Original Article

Smoking status and lifestyle habits of 1st–3rd-year students at Osaka Dental University ~A comparison with the School of Dentistry and Faculty of Health Sciences~

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SUMMARY

In line with the smoking ban at the Osaka Dental University Hospital, a survey was conducted on the smoking status of students who aspire to become dentists, dental hygienists, and dental technicians, their opinions on the total smoking ban on the hospital premises, and their lifestyle habits. This survey was conducted to help improve non-smoking education in the future. The survey targeted 634 first-year to third-year students of the School of Dentistry and Faculty of Health Sciences during the 2019 academic year to obtain the information necessary for non-smoking education and cessation support measures and lifestyle improvements. A total of 398 first-year to third-year students of the School of Dentistry and 236 students of the Faculty of Health Sciences were targeted for the survey, and responses were obtained from 542 students (321 in the School of Dentistry and 221 in the Faculty of Health Sciences) after excluding non-eligible participants. There were 15 (4.7%) smokers in the School of Dentistry and 7 (3.2%) in the Faculty of Health Sciences. The percentage of students who had not received non-smoking education was 36.1% in the School of Dentistry and 48.9% in the Faculty of Health Sciences, and there was a significant difference between the two schools. Regardless of whether they smoked or not, 22.7% of students of the School of Dentistry and 10.3% of students of the Faculty of Health Sciences students drank at least once a week while 76.3% of those at the School of Dentistry and 53.7% of Faculty of Health Sciences students ate out at least once per week, and both percentages were higher in the School of Dentistry. Part-time jobs were performed by 47.1% of students in the School of Dentistry and 84.3% of those in the Faculty of Health Sciences, with the Faculty of Health Sciences students being significantly more likely to do so. In particular, those who had not received non-smoking education were more likely to drink in restaurants, eat out, and work part-time, and were more likely to be exposed to passive smoking. Although the number of smokers is low considering the percentage of adults who smoke, in light of these facts, we must also tell them that they may be in the same situation as smokers, including those who had received providing non-smoking education.

Key words: smoking, Non-smoking education, School of Dentistry, Faculty of Health Sciences

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INTRODUCTION

Numerous studies have been conducted worldwide on smoking, and it has been identified as risk a factor for a variety of diseases. In dentistry, it has been identified as a risk factor for cancer[1,2], periodontal disease[3], and other diseases, and there is some concern about its effects on children and adults in the overall medical field. Maternal smoking has also been reported to increase the risk of asthma in children[4,5] and induce childhood allergies[6]. Also, in recent years, it has become necessary to take measures to deal with the smoking problem caused by heat-not-burn tobacco[7-10] as needed, and the annually increasing number of users is currently said to be more than three million. Measures must also be taken against evolving heat-not-burn tobacco products in the future. A smoking survey[11] conducted in 2015 among members of the Japanese Academy of Periodontology demonstrated that 8.4% of dentists and 2.1% of dental hygienists smoked, and the values were lower than the global smoking rates at that time. However, given that they are health care workers, we believe there is a need to continue to reduce smoking rates. To further reduce these rates in the future, it is essential to have students undergo non-smoking education during their school years. The University (including its affiliated hospitals) is a medical university that plays a role in non-smoking guidance, and as a place where future dentists, dental hygienists, and dental technicians are trained, it is necessary to regard non-smoking education as an essential item. This survey was conducted to compare survey items among different faculties, analyze items that showed differences, and improve the quality of education in the future by administering a questionnaire on non-smoking education and lifestyle habits at the University's School of Dentistry and Faculty of Health Sciences.

METHODS

1: Subjects

A total of 398 1st-year to 3rd-year students of the University's School of Dentistry and 236 1st-year to 3rd-year students of the University's Faculty of Health Sciences who were enrolled in the 2019 academic year, a total of 634 people, were included in the survey.

2: Study methods

The survey was conducted by distributing self-administered questionnaires in the lecture rooms and homerooms of students of the institution's 2019 batch. These questionnaires were collected after they were filled out.

