

A STUDY ON THE EFFECT OF ORAL HEALTH PROMOTION OF HEALTH AND NON-HEALTH CARE WITH MALE STUDENTS ON ORAL HEALTH EDUCATION***Mi-Suk Cho**

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ABSTRACT

The purpose of this study was to investigate and educate the oral health knowledge level of health and non-health related male students and to improve the knowledge of oral health of college students and ultimately to improve oral health level of college students. This study was conducted from March 26th, 2016 to April 23rd, 2016 with health and non-health related 80 male students at D University to know the effect of oral health knowledge and oral care promotion using questionnaire and Patient hygiene performance PHP index as a research method. The level of knowledge of male students was 24 points with health related students where as 27 points for non-health related students before oral hygiene education. After education, it was 6.5 points with health related students and 34.3 points with non-health related students so that each points raised 6.5 and 6.6 for health and non-health related students. In the change of the dental plaque management ability, the PHP index of the health related students decreased 0.82 points from 1.74 to 0.92, and from the non-health related students' point index was decreased by 1.16 points from 2.66 to 1.5. In conclusion, the same oral health education showed that oral health knowledge and oral health management ability of health and non-health related students improved to similar degree. As a result of this study, it is considered necessary to carry out oral hygiene education in consideration of the subjects in the planning of oral health education for university students.

KEYWORDS: Dental plaque, health related, male students, PHP index.**INTRODUCTION**

According to the Ministry of Health and Welfare's oral health survey in 2006(except for 18-24 years in the Oral Health Survey in 2010), in the average age of college students between 18 to 24 year old, 83.0% students had permanent dental caries experience, 30.5% of permanent dental caries disease rate, the permanent dental caries tooth index was 0.75, the permanent missing dental caries tooth index was 0.29, the permanent plugged tooth index was 4.03, indicating that the oral health status of college students was not good.^[1]

Since the health of the teeth is closely related to the nutritional status and systemic diseases, oral health is not only an individual problem, but also a multifaceted approach because it is a complex issue of social, cultural, and income-based. In addition, dental treatment for oral diseases is expensive, and prevention of oral diseases is more important than treatment. Oral health education, which is one of the ways to prevent oral diseases, will help people to maintain their oral health knowledge and their interests and behavior in the future will go in the right direction.^[2] In general, the community dental health care business has oral disease prevention business, oral disease treatment business, and oral health education business. The most important reason for the oral health

education program among these three community dental health care programs is that it is impossible to expect the effectiveness of the mouth disease prevention business or the oral disease treatment business without oral health education activities. Improving the oral health level of the entire community will be improved only by changing the knowledge, attitudes and behavior of each member of the community on oral health. Knowledge, attitudes and behavior about oral health can be changed only through oral health education.^[3] Therefore, oral health education is the most important activity in the process of community dental health project.

Oral health education is to educate individuals, groups, and the public on how to promote, maintain and manage oral health. The oral health management process is intended to change the knowledge, attitude and behavior of oral health through oral health education.^[4] In other words, education on oral health is necessary for healthy daily life and oral health education should be taught differently according to the characteristics of each subject. Research has shown that female students are more interested in oral health than male students.^[5] Based on these results, it is expected that not only oral health knowledge but also oral health level of male students is lower than that of female students, and it is

considered that customized oral health education for male students is needed.

Non-health related college students are less likely to be interested in health than college students in health related areas, have difficulty in obtaining oral health information, accurately grasping their oral health status, and may experience poor oral health so that it is necessary to systematically carry out oral health education for non-health related college students.

Therefore, this study aims to utilize oral health education and evaluate the basic data for the oral health education program for college students so that they can have proper

oral health knowledge and correct oral health behavior for both health related and non-health related college students.

Research subjects and methods

1. Research subjects

As shown in Table 1, there were 40 health related college male students and 40 non-health related male students at D university. The health related students consisted of 12 students in physiotherapy department, 8 students in dental hygiene department, 20 students in emergency medicine department where 40 non-health related college male students were from national emergency department.

