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**PRACTICING WHAT WE PREACH: A PILOT STUDY ON ORAL HEALTH
PRACTICES OF DENTISTS IN MASSACHUSETTS**

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ABSTRACT

BACKGROUND: Dentists are perceived as leaders and role models of good oral health but do dentists “practice what they preach?” The current study is a pilot evaluation of Massachusetts dentists about their oral health and oral health practices.

METHODS: Massachusetts Dental Society sent emails to 3,957 member dentists for whom an email contact was available. One reminder was sent three months later and there was no incentive offered. Institutional Review Board approval was acquired prior to administering the survey through the Harvard Medical School Committee on Human Studies.

RESULTS: 4.9% had a comprehensive oral examination more than 8 years ago and that 3.1% had diagnostic bitewings 3-5 years ago. Our study revealed that 5.8% of had untreated caries and only 70.8% reported having no oral health problems. A total of 37.0% reported that lack of time was a barrier in seeking care and 7.8% reported financial barriers. Finally, 4.1% reported that their non-dentist co-worker examines and manages their oral health.

CONCLUSIONS: The current study reveals that many dentists are not following ADA guidelines for prevention for themselves. Subsequently, many in our profession are recommending preventive care for their patients that they are not adhering to themselves.

INTRODUCTION

Members of the dental profession are considered to be role models for good oral health. Dentists, dental assistants, dental hygienists and even front desk staff have an important role in advocating for oral health within their professional and social circles. Dentists are perceived as leaders and role models of good oral health but do dentists “practice what they preach?” Do dentists brush twice per day, floss once per day, have six monthly check-ups and cleanings? Additionally, do dentists have good general health practices in relation to medical evaluations?

Although dentistry aims to be an evidence based profession there are still major shortcomings in research data which prohibits evidence based practice in many situations and requires critical thinking. Moreover, a dentist’s beliefs can influence their practice behaviors and this has been demonstrated in the context of treating diabetic patients.¹ Subsequently, variations in dentists’ beliefs related to oral health could affect patient care and the way dentists regard their own oral health may reflect their personal beliefs.

The objective of the current study is to evaluate the oral health practices of dentists in Massachusetts. To our knowledge, there has been no similar study surveying practicing dentists about their own oral health practices. The current paper is intended as a short communication that is a follow-up to a study of the general health and health practices of dentists which published in this journal in April 2017.²

METHODS

The authors developed the survey questions related to oral health and the whole survey (including oral health questions) were validated by dentists in Dental Health and Wellness Committee of the Massachusetts Dental Society (MDS). The surveys contained 36 questions relating to demographics, general health and health practices. Institutional Review Board approval was acquired prior to administering the survey through the Harvard Medical School Committee on Human Studies (Study 23952). The current study focuses on the oral health of dentists. More detail of the overall survey is available by referencing the original study on general health in Journal of Investigative and Clinical Research.²

The MDS sent emails to every member dentist who had provided their email address and this summed to 3,957 individuals. One reminder was sent three months later and there was no incentive offered. Simple descriptive statistics is utilized to demonstrate findings.

RESULTS

Overall, 399 licensed dentists who are members of the MDS responded to the survey and completed all items out of 3,957 who were invited to do so. This equates to a participation rate of 10.1%.

The table one is adapted from the original paper, Nalliah et al.² The demographic data from that study is represented in the left column and the right column is taken from the current American Dental Association (ADA) data about it's members. This shows that the demographic in the current study is somewhat similar to the overall demographic of ADA member dentists (which represents about 82% of US dentists.^{3,4} A total of 21.6% of respondents were female, 78.8%

were general dentists, 50.4% worked in solo practice and 32.6% were aged 56-65 years.

We found that 43.7% had a comprehensive dental examination less than 6 months ago, 23.5% had it 6-12 months ago, 8.5% had it 18-36 months ago and 4.9% had it more than 8 years ago. We also found that 29.2% had diagnostic bitewings less than 6 months ago, 37.7% had them 6-12 months ago, 16.9% had them 12-18 months ago, 11.8% had them 18-36 months ago and 3.1% had them 3-5 years ago. Interestingly, 29.4% reported their co-worker dentist checks and manages their oral health, while 4.1% reported their co-worker non-dentist checks and manages their oral health.