3: Study details

Questionnaire items included free-text sections on whether or not non-smoking education has been received, the current smoking status, lifestyle, and non-smoking on the institution's premises.

4: Methods of analysis of free responses

The quantitative text analysis software program used was KH Coder Version 3. Alpha.15[12,13] was used to organize and analyze the frequently-occurring words and phrases in the free-text content.

RESULTS

A total of 398 first-year to third-year students of the School of Dentistry and 236 students of the Faculty of Health Sciences were included in the survey, and responses were obtained from 542 students (321 from the School of Dentistry and 221 from the Faculty of Health Sciences) after excluding absences (effective response rate: 85.5%).

1: Non-smoking education

A total of 190 students (59.2%) from the School of Dentistry and 98 students (44.3%) from the Faculty of

Health Sciences took the course, which demonstrates some significant differences between the faculties (Figure 1). It was observed that all smokers from the Faculty of Health Sciences had not taken the non-smoking course.

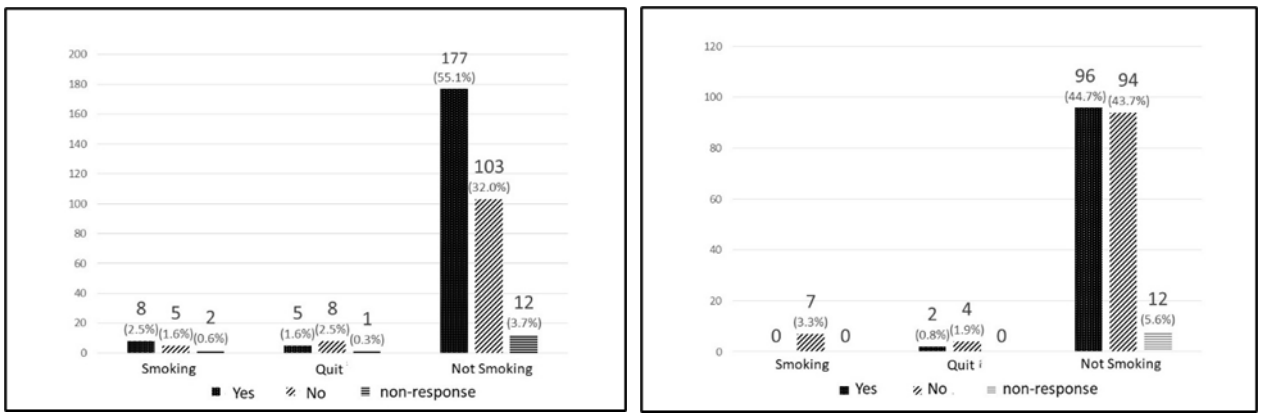

Figure 1. Non-smoking education enrollment at the School of Dentistry (left) and the Faculty of Health Sciences (right)

2: Smoking status

Approximately 15 students (4.7%) from the School of Dentistry smoked, 14 (4.4%) of them had successfully quit smoking, 284 students (88.4%) had never smoked, and 8 students (2.5%) did not take the survey. Approximately 7 students (3.2%) from the Faculty of Health Sciences smoked, 6 (2.7%) of them had successfully quit smoking, 202 students (91.4%) had never smoked, and 6 students (2.7%) did not take the survey (Figure 2).