Table 1: Subject of study subject.

Major		Number (%)
Total		80 (100.0)
Health related	Physiotherapy department	12 (15.0)
	Emergency Medicine department	20 (25.0)
	Dental hygiene department	8 (10.0)
Non-health related	National emergency department	40 (50.0)

2. Research tools and methods

Subjects were asked to fill out the self-questionnaires on oral health related information such as age, gender, general oral health level, and brushing method. Before and after the training, 2-3 drops of oral disclosing solution were applied to color the bacterial membrane, and the PHP index was measured according to the presence or absence of dyeing on the dental surface of the subject. The questionnaire and dental plaque examination were conducted before and after oral health education to check the subjects' oral health knowledge level and oral health management behavior.

2.1. Questionnaire method

The questionnaire was used as a test tool to measure the oral health knowledge level, and was modified to fit the target using the existing developed questionnaire.^[6,7] The questionnaire consisted of brushing method, choice of the right toothbrush, oral health related behaviors such as mouth disease and basic knowledge about oral health.

2.2. Training on inspection personnel for dental plaque

Inspection personnel training has taught all examiners to interpret, understand and apply the code and diagnostic criteria of various diseases and conditions to be observed and recorded. All of the inspection personnel were consistently observed and recorded, minimizing the differences among investigators. For this reason, the same inspector used the same training method to conduct the double test on the other day with the same pictures and two or more investigators were trained to observe the same picture to obtain the same result, correcting misdiagnosis and miscommunication between investigators.

2.3. Oral environment management ability test (PHP index)

PHP index, an index of oral environment management ability index, measures and displays the ability of an individual to manage the oral environment was used. The PHP index survey consisted of three teams, one in two, and the inspector correctly examined and recorded the subject's oral condition by understanding the measurement standard and recording method in advance. One of the teams dropped two drops of disclosing solution under the tongue and let it spread evenly. In addition, paper cups were distributed to each student to spit out the remaining disclosing solution in their mouth. A glove, a mask, a handwriting tool, a log, a marking sheet, a disclosing solution, and a tissue were prepared in advance as an examination tool and the records were recorded anonymously to ensure the ethics of research. In addition, the survey items were placed for the inspectors to have easy access. The inspector used the tongue depressor to divide the colored part into three equal parts as shown in Fig. 1, the mesial, the centra, and the disital, and the central part divided into three parts as the gingival, central, and occlusal so that one tooth surface was divided into five parts in total. Inspectors were judged to be 0 point if the tooth was not attached to the dental plaque and 1 point if it was attached.

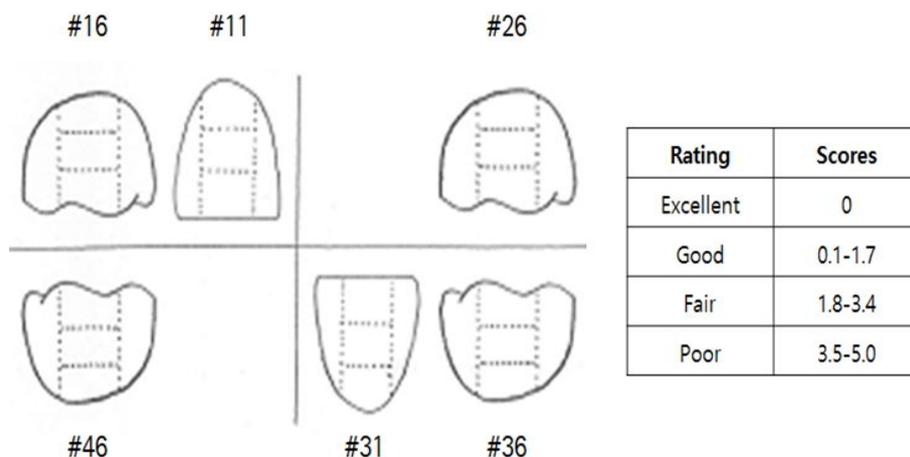


Fig. 1: PHP index= Number of coloring surfaces to be inspected /Test tooth(6).

