

Prevalence of Dental Care to Junior High School Students

¹Masaki Suzuki, ²Hiroki Toyoda

ABSTRACT

Background: For most of the junior and senior high school students, 'dental care' is likely to be difficult to understand. It has been reported that only half of students received treatments among the high school students who were advised to visit dental office for treatment of dental caries and gingivitis. Thus, the oral health education is critical for high school students in order to enhance the understanding of the dental caries and gingivitis.

Materials and methods: We conducted dental education classes to four junior high schools (62 students) in the Shizuoka prefecture, Japan. After the classes, we asked the students to submit the descriptions of impressions and evaluated those descriptions.

Results: We found that most of students have had the feeling that the classes were interesting and useful. The junior high school students have begun to become interested in the dental care and that their motivation for study was increased.

Conclusion: We will continue these classes to junior high school students in the future and would like to contribute to prevalence and enlightenment of dental care.

Keywords: Class, Dental care, Junior high school students.

How to cite this article: Suzuki M, Toyoda H. Prevalence of Dental Care to Junior High School Students. *World J Dent* 2015;6(2):61-64.

Source of support: Nil

Conflict of interest: None

INTRODUCTION

Oral health is a critical part of general health. If the knowledge of oral health is lacking, the quality of life decreases even in children.¹ For most of junior and senior high school students, 'dental care' seems to be difficult to understand. When the students visit dental office for treatment of their teeth, they cannot easily understand the contents of dental treatment and dental teaching. Indeed, among the senior high school students who were advised to visit dental office for treatment of dental caries and gingivitis, only half of students received treatments.²

Thus, the oral health education is critical for junior and senior high school students in order to enhance the understanding of the dental caries and gingivitis.³

Recently, many dental universities in Japan have been trying to give dental care classes in the junior high school students in order not only to promote oral healthcare but also to teach contents of dental profession. In contrast, there are very few dental practitioners that have classes to junior and senior high school students in Japan. However, we have had chances of giving classes of dental care to junior high school students who attend the junior high schools located in the west district of Shizuoka prefecture since 2012. In the Shizuoka prefecture where our dental office is located, there are no dental universities. Therefore, for junior and senior high school students in our prefecture, not only the evaluation of the current oral hygiene practices⁴ but also the dental care classes, which are conducted by dental practitioners, are very important for promotion of dental and oral healthcare. In the present study, we evaluated the impression descriptions written by students to understand how the junior high school students have the awareness of dental care. We found that the students' awareness of dental care was relatively low before the classes. However, after the classes, most of students have begun to become interested in the dental care and that their motivation for study was increased. Therefore, we conclude that the dental care classes to junior high school students which are conducted by dental practitioners are very useful to promote dental and oral health.

MATERIALS AND METHODS

Subjects

The subjects of this study were 62 students in four junior high schools in the west district of the Shizuoka prefecture.

- Junior high school, grade 2; 10 students; class time: 45 minutes.
- Junior high school, grade 2; 10 students; class time: 50 minutes.
- Junior high school, grade 2; 37 students; class time: 50 minutes.
- Junior high school, grade 1; 5 students; class time: 50 minutes.

The classes were conducted from November 2012 to January 2015. After the classes, we obtained impression descriptions from 62 students.

¹Dental Practitioner, ²Associate Professor

¹Yasuragi Dental Clinic, Yasuragi Medical Center, Hamamatsu Shizuoka, Japan

²Department of Oral Physiology, Osaka University Graduate School of Dentistry, Osaka, Japan

Corresponding Author: Hiroki Toyoda, Department of Oral Physiology, Osaka University Graduate School of Dentistry 1-8 Yamada-Oka, Suita, Osaka-565-0871, Japan, Phone: +81-668792884, e-mail: toyoda@dent.osaka-u.ac.jp

Contents of Classes for Junior High School Students

How to become Dentist in Japan?

In Japanese dental universities, the minimum period required for graduation is 6 years. The curriculums include both liberal arts and dental professional subjects. In Japan, there are 29 dental universities. After graduation of the dental university, we received a qualifying examination for the dental license.