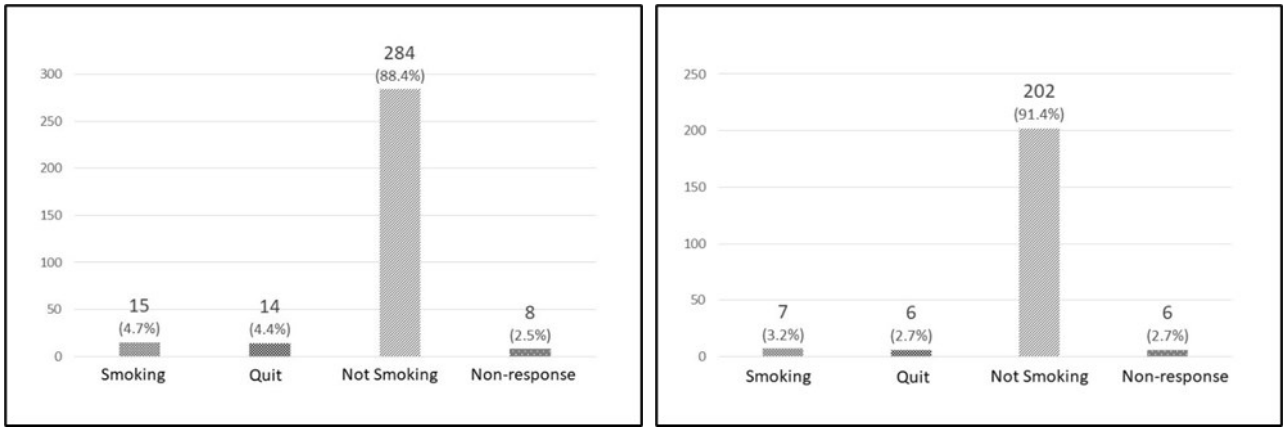

Figure 2. Smoking status in the School of Dentistry (left) and the Faculty of Health Sciences (right)

3: Lifestyle

1) Alcohol consumption

Among the students who filled out the questionnaire, 70 students (22.7%) from the School of Dentistry and 22 students (10.3%) from the Faculty of Health Sciences drank at least once a week (Figure 3). For the School of Dentistry, a chi-square test showed an association between drinking and smoking ($x2(8) = 38.006$, $p < 0.05$). There was a significant difference between the group that drank daily and the group that did not drink. The group that drank was found to be more closely associated with smoking.

For the Faculty of Health Sciences, a chi-square test showed no significant difference ($x2(8) = 41.763$, $p < 0.05$).

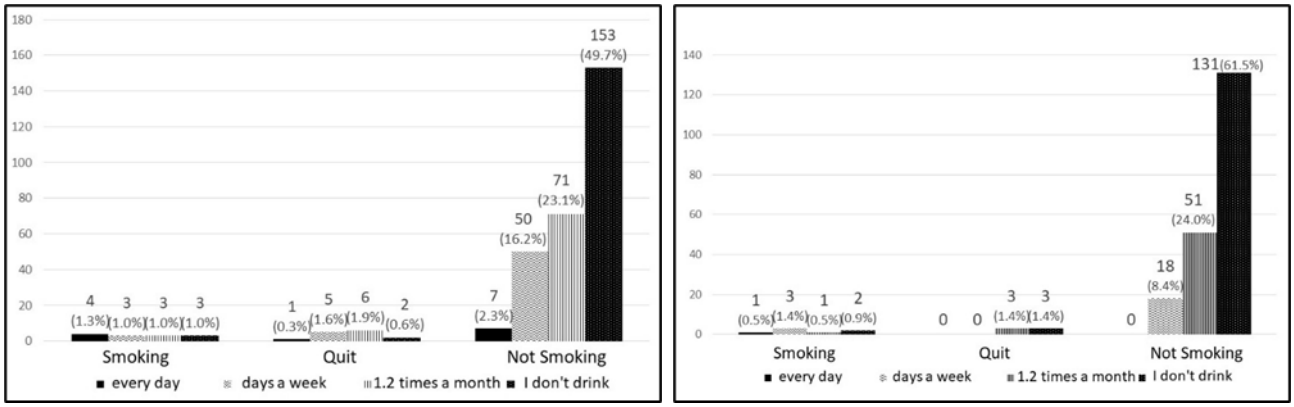

Figure 3. Alcohol consumption status (drinking at least once a week) in the School of Dentistry (left) and the Faculty of Health Sciences (right)

2) Eating out

Among the students who filled out the questionnaire, 235 students (76.3%) from the School of Dentistry and 115 students (53.7%) from the Faculty of Health Sciences ate out at least once a week (Figure 4). A chi-square test showed no significant difference for the School of Dentistry ($x^2(4) = 9.697$, $p < 0.05$) or for the Faculty of Health Sciences, ($x^2(4) = 6.941$, ns).