2.4. Contents on Oral health education

Oral health education was taught using lecture method with presentation file, and participation method by practice on brushing and disclosing solution experience. In the first education session, the subjects were able to participate in the correct brushing method by using the oral enlargement model to promote the oral behavior of the subjects, and the disclosing solution was used to allow the subjects to check their oral condition and to perform proper oral administration. The presentations showed the types of oral hygiene products, usage and scaling indications, effects and precautions.

In addition, a brief knowledge about wisdom tooth which is the most common in twenties, and the precautions after wisdom tooth extraction was trained. Through the simple question and answer session, students were able to induce their interest and improve the concentration during training. Secondary education used the presentation to teach the definition, process and prevention of dental caries and gingivitis as two oral diseases to improve the oral knowledge of the subject. In addition, the subjects were instructed to understand dental treatment, neurological treatment, and prosthodontic therapy, which are frequently encountered in dental treatment. As in the first education, it was also

possible to induce the interest through the question and answer and improve the concentration.

2.5. Statistical analysis

The results of the oral examination were coded for the average comparison and percentage calculation of each item, and the SPSS statistical program (SPSS for Windows version 19.0, SPSS INC) was used for data processing and analysis. Changes in oral health knowledge and PHP index before and after education were analyzed using paired samples t-test, and the significance level was set at 0.05.

RESULTS

1. Changes in oral health knowledge after oral health education by major

As shown in the Fig. 2 below, in order to examine the change of oral health knowledge through oral health education of health related and non-health related college male students, the knowledge level of health related male student was 34.7 points and non-health related male students was 27.7 before education. After the education, 41.2 of the health related college male students and 34.3 points in non-health related male students shows 6.5 and 6.6 points significantly improved respectively ($p < 0.001$).

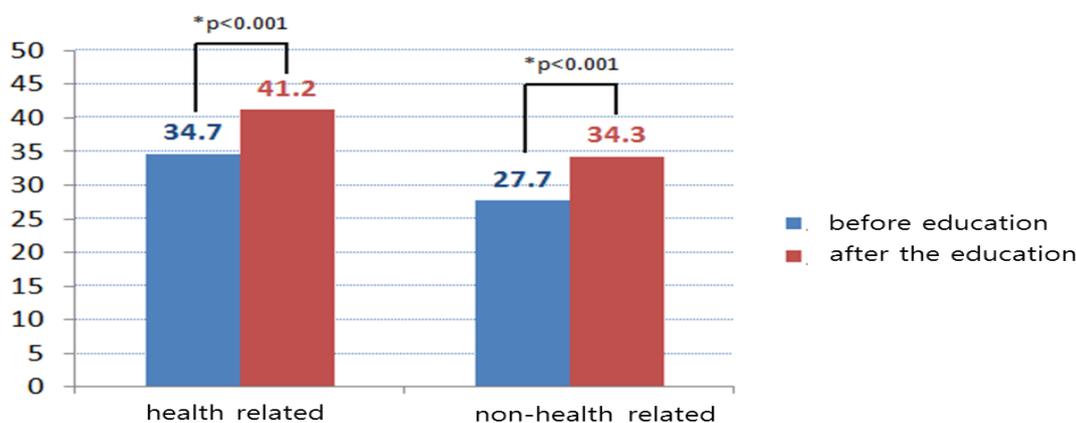


Fig. 2: Changes in oral health knowledge after oral health education by major.

2. Changes in PHP index after oral health education by major

As shown in Fig. 3 below, the result of examining the PHP index change after the oral health education of health and non-health related college male students, the health related students decreased 0.82 points from 1.74

points to 0.92 points, while it dropped 1.16 points from 2.66 to 1.50 points in non-health related college male students. In addition, non-health related college male students were fair before the oral health education according to the PHP index criteria, and improved to Good grade after oral health education by 1.50 points.

