



## Brief report

## Factors affecting changes in compliance with infection control practices by dentists in Japan

Akio Tada DDS, PhD<sup>a,\*</sup>, Masaomi Watanabe DDS, PhD<sup>b</sup>, Hidenobu Senpuku DDS, PhD<sup>c</sup><sup>a</sup> Department of Health Science, Hyogo University, Kakogawa, Hyogo, Japan<sup>b</sup> Aichi Prefecture Dental Association, Nagoya, Aichi, Japan<sup>c</sup> Department of Bacteriology, National Institute of Infectious Diseases, Tokyo, Japan**Key Words:**Infection control practice  
Dentist  
Standard precaution

We surveyed compliance with infection control practices (ICPs) and factors associated with ICPs reported by dentists in Japan in 2008 and 2011. ICPs improved during this period as did the proportion of dentists specializing in oral surgery, the proportion of dentists reporting a willingness to treat HIV and AIDS patients, and the proportion of dentists reporting knowledge about universal and standard precautions. Stronger associations between ICPs and these 3 factors were found in 2011 than in 2008.

Copyright © 2015 by the Association for Professionals in Infection Control and Epidemiology, Inc. Published by Elsevier Inc. All rights reserved.

Dentists are often exposed to bloodborne and respiratory pathogens via saliva, blood, splashes, and inhalation of aerosols. The Centers for Disease Control and Prevention has developed infection control guidelines that apply in the dental health care setting based on universal and standard precautions. These guidelines aim to prevent the transmission of pathogens between patients and health care workers.<sup>1-3</sup>

Previous surveys investigating compliance with infection control practices (ICPs) have provided data obtained from cross-sectional surveys.<sup>4-6</sup> However, it is necessary to monitor whether compliance with ICPs has improved over time and to elucidate factors associated with the improvement of ICPs.

In this study, we investigated changes in ICPs reported by dentists in Japan in 2008 and 2011 and explored factors associated with these changes.

**STUDY POPULATION AND METHOD**

This study was conducted on dentists from the Aichi prefecture between August and October in 2008 and 2011. A self-administered questionnaire was sent to all directors of private

dental offices listed in the Aichi Prefecture Dental Association (2008: 3,319 dentists; 2011: 3,330 dentists). In 2008 and 2011, 1,925 (58.0%) and 2,350 (70.6%) surveys were returned, respectively. Questionnaires with missing data were excluded (391 in 2008; 217 in 2011).

The questionnaire consisted of characteristics of dentists that had been found to affect ICPs (age, sex, speciality, and number of patients treated per day), attitude and knowledge that are considered to be associated with ICPs (willingness to treat HIV and AIDS patients in one's private office), and compliance with 8 ICPs. Ethics approval for the study was provided by the Aichi Prefecture Dental Association.

To analyze the associations between ICPs and other items, logistic regression models were used. Age and number of patients were dichotomously categorized as  $\leq 49$  years and  $\geq 50$  years and seeing  $\leq 35$  patients per day and seeing  $\geq 36$  patients per day, respectively. The dependent variables were the ICPs, and the independent variables consisted of characteristics, attitudes, and knowledge. Statistical analysis was carried out using SPSS version 12 (SPSS Inc, Chicago, IL). Differences at the 0.05 level were considered to be statistically significant.

**RESULTS**

The only characteristic showing a significant increase between 2008 and 2011 was the percentage of dentists specializing in oral surgery (Table 1). The percentage of dentists who reported willingness to treat HIV and AIDS patients or knowledge about universal and standard precautions significantly increased in the 2011 survey (Table 1). Among ICP items reported by dentists, a

\* Address correspondence to Akio Tada, DDS, PhD, Department of Health Science, Hyogo University, 2301 Shinzaike, Hiraokacho, Kakogawa, Hyogo 675-0195, Japan.  
E-mail address: [atada@hyogo-dai.ac.jp](mailto:atada@hyogo-dai.ac.jp) (A. Tada).

Funding/support: This work was supported in part by a grant-in-aid from the Ministry of Health, Labour and Welfare (H22-Iryo-Ippan-026 and H24-Iryo-shitei-044).

Conflicts of interest: All authors report no conflicts of interests relevant to this article. No external funding, apart from the support of the authors' institutions, was available for this study.

**Table 1**  
Characteristics, willingness to treat HIV and AIDS patients, and knowledge about universal and standard precautions and reported infection control practices of participants in 2008 and 2011 surveys of dentists in Japan

Items	Percentage in 2008 (n = 1,534)	Percentage in 2011 (n = 2,133)	P value
Sex: male	95.6	95.5	.43
Age: ≤49 years	38.2	35.8	.14
Specialization in oral surgery	11.5	15.2	.002
No. of patients treated per day: ≥36	25.4	24.6	.59
Willingness to treat HIV and AIDS patients	21.9	30.9	<.001
Knowledge about universal and standard precautions	14.1	21.3	<.001
Wearing protective eyewear for treatment	34.0	37.5	.031
Wearing gloves for treatment	71.5	79.9	<.001
Exchanging the handpiece for each patient	21.8	27.2	<.001
Providing education for clinical staff to prevent infection	83.5	87.3	.001
Preparing an office infection control manual	55.9	63.3	<.001
Participating in clinical lectures for infection control	79.7	86.7	<.001
Hepatitis B immunization	65.4	67.1	.15
Installing extraoral vacuum aspiration	21.1	22.5	.15