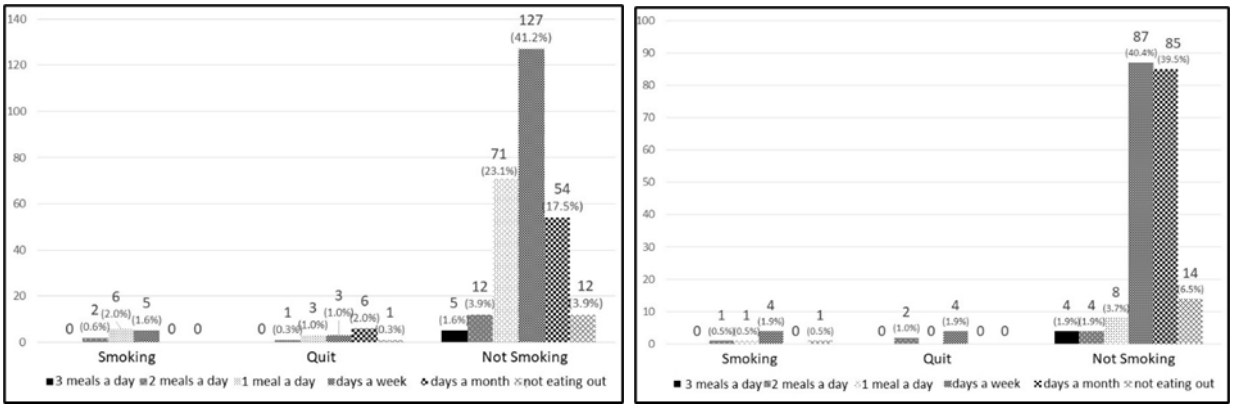

Figure 4. Eating out status (at least once a week) in the School of Dentistry (left) and the Faculty of Health Sciences (right)

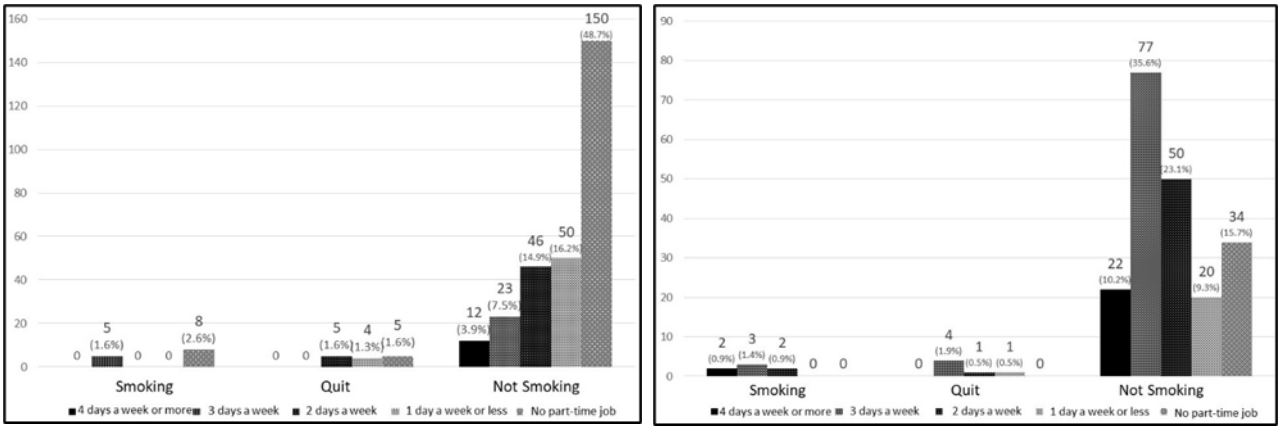

Figure 5. Part-time job status in the School of Dentistry (left) and the Faculty of Health Sciences (right)

3) Part-time jobs

Among the students who filled out the questionnaire, 145 students (47.0%) from the School of Dentistry and 182 students (84.3%) from the Faculty of Health Sciences worked part-time (Figure 5). For the School of Dentistry, the results of the chi-square test showed a significant difference in the group that worked part-time at least three times a week ($x2(5) = 20.496$, $p < 0.05$). For the Faculty of Health Sciences, the results of the chi -square test showed no significant difference ($x2(5) = 4.159$, ns).