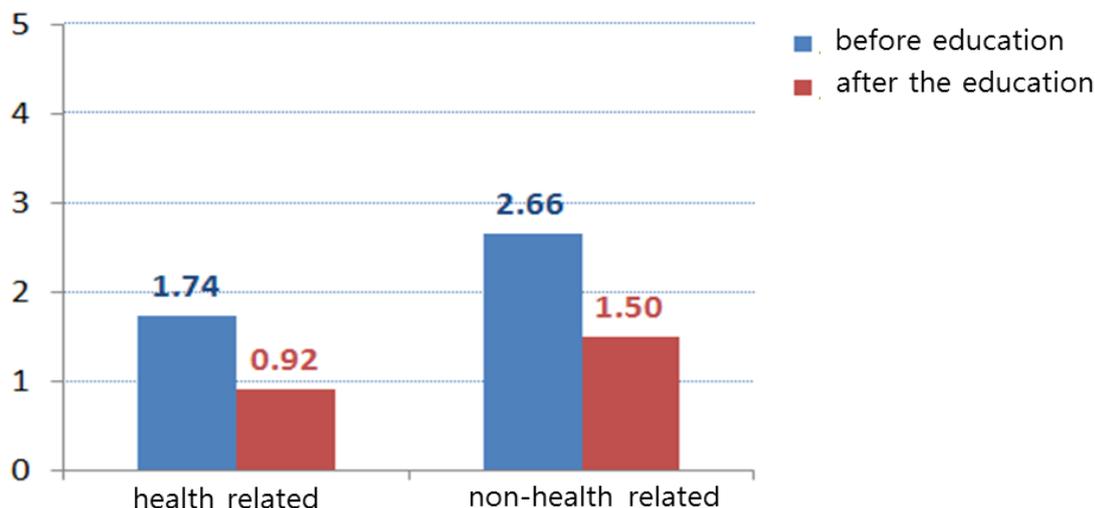


Fig. 3: Changes in PHP index after oral health education by major.

CONCLUSION

The purpose of this study was to investigate the difference in the oral health knowledge level among health and non-health related college male students, and to investigate the effect of oral health education.

There was a difference in the oral health knowledge between health and non-health related students but the difference was minute. The health related students were far better than the non-health related students on oral health knowledge, and concentration and cooperation during the education participation were high in both groups. These variables are considered to make the smallest difference between the two groups. Therefore, it is necessary to conduct education in a way that does not exceed the environment and the education time that the subjects can concentrate, and it can be expected to have a bigger effect if the education methods are difference according to the characteristics of the subjects. In the case of the group with high concentration and cooperation, it can be effective for the education using the lecture method. In addition, if the discussion law or the participation oriented education is performed together, the effect of education can be maximized. On the other hand, in the case of the group of subjects with low concentration and cooperativeness, it can be said that it is suitable for the practice oriented education which can induce more interest than the unilateral lecture method. In both groups, the oral health knowledge and the ability to manage dental plaque were improved by education, and it was found that the oral health education of university students was effective. However, there was a limit to the degree that university students' oral health

knowledge level could not reach our expected level. This was due to short-term research periods, lack of media utilization and participation activities, and insufficient education. The results of the oral health education to evaluate the correct oral health knowledge and proper oral health behavior for the health and non-health related college male students are as follows:

1. Health and non-health related college male students were found to have improved oral health knowledge level and oral health care behavior after oral health education.
2. It was found that the health related college male students had higher level of oral health knowledge and the correct management behavior than non-health related college male students.

Through oral health education, knowledge level and management behavior of health and non-health related college male students changed positively, and in order to plan oral hygiene education for non-health related male students, customized education should be planned considering concentration and interest.

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