

ORIGINAL ARTICLE

Oral Epidemiology

Practicing what we preach: A pilot study on oral health practices of dentists in Massachusetts

Romes P. Nalliah¹  | Veerasathpurush Allareddy²

¹Office of Patient Services, School of Dentistry, University of Michigan, Ann Arbor, MI, USA

²Department of Orthodontics, College of Dentistry, University of Iowa, Iowa City, IA, USA

Correspondence

Dr Romesh P. Nalliah, Office of Patient Services, School of Dentistry, University of Michigan, Ann Arbor, MI, USA.
Email: romeshn@umich.edu

Abstract

Aim: Dentists are perceived as leaders and role models of good oral health, but do dentists practice what they preach? The current study was a pilot evaluation dentists of the oral health and oral health practices of dentists in Massachusetts.

Methods: The Massachusetts Dental Society sent emails to 3957 member dentists for whom an email contact was available. One reminder was sent 3 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: A total of 4.9% of dentists had a comprehensive oral examination more than 8 years ago, and 3.1% had diagnostic bitewings 3-5 years ago. Our study revealed that 5.8% had untreated caries and only 70.8% reported having no oral health problems. A total of 37% reported that lack of time was a barrier in seeking care, and 7.8% reported financial barriers. Finally, 4.1% reported that a non-dentist coworker examined and managed their oral health.

Conclusions: The current study revealed that many dentists are not following American Dental Association guidelines for prevention for themselves. Subsequently, many in our profession are recommending preventive care for their patients that they are not adhering to themselves.

KEYWORDS

access, dentist, oral health, role model

1 | 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 6-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 prohibit

evidence-based practice in many situations and require 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 might reflect their personal beliefs.

The objective of the current study was 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 was a follow up to a study of the general health and health practices of dentists, which was published in this journal in April 2017.²

2 | MATERIALS AND METHODS

We developed the survey questions related to oral health, and the whole survey (including oral health questions) was validated by dentists from the 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 no.: 23952). The current study focused on the oral health of dentists. More details of the overall survey is available from the original study on which the present study is based.²

The MDS sent emails to every member dentist who had provided their email address, and this summed to 3957 individuals. One reminder was sent 3 months later and there was no incentive offered. Simple descriptive statistics were utilized to demonstrate findings.

3 | RESULTS

Overall, 399 licensed dentists of the 3957 invited, who were members of the MDS, responded to the survey and completed all items, equating to a participation rate of 10.1%.

Table 1 is adapted from the original paper.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 its members. This shows that the demographic in the current study was somewhat similar to the overall demographic of ADA member dentists (which represents approximately 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 <6 months ago, 23.5% had it 6-12 months ago, 8.5% had it 18-36 months ago, and 4.9% had it >8 years ago. We also found that 29.2% had diagnostic bitewings <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 that a co-worker dentist checked and managed their oral health, while 4.1% reported that a co-worker non-dentist checked and managed their oral health.

Our study revealed that 5.8% of dentists in Massachusetts 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 dentists in Massachusetts brush >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 dentists in Massachusetts 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% reported a lack of time, 7.8% reported

TABLE 1 Demographics of survey responders compared to ADA membership

Characteristics of respondents to our survey in Massachusetts ²	Characteristics of ADA dentists across the USA
21.6% were female dentists	22.2% of dentists in the USA were 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	5.0% worked in large corporate practice ⁷
33.2% worked in smaller group practices	26.0% worked in smaller group practices ⁷
6.0% were 26-35 years old	11.1% <35 years old ⁷
9.3% were 36-45 years old	19.2% were 35-44 years old ⁷
21.6% were 46-55 years old	20.4% were 45-54 years old ⁷
32.6% were 56-65 years old	28.5% were 55-64 years old ⁷
23.1% were 66-75 years old	20.8% were >65 ⁷
7.2% were >75 years old	

ADA, American Dental Association.

finances, 1.8% reported lack of skill of the physician/dentist nearby, and 1.5% reported geographic barriers with no physician/dentist nearby.

4 | 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 the distribution of sex, specialty, practice setting, and age (Tables 1 and 2). Although the response rate was 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 USA, which suggests that our pilot study has some value and limited generalizability.

The ADA recommends that patients brush twice per day⁹ and floss once per day. Remarkably, only 52.6% of dentists in our study flossed once per day (see Table 2); 2.8% reported never flossing and 6.4% reported flossing only once per week (Figure 1). In relation to brushing, only 90.5% of dentists brushed twice or more per day, even though the ADA advises patients to brush twice a day for 2 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.

Colgate (New York, NY, USA) recommends dental examinations every 6 months;¹¹ however, the ADA and Delta Dental websites describe how the dentist will make a customized recall plan based on the risk factors each patient has.^{12,13} As shown in Figure 2, we found that only 43.7% of dentists had a dental exam within the past 6 months. Moreover, only 67.2% of dentists reported having an exam within the past 12 months; this means that when 32.8% of dentists ask 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 past 8 years.