4) Opinion about non-smoking on the institution's premises (free response)

In the free writing by both sets of undergraduates, there were a number of statements from non-smokers that "it is a good and deserved measure," with a few defending the smokers. The smokers' opinions stated that they would like to see the smoking area returned to its original location, among other responses. "I feel sorry for the smokers if we don't allow partial smoking. They will have to go outside to smoke." Some non-smokers had negative opinions about the no-smoking policy on the premises (Table 1). Frequently used words written in the free-text were identified by KH Coder, and the most frequently used words were "I think," "good," "no smoking," and "hospital," all of which are positive words for a smoke-free environment on the affiliated hit has been pointed out the hospital premises. To further clarify the relationship between the described words and phrases, a co-occurrence network diagram was produced to compare the words and phrases in the School of Dentistry and the Faculty of Health Sciences (Figures 6 and 7). The larger the circle, the more frequently the word or phrase is used, and words with strong relationships are represented by thick lines connecting them. Both institutions, the School of Dentistry and the Faculty of Health Sciences, had high frequencies of use of the words "good" and "think," with words such as "people," "annoyance," and "harm," connected by a line, and when the free descriptions were checked again, they were descriptions about passive smoking. Students who responded "nothing," "nothing in particular," or did not respond accounted for 153 students (47.7%) from the School of Dentistry and 102 students (46.2%) form the Faculty of Health Sciences.

Table 1: Opinions on non-smoking on the institutions' premises (selected)

Non-smokers
Necessary measure.
I am glad that I am no longer causing harm to non-smokers.
I think it is not good to have the smell of cigarettes on one's clothes; so, I think it should be stricter.
I think it might be hard for smokers. The rate of smoking on the streets is likely to increase.
I think there should be a place to smoke; however, I would like to see a firm separation.
Smokers
Non-smoking on the premises is counterproductive.
I do not think there should be a smoking ban on the premises.
I want more smoking areas.

DISCUSSION

This survey was conducted among first-year through third-year students of the School of Dentistry and Faculty of Health Sciences to investigate smoking-related situations in younger age groups. The survey results show that 15 (4.7%) students in the School of Dentistry smoked and 7 (3.2%) in the Faculty of Health Sciences smoked, both of which are lower than the national adult smoking rate[14]. It is suggested that This low