Our study revealed that 5.8% of Massachusetts dentists have untreated dental caries, 14.8% have fractured restorations, 0.3% had toothache, 3.3% had teeth requiring extraction, and only 70.8% reported having no oral health problems. We found that 11.1% of Massachusetts dentist brush more than 3 times per day, 28.3% brush 3 times daily, 51.2% brush 2 times daily, 8.7% brush once daily and 0.8% brush less frequently than daily. We also found that only 52.6% of Massachusetts dentists floss daily, 17.7% brush once every few days, 6.4% floss once per week and 2.8% never floss.

When considering obstacles that dentists face in trying to access medical and dental care, 37% report a lack of time, 7.8% report finances, 1.8% report lack of skill of the physician/dentist nearby and 1.5% report geographical barriers with no physician/dentist nearby.

DISCUSSION

The current pilot study describes findings from a survey of self-reported oral health and oral health practices of dentists in Massachusetts and there is some comparability of our pilot survey data to the national figures in relation to distribution of gender, specialty, practice setting and age (see table 1). Although the response rate is low (10.1%) the survey tool, Survey Gizmo, reports that a response rate of 10% is acceptable for an external, online survey with no incentive.⁸ Additionally, the demographics of our survey respondents are comparable to dentists across the United States which suggests that our pilot study has some value and limited generalizability.

The American Dental Association (ADA) recommends patients to brush two times per day⁹ and floss once per day. Remarkably, only 52.6% of dentists in our study flossed once per day and 2.8% of dentists reported “never” flossing and 6.4% reported flossing only once per week (see figure 2). In relation to brushing, only 90.5% of dentists brush twice or more per day even though the ADA advises patients to brush twice a day for two minutes each time.¹⁰ Our study also found that 8.7% of dentists only brush once per day. Surprisingly, 0.8% of dentists reported brushing less than once per day!

The Colgate company recommend dental examinations every 6 months,¹¹ however, the ADA¹² and Delta Dental¹³ websites describe how the dentist will make a customized recall plan based on the risk factors each patient has. Figure 1 shows that we found only 43.7% had a dental exam within the last 6 months. Moreover, only 67.2% of dentists reported having an exam within the last

12months – this means that when 32.8% of dentists ask our patients to have an examination every 12 months we are asking them to do something we are not willing to do. It is of concern that 4.9% of dentists reported not having had a dental exam in the last 8 years!

In the current study we found that 29.2% of dentists had their most recent bitewing radiographs within 6 months (Figure 1). In total, 95.6% had received bitewing radiographs within 3 years. ADA guidelines for bitewings note that a recall patient with no clinical caries and low caries risk should have radiographs every 18-36 months.¹⁴ For recall patients with more than low caries risk, bitewings should be taken every 6-18 months.¹⁴ Notably, we found that 4.4% of dentists in the current study had not had bitewings in at least 3 years.

An interesting group of findings in the current study is the presence of oral health conditions. A total of 5.8% of dentists reported untreated dental caries and 14.8% reported fractured restorations. Also, 4.8% reported having active periodontal disease. In fact, only 70.8% reported not having any oral health problems. Extraordinarily, 0.3% reported toothache and 3.3% reported having teeth that needed to be extracted despite being a practicing dentist in the United States.

The current study asked Massachusetts dentists to report their relationship to their dental provider. Remarkably, 4.1% of dentists reported that their non-dentist co-worker examines and manages their oral health - it is beyond the scope of this pilot study to evaluate the ethical dilemma of asking non-dentist health professionals who you employ to perform oral health services. Additionally, 9.5% report that they do not regularly attend a dentist. The majority, 44.3%, report that their dentist friend at another practice manages their oral health and 29.4% report their dentist co-worker manages their oral health.

When describing the obstacles in trying to access medical and dental services, 37% of responders blamed a lack of time and 7.8% reported that cost was prohibitive. It is interesting that some of the most common reasons for pursuing dentistry are balanced lifestyle, autonomy and high income.¹⁵⁻¹⁷ However, dentists are not taking advantage of these benefits and seeking the medical/dental care they need. This pilot study has described the oral health and oral health practices of dentists in Massachusetts.

CONCLUSIONS

The dental team is responsible for caring for the oral health of the community. As role models for oral health, it is important that the oral health of the dental team is stable. The current study shows that many dentists do not have stable oral health and may fail to follow the prevention guidelines that they recommend to their own patients. This may be perceived in a similar manner to an overweight athletic trainer and their must be alignment in what dentists do for their own oral health and what they ask their patients to do.

