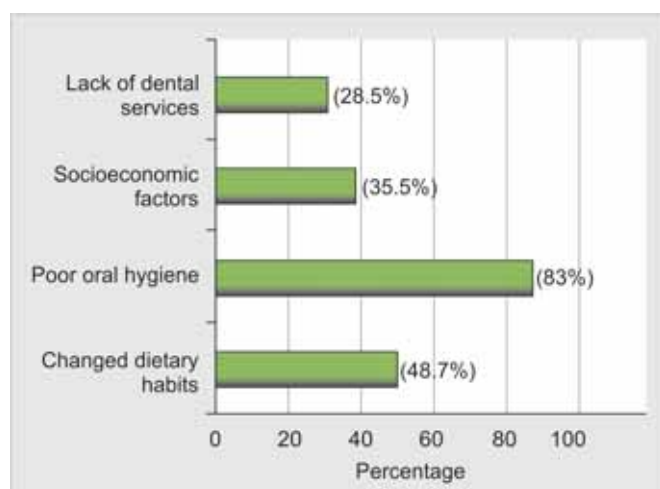


Fig. 1: Respondents' opinions on reasons for high prevalence of dental caries

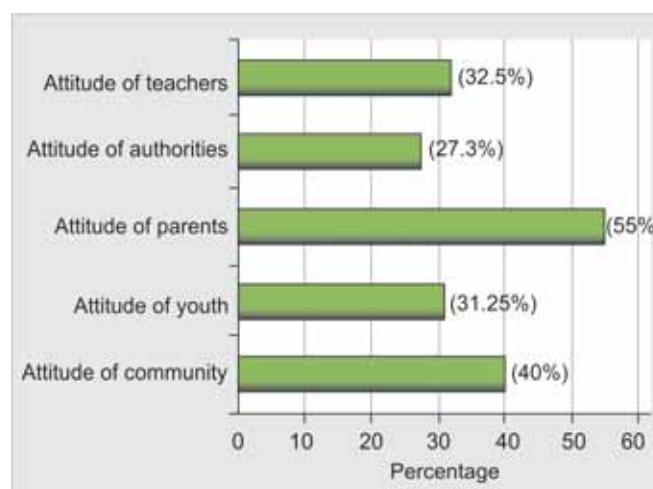


Fig. 3: Dentists' opinion on attitudes to be changed on a priority basis toward preventive dentistry

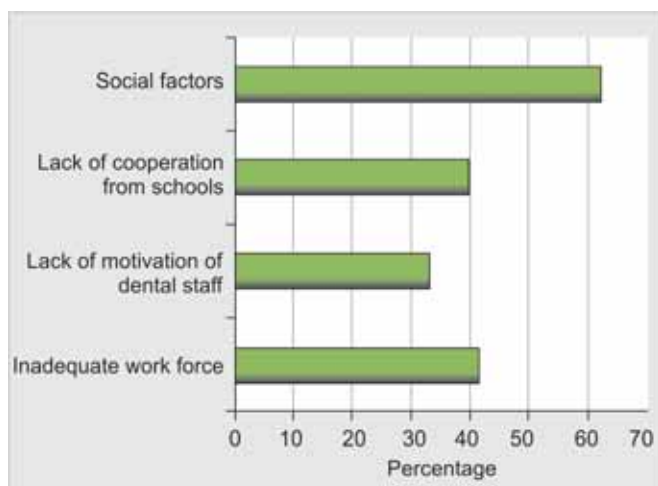


Fig. 4: Respondents' opinion on challenging aspect in implementation of preventive dentistry programs in the country