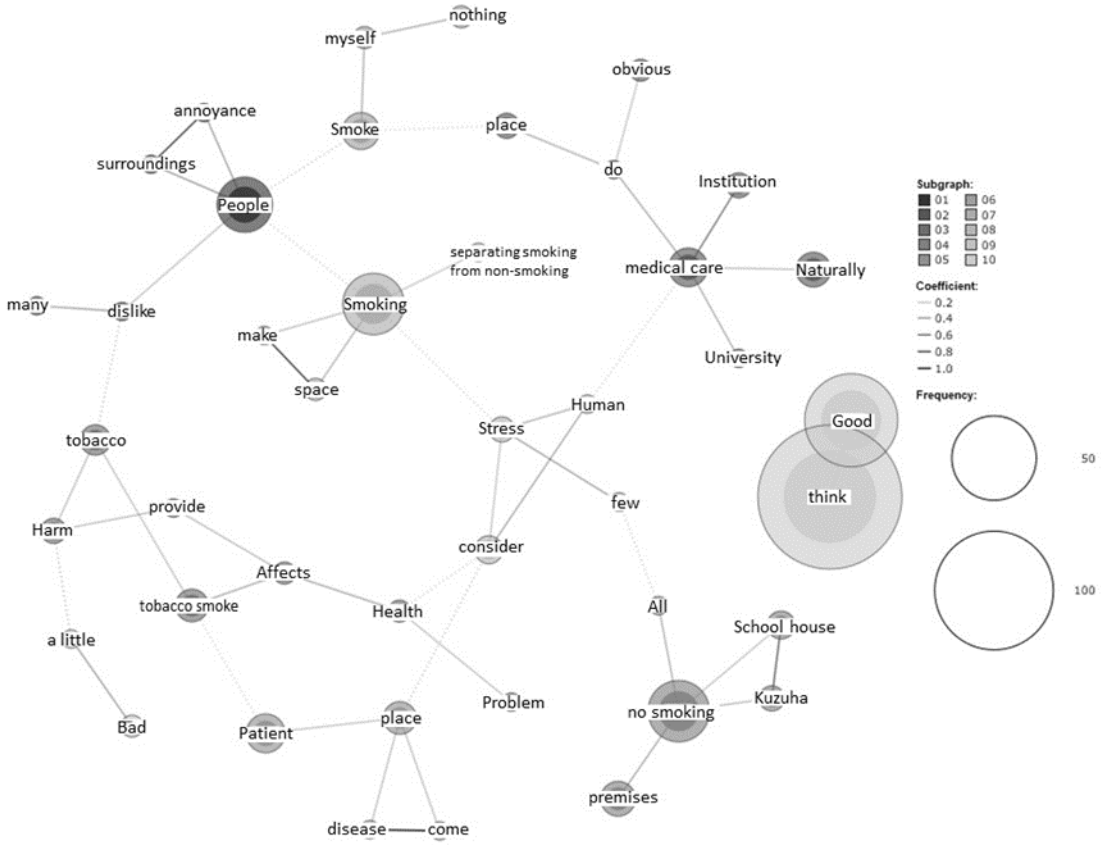

Figure 6. Co-occurrence network diagram of free responses (School of Dentistry)