Basic Medicine and Clinical Medicine

Dental students need to study basic medicine, such as anatomy, physiology, pharmacology, microbiology, biochemistry, dental biomaterials and pathology. The clinical medicine includes: periodontology, endodontology, prosthetic dentistry, geriatric dentistry, comprehensive dentistry, preventive dentistry, pediatric dentistry, orthodontics, oral and maxillofacial surgery and anesthesiology.

Future Course after Graduation

About 90% of Japanese dentists become dental practitioners. Few dentists become basic researchers. For exception, few dentists choose another occupation.

Sports Dentist

Sports dentists treat and prevent orofacial athletic injuries and related oral diseases and manifestations.

Importance of Dental Examination

Because any potential problems can be identified early and appropriate action can be taken, it is important to attend a dentist on a regular basis. If tooth decay left untreated, it may cause the loss of a tooth in the future.

Oral Hygiene

Oral hygiene is the practice of keeping the mouth and teeth clean to prevent dental problems, most commonly, dental cavities and gingivitis. Cleaning of teeth, such as removing plaque, flossing and interdental brushes are important. Oral hygiene also includes tongue cleaning and gum care. We included contents designed to teach the importance of taking individual responsibility for dental health.

Modern Dental Procedures

Tooth whitening: There are several procedures, such as at home bleaching and whitening toothpastes.

Orthodontics: Dental braces can correct underbites as well as malocclusions, overbites, crossbites, open bites, deep bites, crooked teeth, and various other flaws of the teeth and jaw.

Mastication and Brain Function

Several studies suggest that mastication is important to maintain cognitive functions. For example, researches in animals and humans have shown that mastication maintains cognitive function in the hippocampus, a brain area critical for learning and memory. Reduced mastication attenuates spatial memory and causes hippocampal neurons to deteriorate morphologically and functionally, especially in aged animals.^{5,6}

RESULTS

Students' Impressions for Classes

A total of 62 junior high school students submitted the descriptions of impressions after the classes, and we evaluated these descriptions. The main impressions were listed in Table 1. Nearly half of students had the impression that 'I was interested in the class' (28 students,

Table 1: The impression descriptions for the classes obtained from 62 students in four junior high school students

<i>Impressions</i>	<i>School A</i>	<i>School B</i>	<i>School C</i>	<i>School D</i>	<i>Frequency</i>
I was interested in the class	1	2	25	0	28
I need to study hard	2	2	9	0	13
The work for medical profession is hard	2	3	2	1	8
Teeth are important	2	4	1	0	7
I want to work in the medical profession	2	1	2	0	5
It was good for the future	1	0	0	2	3
I felt strained	2	0	0	0	2
Challenge is important	0	0	1	1	2
Teeth are important for athletes	0	0	2	0	2
The class was not good for me	0	0	1	0	1
I realized the importance of mentality	1	0	0	0	1



45.2%). When we asked the students, 'which content was most interesting' after the classes, they appeared to be interested in the topic about dental sports. About 21% of students (13 students) had the impression that 'I need to study hard'. The eight of 62 students (12.9%) had the impression that 'The work for medical profession is hard', and the seven of 62 students (11.3%) felt that 'Teeth are important'. The five of 62 students (8.1%) had the impression that 'I want to work in the medical profession'. These results suggest that their awareness of dental care was increased and that the students had begun to be interested in the medical profession including dentist and dental hygienist.

Words appeared more than Twice in Impression Descriptions

We summarized the words appeared more than twice in impression descriptions obtained from 62 students (Table 2). The word 'anatomy' appeared 25 times in their impressions. This was presumably because we pointed out that anatomy is very important for clinical medicine including dental practice. The words 'dentistry/dentist', 'tooth brush', 'physiology', 'effort' and 'medicine' appeared 17, 9, 8, 6 and 5 times respectively.

DISCUSSION

This study investigated the effectiveness of classes for dental health education conducted by our dental clinic to junior high school students. The purpose of the classes was to increase their health awareness and to change students' behavior. The classes also included contents designed to teach the importance of taking individual responsibility for health. After the classes, we found

several findings. First, the students have begun to be interested in brushing their teeth. Also, they began to be interested in taking care of their overall health as well as their oral health. Second, the motivation to learn in students was enhanced after the classes, which was reflected in the impression descriptions. These results suggest that the classes that we conducted were able to lead to promote health awareness and to positive behavioral changes.