In the current study, we found that 29.2% of dentists had their most recent bitewing radiographs within 6 months (Figure 2). 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 finding in the current study was the presence of oral health conditions (Tables 3 and 4). A total of 5.8% of dentists reported untreated dental caries, and 14.8% reported fractured restorations; 4.8% reported having active periodontal disease, and 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 USA.

TABLE 2 Oral health behaviors

Last comprehensive dental examination	N = 87
<6 months ago	169 (43.7%)
6-12 months ago	91 (23.5%)
12-18 months ago	55 (14.2%)
18 months-3 years ago	33 (8.5%)
3-5 years ago	14 (3.6%)
5-8 years ago	6 (1.6%)
>8 years ago	19 (4.9%)
Never had a comprehensive dental examination that I can remember	0
Last diagnostic bitewing radiographs	N = 390
<6 months ago	114 (29.2%)
6-12 months ago	147 (37.7%)
12-18 months ago	66 (16.9%)
18 months-3 years ago	46 (11.8%)
3-5 years ago	12 (3.1%)
5-years ago	3 (.8%)
>8 years ago	2 (.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 (dentist) checks 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 checks and manages my oral health	172 (44.3%)
I have an independent dentist who manages my oral health	35 (9%)
Other	14 (3.6%)

In the current study, we asked dentists in Massachusetts to report their relationship to their dental provider. Remarkably, 4.1% of dentists reported that their non-dentist co-worker examined and managed their oral health. It is beyond the scope of this pilot study

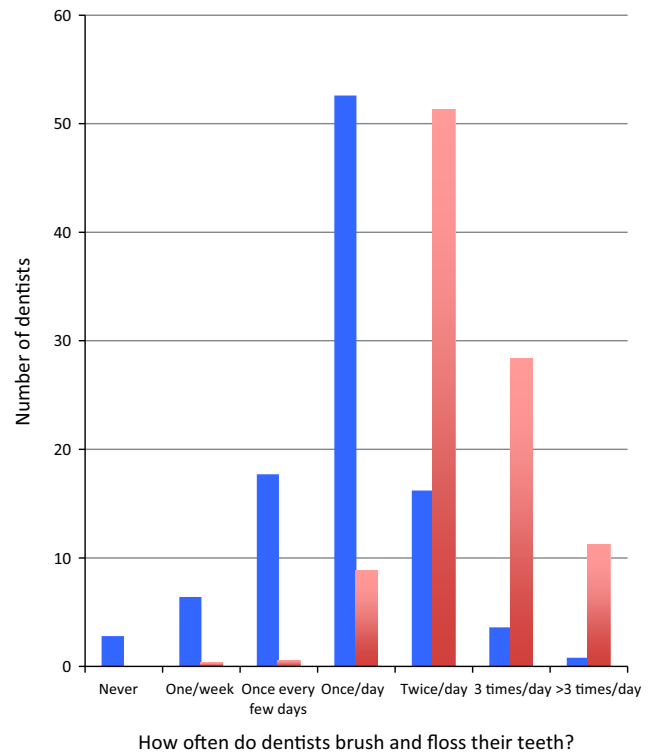


FIGURE 1 How often do dentists floss and brush their own teeth? . (■) How often do you floss your teeth?(%); (■) How often do you brush your teeth?(%)

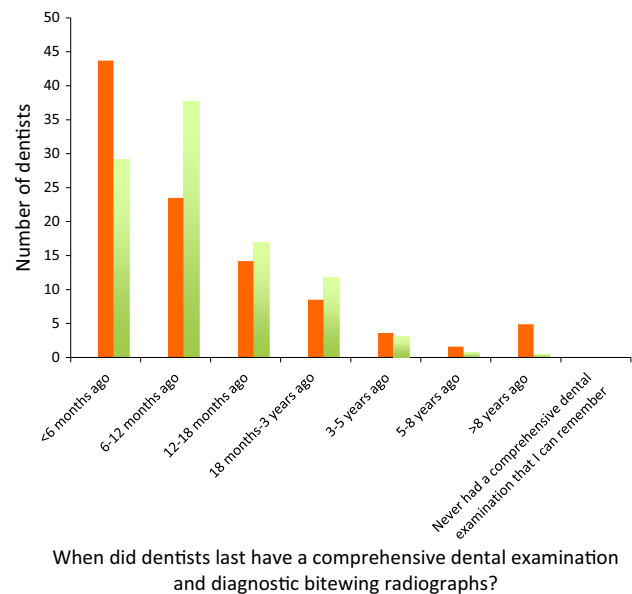


FIGURE 2 Time since dentists' last comprehensive dental examination and bitewings . (■) N = 387; (■) Last comprehensive dental examination; (■) Last diagnostic bitewing radiographs