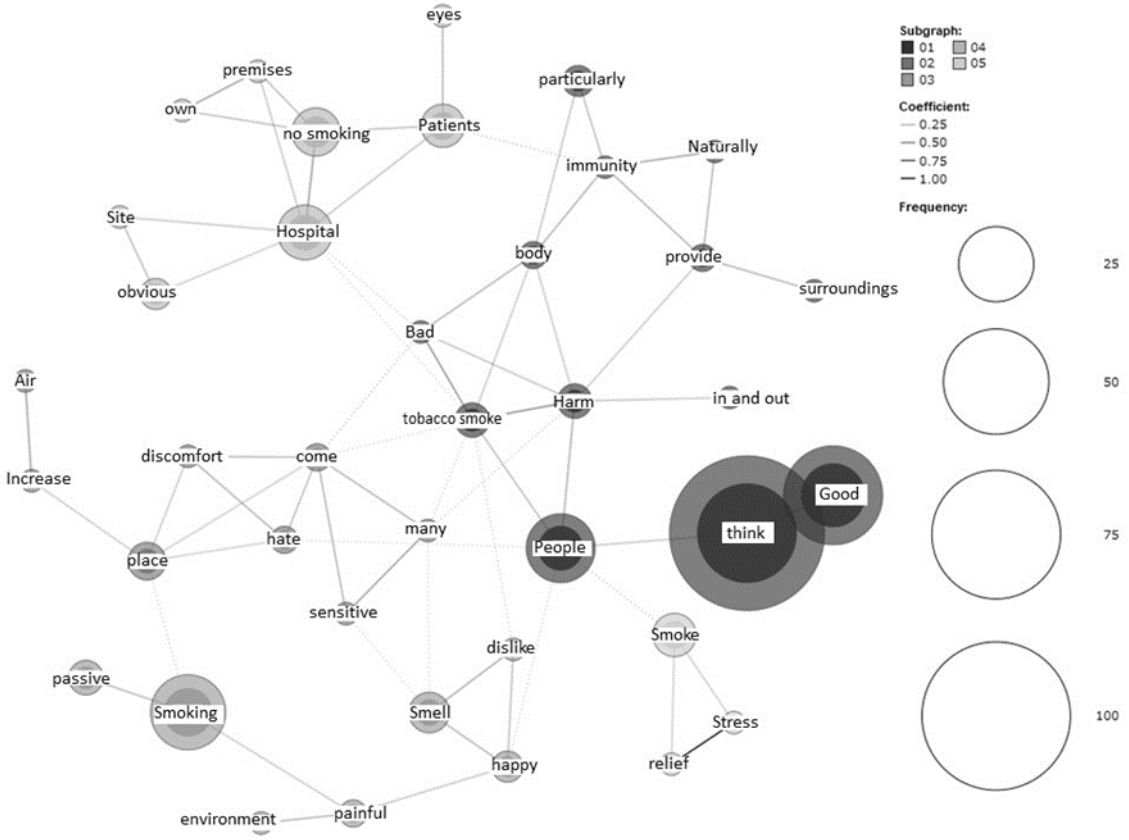

Figure 7. Co-occurrence network diagram of free responses (Faculty of Health Sciences)

level is the result of the introduction of non-smoking education in elementary and junior high schools in 2008 and high schools in 2009, as well as the introduction of non-smoking education up to college entrance, which has borne fruits. However, the results of non-smoking education suggest that it is possible that they had taken the course but do not remember doing so, indicating the need for re-education at a time closer to the age of the smoking potential. As mentioned above, smoking prevention in school education is taught in "Physical Education" in elementary schools, and "Health and Physical Education" and related subjects in junior high and high schools, based on the Courses of Study and other guidelines[15-17]. However, half of the respondents to this survey did not take part in non-smoking education. Therefore, it is important to review the content of non-smoking education after university enrollment, taking into consideration the possibility that students may be indifferent to the subject, or that they may have attended a lecture but not remember it, or that they may have missed the lecture.

Therefore, if non-smoking education is monotonous, it is likely to be the same thing over and over again. We need to take advantage of the characteristics of the school of dentistry to provide non-smoking education related to the specialty (periodontics, pharmacology, etc.). In particular, the oral cavity is the part of the body that inhales smoke, and the motivation and quality of expertise of students must be enhanced. Non-smoking education should be realized by encouraging each laboratory to implement it for each grade without delay. This is because motivation is believed to be the key to knowledge retention. Although the lecture format is necessary for non-smoking education to be implemented in the future, Enoki states, "It is necessary to devise teaching methods that allow the opinions held by each student to be utilized in a group setting[18]. Therefore, we would like to combine active learning conducted among students to further enhance the lecture content.

The free response statements in the survey regarding the no-smoking policy on the premises provided a glimpse into the thoughts and feelings of students. The majority of students who described it expressed the opinion that “no smoking on the premises is a good thing and a natural step for a medical university.” The results of the descriptive analysis in KH Coder for both faculties suggest a deep relationship between the words “think,” “good,” “hospital,” “no smoking,” “premises,” “patients,” etc., and the fact that they were linked suggests that students are aware of the need to continue the no-smoking policy on the institutions’ premises. Other comments stated that hidden smoking increases littering. It is necessary to break the link to littering by alerting people about hidden smoking[19].

On the other hand, 47.7% of all eligible students in the School of Dentistry and 46.6% of all eligible students in the Faculty of Health Sciences either replied “I don't feel particularly interested” or gave no response, suggesting that approximately half of the students showed no or minimal interest in the subject matter. Although the number of responses was higher than that of students in the first three years, with 37.5% of students in the fifth year and sixth year of dental school in the 2019 academic year[20] not responding to the question, there is a need to focus on non-smoking education, especially in people of younger age groups.

