Smoking Prevalence among Dentists in Hyogo, Japan 2003

Nobuhiro NISHIO1*, Katsuyasu KOUDA2, Junko NISHIO3, Harunobu NAKAMURA4, Yoshiaki SONODA5 and Tatsuya TAKESHITA1

1Department of Public Health, School of Medicine, Wakayama Medical University, 811–1 Kimiidera Wakayama, Wakayama 641-8509, Japan
2Department of Public Health, Kinki University School of Medicine, 377–2 Ohno-higashi, Osaka-Sayama, Osaka 589-8511, Japan
3Graduate School for Creative Cities, Osaka City University, 3–3–138 Sumiyoshi-ku, Osaka, Osaka 558-8585, Japan
4Faculty of Human Development, Kobe University, 3–11 Tsurukabuto, Nada-ku, Kobe, Hyogo 657-8501, Japan
5Department of Hygiene, Kansai Medical University, 10–15 Fumizono-cho, Moriguchi, Osaka 570-8506, Japan

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Abstract: We examined smoking prevalence among dentists in Hyogo, Japan, as smoking would influence their smoking cessation interventions to encourage their patients to stop smoking. In 2003, a self-administered questionnaire was mailed to all members of the Hyogo Dental Association (HDA) in Japan. Of the 1,133 members of the HDA, 327 were current smokers (28.9%). Smoking prevalence among HDA members was significantly higher than that among Japan Medical Association (JMA) members in 2004, as previously reported (16.2%) (p<0.01). Although smoking prevalence among HDA members decreased overall in 2003 in comparison with 2000, smoking prevalence among dentists aged 20–39 yr increased. These findings indicate that smoking was more prevalent among dentists in Hyogo Prefecture than among Japanese medical doctors. It is important to promote smoking cessation among Japanese dentists so that dentists will be more likely to encourage their patients to quit smoking.

Key words: Dentist, Smoking behavior, Smoking cessation

Introduction

Smoking cessation advice to patients at dental clinics by dentists is as effective as at medical clinics by medical doctors1). In a statement on tobacco in 1996, the World Dental Federation (FDI) urged its member associations and all oral health care professionals to take decisive actions to reduce tobacco use and nicotine addiction among the general public2). Hanioka reported that dentists who were non-smokers or ex-smokers more often educated their patients on the harm of smoking to their patients more often than did current smokers3).

Chestnutt reported that smoking by dentists not only reduces patients’ desire to stop smoking, but also that dentists who smoke take a negative attitude toward encouraging smoking cessation among their patients4).

We reported on smoking behavior of members of the Hyogo Dental Association (HDA) in 1997 and 2000, their smoking prevalence was lower than that of the general population but higher than that of Japan Medical Association (JMA) members in 20005). HDA members accounted for 85.1% of dentists in Hyogo prefecture6) (3054/3583).

For the JMA smoking survey questionnaires were sent to 3,000 male members and 1,500 female members who were selected at random from the JMA membership7). The questionnaires were returned anonymously. There were 2,432 male responders and 1,201 female responders. Since smoking by dentists influence their providing smoking cessation interventions to their patients, we requested that the HDA include a question on smoking habits to their life style questionnaire 3 yr after the previous inves-
tigation, which was in 2000. In 2000, the questionnaire had included such a question, but we wanted to ensure that it was repeated in 2003. The HDA surveys the work habits and life styles of its members by questionnaire every 3 yr. We were interested in determining if smoking prevalence among dentists remained higher than that among medical doctors after the 2000 survey.

Methods

In August 2003, a self-administered questionnaire about life style and work habits was sent by mail to all members of the HDA, who were instructed to return the questionnaire anonymously. A question asking whether the dentist was a current smoker was included. Non-responders were not contacted, nor were the questionnaires remailed to non-responders. After data were made anonymous through a system by which data could not in any way be linked to a name in the future, the HDA forwarded to us raw data from which we calculated smoking prevalence according to age category in 10-yr increments. We then assessed the prevalence of smoking among HDA members and made comparisons by age category in 10-yr increments with smoking prevalence among members of the JMA in 2004. Smoking prevalence among JMA members was determined from reports by JMA.7) As there were only a few members in the 20- to 29-yr-old category, we analyzed data beginning with a 20- to 39-yr-old category in comparison with information on members of the JMA collected in 2004.