TABLE 3 Oral health conditions

Oral health condition	N (%)
Untreated dental caries	23 (5.8%)
Fractured restoration	59 (14.8%)
Toothache	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 = 389 (%)
Once/week	1 (0.3%)
Once every few days	2 (0.5%)
Once/day	34 (8.7%)
Twice/day	199 (51.2%)
3 times/day	110 (28.3%)
>3 times/day	43 (11.1%)
How often do you floss your teeth?	N = 390 (%)
Never	11 (2.8%)
Once/week	25 (6.4%)
Once every few days	69 (17.7%)
Once/day	205 (52.6%)
Twice/day	63 (16.2%)
3 times/day	14 (3.6%)
>3 times/day	3 (0.8%)

TABLE 5 Obstacles in accessing medical or dental care

Obstacles	N (%)
Cost	31 (7.8%)
Time	148 (37%)
Geographic location (no physicians nearby)	6 (1.5%)
Physician/dentist skill (physician/dentist nearby cannot manage my medical/dental concerns)	7 (1.8%)
Other	13 (3.3%)

to evaluate the ethical dilemma of asking non-dentist health professionals, who you employ, to perform oral health services. Additionally, 9.5% reported that they do not regularly attend a dentist. The majority (44.3%) reported that their dentist friend at another practice managed their oral health, and 29.4% reported that their dentist co-worker managed their oral health.

When describing the obstacles in trying to access medical and dental services (Table 5), 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.

5 | 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 showed that many dentists do not have stable oral health and might fail to follow the prevention guidelines that they recommend to their own patients. This could be perceived in a similar manner to an overweight athletic trainer, and there must be alignment in what dentists do for their own oral health and what they ask their patients to do.

ORCID

Romesh P. Nalliah  <http://orcid.org/0000-0002-6287-0656>

REFERENCES

1. Esmaili T, Ellison J, Walsh MM. Dentists' attitudes and practices related to diabetes in the dental setting. *J Public Health Dent.* 2010;70:108-114.
2. Nalliah RP, Budd A, Allareddy V. Pilot survey of the health of Massachusetts dentists. *J Investig Clin Dent.* 2017; <https://doi.org/10.1111/jicd.12263>
3. America Dental Association. Research Brief. Available at www.ada.org/~media/ADA/Science%20and%20Research/HPI/Files/HPIBrief_0616_1.pdf. Accessed 22 June 2017.
4. America Dental Association. Membership. Available at www.ada.org/en/member-center/join-or-renew-ada-membership. Accessed 14 June 2017.
5. America Dental Association. Income and Gross Billings. Accessed 10 Jun 2017 and available at www.ada.org/1444.aspx
6. Guay AH, Wall TP, Petersen BC, Lazar VF. Evolving trends in size and structure of group dental practices in the United States. *J Dent Educ.* 2012;76:1036-1044.
7. America Dental Association. Available at <https://money.usnews.com/careers/best-jobs/dentist/salary>. Accessed 12 June 2017.
8. Survey Gizmo. 3 Ways to Improve Your Survey Response Rates. Available at www.surveygizmo.com/survey-blog/survey-response-rates/. Accessed 17 Nov 2016.
9. American Dental Association. Brushing your teeth. Available at <http://www.mouthhealthy.org/en/az-topics/b/brushing-your-teeth>. Accessed 29 June 2017.
10. America Dental Association. News Releases. Available at www.ada.org/en/press-room/news-releases/2016-archive/August/statement-from-the-american-dental-association-about-interdental-cleaners. Accessed 29 June 2017.
11. Colgate. How Often Should You Go To The Dentist? Available at www.colgate.com/en/us/oc/oral-health/basics/dental-visits/article/how-often-should-you-go-to-the-dentist. Accessed 10 July 2017.
12. America Dental Association. News Releases. Available at www.ada.org/en/press-room/news-releases/2013-archive/June/

- american-dental-association-statement-on-regular-dental-visits. Accessed 2 June 2017.
13. Delta Dental. Available at <https://nedelta.com/oral-health-and-wellness/articles/dental-visits-for-patients-with-dentures>. Accessed 17 July 2017.
 14. America Dental Association. Dental Radiographic Examinations: Recommendations for Patient Selection and Limiting Radiation Exposure. Available at www.ada.org/~media/ADA/Publications/ADA%20News/Files/Dental_Radiographic_Examinations_2012.pdf?la=en. Accessed 29 May 2017.
 15. American Dental Association. Be a Dentist. Available at www.ada.org/en/education-careers/careers-in-dentistry/be-a-dentist. Accessed 16 September 2015.
 16. Hallissey J, Hannigan A, Ray N. Reasons for choosing dentistry as a career—a survey of dental students attending a dental school in Ireland during 1998–1999. *Eur J Dent Educ*. 2000;4:77–81.
 17. US News. Dentist Salary. Available at <http://money.usnews.com/careers/best-jobs/dentist/salary>. Accessed 22 July 2017.

How to cite this article: Nalliah RP, Allareddy V. Practicing what we preach: A pilot study on oral health practices of dentists in Massachusetts. *J Invest Clin Dent*. 2018;9:e12322. <https://doi.org/10.1111/jicd.12322>