In both faculties, it will be important for each course to consider non-smoking education that can be tied to the knowledge that has been developed in lectures at each grade level. In addition, although the revised Health Promotion Law will be enforced in April 2020 and the application of regulations on smoking restrictions has begun, there are still many restaurants in society that are not covered by the law[21]. Students of the School of Dentistry were more likely to drink and eat out, and 82.4% of students of the Faculty of Health Sciences had part-time jobs, with 44.0% of these students indicating that their part-time jobs were in restaurants. Considering the dental school’s curriculum, all courses are compulsory, and the lack of time to do part-time work may have led to the difference this time, which may have led to the habit of drinking with friends. In particular, those who had not yet received non-smoking education may be more likely to drink, eat out, or work part-time in restaurants without fully understanding the harmful effects of passive smoking; thus, they were more likely to be exposed to passive smoking. In addition to the fact that students themselves smoke despite non-smoking education, they must be aware of the risk of a situation similar to smoking (passive smoking), and the details of this need to be communicated in non-smoking education. According to a survey conducted by Kataoka et al.,[21] approximately half of the food and beverage facilities that participated in the survey prohibit smoking in all areas due to the revised Health Promotion Law. Not only the efforts of the food

and beverage facilities but also the students themselves will inevitably increase the rate of avoidance of passive smoking environments by carefully interviewing the food and beverage facilities and assessing the environment in which they will be engaged. Therefore, there is a need to consider the content of non-smoking courses and take into account the differences in students' lifestyles, including the tendencies to drink and eat out with friends, in the School of Dentistry and part-time jobs in the Faculty of Health Sciences between the two faculties. The results of this study suggest that the ideal moment to provide cautionary information to students of the School of Dentistry is immediately after their enrollment because of the risk of passive smoking when eating out with friends, and the ideal time to provide cautionary information to students of the Faculty of Health Sciences is when they take on a part-time job. With the recent spread of the COVID-19 epidemic, both faculties would like to encourage as many students as possible to quit smoking by providing education that covers topics such as smoking-related mortality rates. We will continue to conduct questionnaire-based surveys to investigate the impact of the spread of COVID-19 and report our findings.

CONCLUSION

The results of a survey on first-year to third-year students at the School of Dentistry and the Faculty of Health Sciences demonstrated that the percentage of smokers was low and that it is vital to continue non-smoking education to maintain this level of smoking. However, there were differences in the students' drinking habits, eating out, and doing part-time jobs between the faculties, suggesting that it is necessary to reconsider education tailored to each faculty and establish a system that is easily accepted by students and that it is important to talk to and counsel students at the right time before each action.

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【原著】

大阪歯科大学1～3学年での喫煙状況と生活習慣
～歯学部・医療保健学部での比較検討～

大草 亘孝、大西 愛、前岨 亜優子、梶 貢三子、中井 真理子、角 陽一、上村 守、今井 弘一、田中 昭男、王 宝禮

大阪歯科大学附属病院の全面禁煙化に伴い，歯科医師・歯科衛生士・歯科技工士を目指す学生の喫煙状況，病院敷地内の全面禁煙に対する意見，生活習慣について調査を行い、今後の禁煙教育の充実を図るためにアンケートを実施し、2019年度の歯学部・医療保健学部の1年生から3年生634名で、禁煙教育及び禁煙支援対策、生活習慣の改善に必要な情報を得ることを目的とした。調査対象は歯学部1～3年生398名、医療保健学部236名で、欠席等を除外した542名（歯学部321名、医療保健学部221名）から回答を得た。喫煙者は歯学部で15名（4.7%）、医療保健学部で7名（3.2%）であった。禁煙教育を受けていない学生の割合は，歯学部36.1%，医療保健学部48.9%であった．週1回以上の飲酒は歯学部22.7%、医療保健学部10.3%、週1回以上の外食は歯学部76.3%、医療保健学部53.7%で、いずれも歯学部の方が高い割合であった。アルバイトは、歯学部の学生の47.1%、保健学科の学生の84.3%が行っており、医療保健学部の方が多く、学部間に差がみられた。禁煙教育未受講者は、飲食店での飲酒、外食、アルバイトの頻度が高く、受動喫煙にさらされる可能性が高いことがわかった。歯学部の学生には友人との外食時に受動喫煙のリスクがあるため入学直後に注意喚起を行うのが理想的であり、医療保健学部の学生にはアルバイトをする際に注意喚起を行うのが理想的であることが示唆された。

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