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Figure Legends:

Figure 1. Time since the Dentists' last comprehensive dental examination and bitewings

Figure 2. How often do Dentists floss and brush their own teeth?

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Table 1. Demographics of survey responders compared to the ADA membership.

Characteristics of respondents to our survey in Massachusetts²	Characteristics of ADA dentists across the United States
21.6% of female dentists	22.2% of dentists in the US are female ⁵
78.8% were general dentists.	79.0% were general dentists ³
50.4% worked in solo practice	59% worked in solo practice ⁶
1.8% worked in large corporate practice	5% worked in large corporate practice ⁷
and 33.2% in smaller group practices	26% were in smaller group practices ⁷
6% were 26-35 years in age	11.1% under 35 years in age ⁷
9.3% were 36-45 years	19.2% were 35-44 years ⁷
21.6% were 46-55 years	20.4% were 45-54 years ⁷
32.6% were 56-65 years	28.5% were 55-64 years ⁷
23.1% were 66-75 years	20.8% were 65 and older ⁷
7.2% were over 75 years	

Table 2. Oral Health Behaviors

Last Comprehensive Dental Examination	N = 387
Less than 6 months ago	169 (43.7%)
6 to 12 months ago	91 (23.5%)
12 to 18 months ago	55 (14.2%)
18 months to 3 years ago	33 (8.5%)
3 years to 5 years ago	14 (3.6%)
5 years to 8 years ago	6 (1.6%)
More than 8 years ago	19 (4.9%)
Never had a comprehensive dental examination that I can remember	0
Last Diagnostic Bitewing Radiographs	N = 390
Less than 6 months ago	114 (29.2%)

6 to 12 months ago	147 (37.7%)
12 to 18 months ago	66 (16.9%)
18 months to 3 years ago	46 (11.8%)
3 years to 5 years ago	12 (3.1%)
5 years to 8 years ago	3 (0.8%)
More than 8 years ago	2 (0.5%)
Never had bite wing radiographs that I can remember	0
How do you know your Dentist	N = 388
I do not regularly attend a particular dentist	37 (9.5%)
My co-worker (a dentist) check and manages my oral health	114 (29.4%)
My co-worker (non-dentist) checks and manages my oral health	16 (4.1%)
A friend (dentist) at another practice	172 (44.3%)
I have an independent dentist who manages my oral health	35 (9%)
Other	14 (3.6%)

Table 3. Oral Health Conditions

Oral Health Condition	N (% of Respondents)
Untreated Dental Caries	23 (5.8%)
Fractured restoration	59 (14.8%)
Tooth ache	1 (0.3%)
Tooth requiring extraction	13 (3.3%)
Oral ulcers	0
Periodontal disease	19 (4.8%)
Cyst of the jaw bone	0
Other oral health problems	13 (3.3%)
No oral health problems	283 (70.8%)

Table 4. Oral Hygiene Practices

How often do you brush your teeth?	N (% of Responders = 389)
One time per week	1 (0.3%)
Once every few days	2 (0.5%)
Once per day	34 (8.7%)
Two times per day	199 (51.2%)
Three times per day	110 (28.3%)
More than 3 times per day	43 (11.1%)
How often do you floss your teeth?	N = 390
Never	11 (2.8%)
One time per week	25 (6.4%)
Once every few days	69 (17.7%)
Once per day	205 (52.6%)
Two times per day	63 (16.2%)
Three times per day	14 (3.6%)
More than 3 times per day	3 (0.8%)

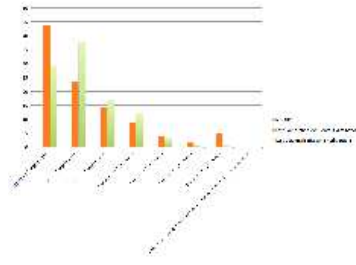
Table 5. Obstacles Trying to Access Medical or Dental Care

Obstacles	N (% of Responders)
Cost	31 (7.8%)
Time	148 (37%)
Geographical location – there are no	6 (1.5%)

physicians nearby	
Physician/dentist skill – the physician/dentist nearby cannot manage my medical/dental concerns	7(1.8%)
Others	13 (3.3%)

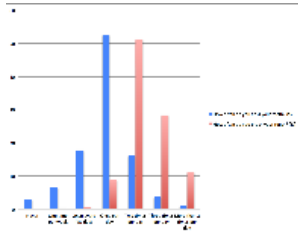
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