**Table 2**  
Infection control practices significantly associated with characteristics, willingness to treat HIV and AIDS patients, and knowledge about universal and standard precautions

Predictors	2008	2011
Age (reference ≥50 years)	Eyewear: 1.3 (1.0-1.6) Gloves: 3.0 (2.3-4.0) Handpiece: 1.4 (1.1-1.8) Lectures: 0.7 (0.5-0.9)	Gloves: 5.3 (3.8-7.3) Handpiece: 1.9 (1.5-2.3) Education: 2.1 (1.5-3.0) Manual: 1.4 (1.2-1.8)
Sex (reference: male)	HBV vaccine: 2.6 (2.0-3.3) Education: 3.6 (1.3-10.9)	HBV vaccine: 3.6 (2.9-4.6) Eyewear: 1.6 (1.0-2.4) Education: 2.8 (1.1-7.8) Lectures: 0.5 (0.3-0.8)
Specialization in oral surgery (reference: generalist)	Eyewear: 1.3 (1.0-1.9) Education: 1.8 (1.0-3.3)	Eyewear: 1.5 (1.2-1.9) Gloves: 2.1 (1.5-3.0) Handpiece: 2.1 (1.6-2.7) Education: 2.4 (1.5-3.8) Manual: 1.5 (1.2-2.0) HBV vaccine: 2.2 (1.6-2.9) Vacuum: 2.1 (1.6-2.7)
No. of patients (reference ≤35 per day)	Eyewear: 1.3 (1.0-1.7) Gloves: 1.8 (1.3-2.4) Handpiece: 1.5 (1.2-2.0) Education: 2.4 (1.6-3.7) Manual: 1.6 (1.3-2.1) Lectures: 1.5 (1.1-2.0) HBV vaccine: 1.4 (1.0-2.1) Vacuum: 2.0 (1.6-2.7)	Eyewear: 1.6 (1.3-1.9) Gloves: 2.5 (1.9-3.9) Handpiece: 2.1 (1.7-2.6) Education: 2.0 (1.4-2.8) Manual: 1.8 (1.5-2.3) Lectures: 1.6 (1.2-2.2) HBV vaccine: 1.6 (1.3-2.0) Vacuum: 1.9 (1.5-2.3)
Willingness to treat HIV and AIDS patients (reference: no)	Handpiece: 1.5 (1.1-1.9) Education: 2.3 (1.5-3.6)	Gloves: 1.6 (1.3-2.1) Handpiece: 1.8 (1.5-2.2) Education: 2.1 (1.6-2.9) Manual: 1.7 (1.4-2.1) Lectures: 1.4 (1.1-1.9) HBV vaccine: 1.8 (1.5-2.2) Vacuum: 2.1 (1.6-2.6)
Knowledge about universal and standard precautions (reference: no)	Gloves: 2.3 (1.5-3.5) Handpiece: 2.5 (1.8-3.4) Education: 2.5 (1.4-4.5) Manual: 1.9 (1.4-2.7) Lectures: 1.7 (1.1-2.6) Vacuum: 1.7 (1.2-2.4)	Eyewear: 1.9 (1.5-2.3) Gloves: 2.9 (2.0-3.7) Handpiece: 2.8 (2.2-3.4) Education: 2.6 (1.7-3.9) Manual: 2.0 (1.6-2.5) Lectures: 1.9 (1.7-2.8) HBV vaccine: 2.2 (1.7-2.8) Vacuum: 2.1 (1.6-2.8)

NOTE. Values are odds ratios (95% confident intervals).

*Education*, providing education for clinical staff to prevent infection; *Eyewear*, wearing protective eyewear for treatment; *Glove*, wearing gloves for treatment; *Handpiece*, exchanging the handpiece for each patient; *HBV vaccine*, receiving immunization against hepatitis B; *Lectures*, participating in clinical lectures for infection control; *Manual office*, preparing an office infection control manual; *Vacuum*, installing extraoral vacuum aspiration.

significant increase was observed in 6 items (wearing protective eyewear for treatment, wearing gloves for treatment, exchanging the handpiece for each patient, providing education for clinical staff to prevent infection, preparing an office infection control manual, and participating in clinical lectures for infection control).

Table 2 presents the factors associated with compliance with each ICP reported using logistic regression models. There was a

marked increase in the number of ICP items showing a significant association with some predictors between the 2008 and 2011 surveys (specialization in oral surgery: 2 to 7; willingness to treat HIV and AIDS patients: 2 to 7). Knowledge about universal and standard precautions showed a significant association with almost all ICPs (2008) and all ICPs (2011), with greater odds ratios than those of other factors.

# دانلود مقاله



<http://daneshyari.com/article/2638079>



- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات