

**DENTAL HEALTH KNOWLEDGE, PRACTICE AND QUALITY OF LIFE ACCORDING TO YOUTH SMOKING STATUS**Mi-Suk Cho^{1*}, Min-Ji Kim² and Young-Hee Jeong³¹Dept. of Dental Hygiene, Choonhae College of Health Sciences, Ulsan, 44965, Korea.²Dept. of Dental Hygiene, Dongseo University, Busan, 47011, Korea.³Dept. of Dental Hygiene, DongJu College, Busan, 49318, Korea.***Corresponding Author: Mi-Suk Cho**

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ABSTRACT

This study aims to contribute to the provision of basic information necessary for oral health education program by analyzing the relationship between oral health knowledge, oral health knowledge and its practice, and quality of life related to smokers and nonsmokers among adolescents. From April 24th, 2018 to May 7th, 2018, self-administered questionnaires were conducted to 200 adolescents in Kyungnam Province on smoking oral health knowledge, oral health practice, oral health related quality of life, and general characteristics. Oral health education has a strong impact on oral health knowledge and should promote oral health practice by improving oral health knowledge. Especially, by educating smoking adolescents about the effect of smoking on oral health, they are looking for ways to increase their opportunities for oral health education so that they know their dangers and are more interested in oral health care, and provide valid and reliable education contents.

KEYWORD: Dental health knowledge, oral health, smoking.**INTRODUCTION**

Although smoking is known to be the most preventable cause of various death and diseases^[1], it still remains as a risk factor that causes the greatest damage to human health even in the 21st century. In Korea, smoking rates are decreasing in both men and women due to increased interest in smoking cessation and health. However, the smoking age is gradually decreasing^[2], and the youth smoking rate in Korea is high compared with the global youth smoking rate.

The health effects of youth smoking are more lethal than adult smoking because the cells, tissues and organs of a youth have not yet fully matured, so if they come into contact with toxic substances or chemicals such as tobacco can be fatal^[3]. Smoking in adolescents, which are important for body development, may inhibit the growth of lungs, decrease the maximum functional level of the lungs, and increase the incidence of respiratory and cardiovascular disease.^[4]

Since adolescence is the first period of smoking habits, it is important to raise awareness and responsibility for oral health by educating students about proper oral health knowledge, understanding along with smoking prevention education and smoking cessation education at this time.

Therefore, this study aims to contribute to the provision

of basic information necessary for oral health education program by analyzing the relationship between oral health knowledge, oral health knowledge and its practice, and quality of life related to smokers and nonsmokers among adolescents.

The specific objectives are as follows

First, investigate general characteristics of the survey subjects, oral health knowledge related to smoking, oral health knowledge and its practice, and oral health related quality of life.

Second, analyze the effects of general characteristics on oral health knowledge and oral health knowledge.

Third, understand the correlation between oral health knowledge, oral health practice, and oral health related quality of life.

RESEARCH SUBJECTS AND METHODS**1) Research subjects**

This study was conducted from April 24th, 2018 to May 7th, 2018 in a questionnaire survey of 200 adolescents in Kyungnam area, South Korea.

2) Research methods

The questionnaire consisted of 5 items on oral health knowledge, 25 items on oral health knowledge, 22 items on oral health practice, 14 items on oral health related

quality of life, and 6 items of general characteristics.

In the questionnaire survey, the researcher explained the purpose of the study to the subjects, asked for consent to collect the data, filled out the self-questionnaire and it was conducted using the Naverform method.

Statistical analysis was performed using the SPSS24 version. Correlation analysis was used to analyze the relationship between general characteristics such as frequency analysis, knowledge score according to general characteristics, T-test, oral health knowledge, oral health practice, and oral health related quality of life.

RESEARCH RESULTS

1) General characteristics of research subjects

The general characteristics of the subjects were 38.5% female and 61.5% male, and the total number of

respondents was 200. The age distribution was as follows: 14 years old were 8 out of 200 (4.0%), 15 years old were 5 (5.0%), 16 years old were 12 (6.0%), 17 years old were 69 (34.5%), and 18 years old were 106 (53.0%).

93 (46.5%) of the respondents were smokers and 107 (53.5%) were not. 77 (38.5%) were responded that they have experience in oral health education and 123 (61.5%) have not. The response of the interest in oral health care were as follows: 35 (17.5%) have no interest, 38 (19.0%) are slightly interested, 88 (44.0%) are average, 26 (13.0%) are usually interested, 13 (6.5%) are very interested respectively. The subjective oral health status from the respondents were answered as follows: 2 (1.0%) were very poor, 15 (7.5%) were poor, 106 (53.0%) were normal, 66 (33.0%) were healthy, and 11 (5.5%) were very healthy <Table 1>.

Table 1: General characteristics of subjects.

| General characteristics | sort | No. of people | Percentile(%) |
|---|---------------------|---------------|---------------|
| Gender | female | 77 | 38.5 |
| | male | 123 | 61.5 |
| Age | 14 years old | 8 | 4.0 |
| | 15 years old | 5 | 2.5 |
| | 16 years old | 12 | 6.0 |
| | 17 years old | 69 | 34.5 |
| | 18 years old | 106 | 53.0 |
| Smoking status | Smoking | 93 | 46.5 |
| | Not smoking | 107 | 53.5 |
| Oral health education experience status | Experienced | 77 | 38.5 |
| | Inexperienced | 123 | 61.5 |
| Oral health concern | Not interested | 35 | 17.5 |
| | slightly interested | 38 | 19.0 |
| | Normal | 88 | 44.0 |
| | Usually interested | 26 | 13.0 |
| | Very interested | 13 | 6.5 |
| Oral health status | Very poor | 2 | 1.0 |
| | Poor | 15 | 7.5 |
| | Normal | 106 | 53.0 |
| | Healthy | 66 | 33.0 |
| | Very healthy | 11 | 5.5 |

2) Smoking-related oral health knowledge

The percentage of correct answers per smoking health related knowledge items of the study subjects is as follows:

152 (76.0%) of the respondents who answered that “the cigarette makes blood in the gums better” was larger than the 28 (24.0%) of the correct answers.

123 (61.5%) of the respondents answered that “Smoking does not cause tooth decay” and “Smoking can cause plaque easier” was larger than 77 (38.5%) of the respondents, and 157 (78.5%) answered correctly on “Smoking does not increase the breathing odor” whereas 43 (21.5%) answered wrong.

In addition, 161 (80.5%) answered that “smoking will cause oral cancer” correctly and 39 (19.5%) answered it wrong <Table 2>.

Table 2: Percentage of correct answers per smoking oral health knowledge item (Unit : person(%)).

| Smoking oral health knowledge | Correct | Incorrect | Total |
|---------------------------------------|------------|------------|------------|
| Smoking makes gums to bleed easier. | 48(24.0) | 152(76.0) | 200(100.0) |
| Smoking does not cause tooth decay. | 123(61.5) | 77(38.5) | 200(100.0) |
| Smoking can cause plaque easier. | 123(61.5) | 77(38.5) | 200(100.0) |
| Smoking does not increase bad breath. | 157(78.5) | 43(21.5) | 200(100.0) |
| Smoking causes oral cancer. | 161(80.5) | 39(19.5) | 200(100.0) |
| Total | 200(100.0) | 200(100.0) | 200(100.0) |

3) Knowledge level of oral health related to smoking by general characteristics

The results of the survey on the level of knowledge of oral health related to smoking according to gender, smoking status, and oral health education experience showed that nonsmokers (3.21 points) were higher than the smokers (2.88 points). According to gender, females

(3.21 points) were higher than the males (2.97 points), but this was not statistically significant ($p>0.05$). However, depending on whether or not they have oral health education experience, the experienced person had 3.35 points and the inexperienced person had 2.88 points, which is higher than the inexperienced person and it is statistically significant ($p<0.05$).

Table 3: Knowledge level of smoking oral health according to general characteristics.

| General characteristics | Sort | Smoking oral health knowledge(M±SD) | t | sig |
|-------------------------|---------------|-------------------------------------|--------|-------|
| Smoking status | Yes | 2.88±1.25 | -1.904 | 0.058 |
| | No | 3.21±1.22 | | |
| Gender | Male | 2.97±1.29 | -1.333 | 0.184 |
| | Female | 3.21±1.15 | | |
| Oral health | Experienced | 3.35±0.97 | 2.864 | 0.005 |
| Education experience | Inexperienced | 2.88±1.36 | | |

4) Oral health knowledge level by general characteristics

As a result of examining the oral health knowledge level according to gender, smoking status, and oral health education experience, nonsmokers had 16.02 points which was higher than the 14.13 points from smokers.

According to gender, females had 16.08 points that was higher than the males which had 14.55 points. Whether they had the oral health education experience or not, 17.29 points of them were experienced and 13.80 points of them were inexperienced. This difference was statistically significant ($p<0.05$) <Table 4>.

Table 4: Oral health knowledge level according to general characteristics.

| General characteristics | Sort | Oral health knowledge(M±SD) | t | sig |
|-------------------------|---------------|-----------------------------|-------|-------|
| Smoking status | Yes | 14.13±5.76 | -2.62 | 0.010 |
| | No | 16.02±4.17 | | |
| Gender | Male | 14.55±5.57 | -2.26 | 0.025 |
| | Female | 16.08±3.94 | | |
| Oral health | Experienced | 17.29±3.50 | 5.53 | 0.000 |
| Education experience | Inexperienced | 13.80±5.41 | | |

5) Oral health knowledge, Oral health practice, Oral health related quality of life

As a result of analyzing the correlation between oral health knowledge, oral health practice, and oral health

related quality of life, oral health practice ($r=0.392$) had a positive correlation with oral health knowledge ($p<0.05$) <Table 5>.

Table 5: Correlation between oral health knowledge, oral health practice, and oral health related quality of life.

| | Oral health knowledge | Oral health practice | Oral health related quality of life |
|-------------------------------------|-----------------------|----------------------|-------------------------------------|
| Oral health knowledge | | | |
| Oral health practice | .392** | | |
| Oral health related quality of life | .028 | .022 | |

** $P<0.01$

CONSIDERATION

In adolescence, the incidence of caries is very high and gingivitis which can cause progressive periodontal

disease also begins to occur^[5]. Therefore, it is an important time to diagnose the degree and attitude of oral health knowledge of adolescents and to make educational

practice appropriate for them. In addition, oral hygiene education for tobacco adolescents is necessary in the high smoking rate of youth. The purpose of this study is to analyze the oral health behaviors according to oral health knowledge according to smoking and oral health knowledge of some young people and to suggest the necessity of oral health education by examining the relationship between oral health knowledge and its education.

In this study, the percentage of correct answers for each category of oral health knowledge related to smoking was 80.5% in the item "Tobacco causes oral cancer", while the item "Tobacco makes gums to bleed easier" was only 24%. Smoking cessation is a major cause of tongue, salivary gland, and oral cancer in 92% of males and 61% of females among smokers. Smoking is associated with periodontal disease and oral cancer. It has been well recognized that the risk of incidence increases. Smoking cessation education provides information about health damage, but emphasizes only the aspect of cancer, and education on various physical injuries caused by smoking is lacking.

According to general characteristics, knowledge level of oral health knowledge related to smoking was higher in women than nonsmokers according to gender but not in smokers. However, experience of oral health education showed higher level of knowledge than that of inexperienced person, which is statistically significant, and experience of oral health education affects knowledge of oral health related to smoking.

The level of oral health knowledge by general characteristics was higher in women than in men, nonsmokers were higher than smokers, and oral health education experienced people were higher than inexperienced ones. These results are similar to those of Lee Kyungae^[6] and Bae Sumyung^[7], who reported that women's oral health knowledge was significantly higher in gender, and Son Meehyang's^[8] findings that oral hygiene knowledge was significantly higher in people who received oral health education respectively.

There is a significant positive correlation between oral health knowledge and oral health practice, and the higher the oral health knowledge level, the higher the oral health practice. As the reflect of this study, Son Meehyang's^[8] and Lee Okhwa's^[9] findings shows the higher the oral health practice was placed among elementary students who received total of four oral health education program within 4 weeks.

Since oral health of adolescents is closely related to the quality of life, it is important to improve the oral health knowledge and attitudes of adolescents through well-organized oral health education in the aspect of education contents and education methods. The results of this study suggest that there is a limit to the generalized interpretation of the results of the limited research in

some areas and it is necessary to investigate the factors of the oral health education program for the cigarette smokers more specifically.

CONCLUSION

The main results of this study are summarized as follows:

First, the subjects' knowledge of oral health related to tobacco use showed a generally high percentage of correct answers, but they showed a low percentage of correct answers in "Tobacco makes gums to bleed easier".

Second, the level of knowledge about oral health related to smoking was not significantly different according to gender and smoking status, but oral health education experience was higher than that of inexperienced person.

Third, knowledge level of oral health was higher in female than male, nonsmoker was higher than smokers, and oral health education experience was higher than that of inexperienced person.

Fourth, the higher the oral health knowledge level, the higher the oral health practice was placed.

These results suggest that oral health education has a strong impact on oral health knowledge and should promote oral health practice by improving oral health knowledge. Especially, by educating smoking adolescents about the effects of smoking on oral health, they are looking for ways to increase their opportunities for oral health education so that they know their dangers and are more interested in oral health care, and provide valid and reliable education contents.

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