Most of the students were interested in the classes, especially in sports dentistry. This is probably because most of students are engaged in sports, such as soccer, baseball, basketball, volleyball and swimming. It has been reported that during sports and exercise, the risk of dental caries and erosion increases in young athletes.⁷ Therefore, it is conceivable that teaching the relationship between the risk of dental diseases and sports to not only students but also their parents and teachers is very useful. Moreover, the students have begun to feel the importance of studying hard. Also, the students have begun to be interested in the work concerning medical profession, as reflected in impression descriptions. These results are likely to be correlated with the motivation for future work.

In August 2011, 'The Promotion of Dental and Oral Health' was formulated in Japan.⁸ This is the first law to present that 'Oral health plays a basic and important role in ensuring that people lead a healthy and high-quality life'. This law stipulates guiding principles to promote the maintenance of oral health. In July 2012, Ministry of Health, Labor and Welfare in Japan have created 'the Basic Matters related to the Promotion of Dental and Oral health'. At present, each local government is implementing the measures related to the promotion of

Table 2: Words appeared more than twice in the impression descriptions obtained from 62 students in four junior high school students

Words	School A	School B	School C	School D	Frequency
Anatomy	22	3	0	0	25
Dentistry/dentist	4	5	5	2	17
Toothbrush	0	6	3	0	9
Physiology	8	0	0	0	8
Effort	4	0	1	1	6
Medicine	4	0	1	0	5
Examination	1	0	3	0	4
Dental paste	0	1	3	0	4
Doctor	3	0	0	0	3
Blood	3	0	0	0	3
Pathology	3	0	0	0	3
Sports	1	0	1	0	2
Challenge	1	0	1	0	2

dental and oral health based on 'the basic matters'. To prevent oral diseases and bring up the development of oral function in junior and senior high school students, several issues are proposed. To achieve these issues, not only the enhancement of the school health education but also the corporation of dentists are necessary. Although our classes alone are not enough to promote oral health in junior high school students, they are useful as part of the dental healthcare in terms of the prevention, guidance and enlightenment. We will continue to our classes to junior high school students in the future and hope to promote their oral health condition in order to achieve these problems.

CONCLUSION

In this manuscript, we evaluated the descriptions of students' impressions for classes. Overall, our classes were very useful in terms of enlightenment and diffusion of dental medicine for junior high school students. In the future, we will continue these classes to junior high school students and would like to contribute to prevalence and enlightenment of dental care.

REFERENCES

1. Sheiham A. Dental caries affects body weight, growth and quality of life in pre-school children. *Br Dent J* 2006;201:625-626.
2. Morishita M, Suh S, Hara K, Matsumoto A. School dental health activities at senior high school. *J Dent Health* 2000; 50:230-235.
3. Gomes AP, da Silva EG, Gonçalves SH, Huhtala MF, Martinho FC, Gonçalves SE, Torres CR. Relationship between patient's education level and knowledge on oral health preventive measures. *Int Dent Med J Adv Res* 2015;1:1-7.
4. Sharma R, Singh S, Rajmani H, Degra H. An evaluation of the current oral hygiene practices and attitude towards oral health in the population of Jaipur, India. *Int Dent Med J Adv Res* 2015;1:1-6.
5. Ono Y, Yamamoto T, Kubo KY, Onozuka M. Occlusion and brain function: mastication as a prevention of cognitive dysfunction. *J Oral Rehabil* 2010;37:624-640.
6. Ohkubo C, Morokuma M, Yoneyama Y, Matsuda R, Lee JS. Interactions between occlusion and human brain function activities. *J Oral Rehabil* 2013;40:119-129.
7. Tanabe M, Takahashi T, Shimoyama , Toyoshima Y, Ueno T. Dental health behavior, knowledge and attitudes of junior tennis players, parents and coaches. *Int J sports Dent* 2013; 16:499-455.
8. Ogura M. Characteristics of 'the Basic matters' based upon the act concerning the promotion of dental and oral health and the future direction of community dentistry. *J Natl Inst Public Health* 2014;63:98-106.