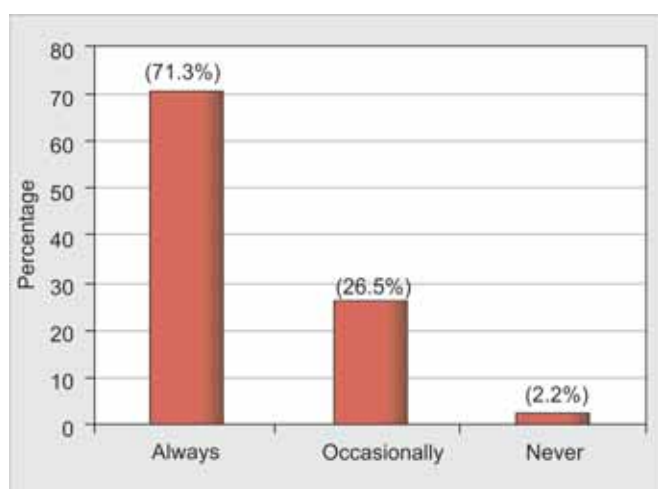


Fig. 5: Dentists' ability to give dental health education

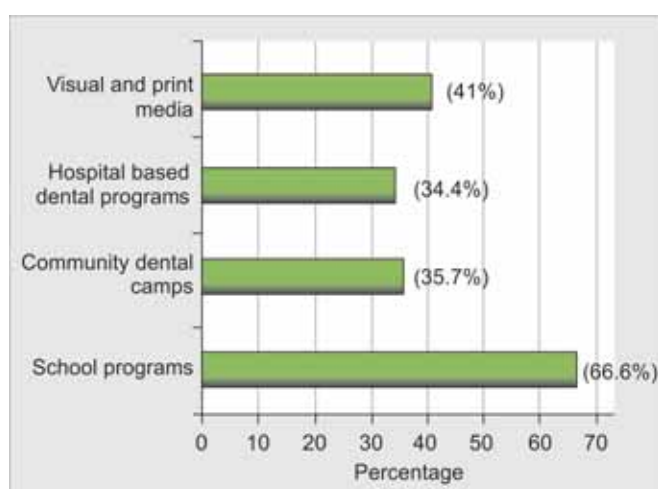


Fig. 6: Dentists' opinion on effective tools in dental health education

When asked about the oral hygiene status of their own children and other children in their immediate household, 35% of them replied as 'excellent', 58% said 'good' and 7% answered 'Not satisfactory'.

A vast majority indicated that they were interested in receiving regular updates on preventive dentistry (95.4%).

DISCUSSION

This is the first study that has analyzed data from a national random sample of dentists in Saudi Arabia. Our results provide valuable perspectives toward the formulation of oral health policy and preventive programs at the national level.

In interpreting the findings of the present study, it is important to acknowledge possible limitations. As this is a self-reporting study, we could not determine whether reported practices reflected actual clinical practices and the cross-sectional data that is presented does not allow investigation of potential links between level of knowledge and attitude, to the practices used by dentists. Despite these limitations, our results have important implications, since, this is the first national study and the findings give a significant picture on the opinions of dentists about the reasons for high prevalence of DC in the country and their level of motivation toward prevention of DC.

According to several studies reported in literature, DC is a major problem in the kingdom of Saudi Arabia estimating the prevalence of disease to be as high as 80 to 96% among schoolchildren.⁹⁻¹² The many causes of DC may include poor dietary habits, poor oral hygiene and lack of dental care.⁵⁻⁸ The high prevalence of caries in this selected population can be related to poor oral hygiene practices, improper dietary habits, as well as poor dental awareness and lack of dental knowledge among the children and parents. According to a study by Al-Otaibi et al,¹³ around 88% of Saudi Arabians start regular brushing at 7 years of age and knowledge and awareness of oral health is very low. Additional factors, such as late first dental visits for routine check-ups, may also be responsible for the high caries prevalence.⁹ This is reflected in our study where 83% of dentists cited poor oral hygiene as the major etiological factor of DC in the country. More over the fact that approximately only 39% of their patients brush their teeth at least once a day and oral prophylaxis is the most common preventive practice they follow on a daily basis supports their view that poor oral hygiene practices are extremely prevalent in the population. This explains the alarming high rates of DC as oral hygiene plays an important role in the initiation and progression of the disease. Topical fluoride application (48%) is frequently practiced in comparison to pit and fissure sealant application (38.4%). This could be due to the shorter time the former procedure takes in comparison to the latter.