Since smokers among HDA members were not categorized by gender, we made comparisons of number of current smoker among HDA members with that among the total number of JMA members without consideration of gender as well as that among only male JMA members in 2004. Data were analyzed using the Mantel-Haenszel test.

We also compared age-adjusted smoking prevalence of HDA members in 2000 with that in 2003. We used the age distribution of Japanese inhabitants in 1985 as standard. All statistical calculations were performed with SPSS software (Version 15.0). This study was approved by the Ethics Review Board of Kansai Medical University.

Results

The response rate for the questionnaires was 37.1% (1,133/3,054). Prevalence of smoking among HDA members was 28.9% in 2003, which was significantly higher than that among both male and female JMA members in 2004 (16.2%) (p<0.01; odds ratio estimate (OR), 2.017; confidence interval (CI) 1.723–2.360). Also prevalence of smoking among HDA members was significantly higher than that among male JMA members (21.5%) (p<0.01; odds ratio estimate (OR), 1.370; confidence interval (CI) 1.163–1.614) (Table 1). Smoking prevalence among HDA members was highest in the 20- to 39-yr-old age group. The age adjusted prevalence of smoking among HDA members in 2003 (23.1%) was lower than that among HDA members in 2000 (24.4%) (Table 2). Although smoking prevalence decreased in the 40- to 49-yr-old age group, 50- to 59-yr-old age group, and 70-yr-old and older age group, it increased in the 20- to 39-yr-old age group and 60- to 69-yr-old age group.

| Table 1. Smoking prevalence among dentists and medical doctors |
|---|---|---|---|---|---|---|
| Age group | 20–39 yr | 40–49 yr | 50–59 yr | 60–69 yr | 70–yr | total |
| Male and Female | Dentists | 40.5% | 27.2% | 30.4% | 26.6% | 15.3% | 28.9% |
| (number) | 173 | 323 | 342 | 177 | 118 | (1,133) |
| Male and Female | Medical doctors | 15.0% | 17.4% | 19.9% | 13.7% | 13.0% | 16.2% |
| (number) | 547 | 965 | 856 | 524 | 741 | (3,633) |
| Male | Medical doctors | 26.4% | 24.0% | 24.4% | 17.8% | 15.9% | 21.5% |
| (number) | 235 | 616 | 634 | 399 | 548 | (2,432) |

*a*Difference was observed between smoking prevalence among dentists and that among male medical doctors using the Mantel-Haenszel test (p<0.01).

(Odds ratio estimate: 2.017, CI: 1.723–2.360)

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Dentists: members of Hyogo Dental Association.

Smoking behavior of HDA members was surveyed in 2003.

Medical doctors: members of Japan Medical Association.

Smoking behavior of JMA members was from JMA smoking survey in 2004.
Discussion

Smoking prevalence among HDA members in 2003 (28.9%) was lower than that of the male general population in Hyogo 1999 (48.9%). The prevalence of smoking among males and females in the Japanese general population was 46.8% and 11.3%, respectively, in 2003; this did not include smokers younger than 20 yr of age. Smoking prevalence among HDA members decreased between 2000 and 2003. On the other hand, smoking prevalence among HDA members from 20 yr old to 39 yr of age increased in this interval.

Why the prevalence of smoking among young dentists remains high is not clear. It is said that the many dentists begin their smoking habit in dental school. Haresaku reported that dental students begin smoking at the average age of 17.9 yr. Miyatake et al. reported that smoking prevalence among male dental students was the same as or higher than that among the male general population in Japan. Also, Yoshimura et al. reported that smoking prevalence among female dental students was higher than among the general female population of Japan. On the contrary, Hanioka et al. reported lower smoking prevalence among male dental students than among the male general population in Japan.

From a report on smoking prevalence of dental students in the UK and on the basis of the reports mentioned above it can be inferred that smoking prevalence among dental students may be higher in Japan than in the UK. An increase in the prevalence of smoking among female medical doctors in their 20s and 30s was reported in the JMA survey in 2004 in comparison with findings of the JMA survey in 2000. Information on the number of women was not available, although it is known that dentists comprise 12.5% of dentists in Hyogo in 2000. The number of female dentists has increased. For example, in 2004 the ratios of female dentists in their 20s in Hyogo prefecture and Japan were 36.5% and 41.2% respectively; among dentists in their 30s, the ratios of female dentists were 18.5% and 24.3% for Hyogo prefecture and Japan, respectively. The increase in female dentists might be related to the high prevalence of smoking among young dentists.

Smoking prevalence among HDA members in 2003 was higher than that of dentists in UK, USA, and Sweden as previously reported. WHO requested health care workers to play a leading role in promoting smoking cessation among patients and to be models for non-smoking on World No Tobacco Day. The Japan Dental Association (JDA) prepared guidelines for “JDA Smoke Free Declarations” in May 2005. It is important to promote smoking cessation among Japanese dentists so that dentists will be more likely to encourage their patients to quit smoking. Since the oral area is easy to examine for the harmful influence of smoking, and also to directly recognize the effect of smoking cessation, it is thought that interventions on smoking cessation by dentists would be effective and could greatly contribute to public health improvement.

The JDA surveyed 270 members in Shizuoka and Niigata prefecture in 2006, and reported that smoking prevalence among male dentists was 31%. The JDA also surveyed 404 members in Hokkaido, Ehime and Kumamoto prefecture, and reported that smoking prevalence among male dentists was 29.2%, and that smoking prevalence among male dentists in their 30s was higher than in any other age category.

A limitation of this study is that we did not have access from the survey of HDA members on their work habits and practices or other life style issues aside from smoking. In addition, we were not able to obtain separate data on smoking among male and female dentists from the questionnaire. However, it is supposed that the smoking prevalence among female dentists in Japan is lower than among male dentists. If the gender of HDA members was adjusted, it can be supposed that the smoking prevalence of male HDA members would be higher than that of male JMA members. These could be confounding factors in relation to smoking habits.

An additional limitation was the low collection rate of the questionnaires. According to research involving JMA members, smoking prevalence among the subjects who had returned the questionnaire on the second to fourth mailings was higher than among those who had returned...
the questionnaire after the initial mailing. Geboy stated that dentists, like other health professionals, were aware of general expectations regarding their behavior as members of the healing professions, as well as the general social trend against smoking. It is possible that some level of underreporting of smoking may exist. The low collection rate of the questionnaire probably means that prevalence of smoking has been underestimated in our study. Our results showed that smoking prevalence among HDA members in 2003 was higher than that among JMA members in 2004. Therefore, our conclusion would be unchanged by underestimation of the prevalence of smoking among HDA members.

The prevalence of smoking among HDA members was investigated in 1997, 2000, and for this study 2003. Such data would be of interest. It would also be of value to study the effect of smoking on diseases, such as cancer, among dentists and compare the trends of smoking prevalence among Japanese dentists and other Japanese workers. Currently, the relationships between periodontosis and systemic diseases, including coronary heart disease and pneumonia, have been shown. It is a serious problem that the prevalence of smoking is still higher in young dentists who would be supposed to have received more knowledge on the harm of smoking during their education than in elder dentists. It is supposed that an intervention for smoking cessation directed toward young dentists is important to find a way to solve this problem.

Conclusions

These findings indicate that smoking prevalence among dentists in Hyogo Prefecture in 2003 was higher than that of male JMA members in 2004. Prevalence of smoking among dentists from 20 to 39 yr old was still high. We need further studies to clarify cognition and behaviors with regard to smoking among Japanese dentists to order to devise an effective smoking cessation program for them. Such a program would encourage them to advise their patients to stop smoking.

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References

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