Prevention is the main objective of any health planning strategy. Parents have a major role in preventing DC in their

children and their knowledge about different preventive methods has not been studied at the national level. A study by Al-shalan¹⁴ conducted at a regional level found that Saudi parents have limited knowledge about different methods of caries prevention. In a similar Danish study by Peterson,¹⁵ 93% of parents believed that dental diseases are preventable by means of proper oral hygiene habits, restriction of sugar and sweets intake as well as the use of fluorides; whereas only 50% of the parents were knowledgeable in Saudi. The proportion of Saudi parents using fluoride and reporting for preventive dental visits was much lower than that in the Danish parents.¹⁵ This is reflected in our findings where 55% of the dentists felt that attitude of parents need to be changed on a priority basis for the success of preventive dental programs.

A study by Al-Sadhan¹⁶ reported that children in public schools and children of mothers with lower school education consumed more sweet snacks and drinks than other children. This is in agreement with the findings of Honkala et al¹⁷ who reported that adolescents with parents of higher occupational and educational levels consumed less sugar containing products. Similar finding was observed by Al-shalan¹⁴ who found that Saudi parents' knowledge and attitude about different methods of caries prevention are influenced by their level of education and family income. This is reflected in our findings where 62.5% of the dentists found the most challenging aspect in the implementation of preventive dentistry programs are the social factors like the level of education and family income.

Health education attempts to change behavior by altering an individual's knowledge, attitudes and beliefs about health matters. Among the motives prompting people to seek preventive dental care are a belief that one is susceptible to dental disease, a belief that dental problems are serious, and a belief that dental treatment is beneficial. Those who believe themselves to be highly susceptible make more preventive dental visits.¹⁸ A systematic review has demonstrated that dental health education carried out by a professional at the chair side is more often effective than other types of oral health promotion interventions. The fact that 71.3% of dentists in the country always give DHE to their patients is an encouraging finding. To motivate the rest of them, continuing education programs should be planned and implemented regularly emphasizing the importance of health education.

A study by Al-Sadhan¹⁶ on Saudi school children reported that their oral health practices and dietary habits reflect a general low interest in dental health care and preventive measures and concluded that school-based dental health educational programs should be designed to reinforce

and encourage existing oral health practices, promote and initiate new ones. Similar opinion was seen in this study, where majority of dentists (66.6%) felt school based programs would be the most effective tool in DHE, followed by visual and print media (41%), community dental camps (35.7%) and hospital based dental programs (34.4%).

In the present study, the oral hygiene status of dentists' own children and other children in immediate household was rated as excellent (35%) and good (58%). A similar study on Mongolian dentists' children by Tseveenjav et al¹⁹ reported that dentists' own children demonstrated higher rates of DC than expected. This suggests that dentists in Saudi have sufficient preventive orientation and give proper care and importance to the primary dentition.

The fact that a vast majority of them (95.4%) were interested in receiving regular updates on preventive dentistry was a positive finding. Active learning opportunities should be created through the Continuing education programs to deliver the anticipated improvements in dental practice and ensure continual improvement in patient care.

CONCLUSION

The findings of the present study suggest that the majority of dentists in Saudi Arabia are adequately informed and motivated toward preventive dental care but they are in need of further support from policy makers to enhance preventive dental programs in the Kingdom.

The authors would like to recommend:

1. Oral health education and fluoride programs should be a part of the national oral health policy on lines of national vaccination program.
2. School-based dental health educational programs should be conscientiously implemented throughout the country to raise oral health awareness, inculcate good dietary practices, reinforce and encourage good oral hygiene practices among the children.
3. Parent awareness programs should be organized to increase the awareness on the importance of oral health and people should be encouraged to make more preventive dental visits.
4. Health authorities should enforce monitoring and surveillance system of dentists' working in private and public sector in order to collect data on dentists' preventive dentistry practice patterns.

CLINICAL SIGNIFICANCE

Oral hygiene should be improved in the country by reaching out to the entire community through extensive and continued

education programs. People should be educated to start regular tooth brushing early in life and encouraged to make more preventive dental visits.

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