

## The Research for the Occurrence Factors of Dental Caries of University Students

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**Abstract.** This study investigates the influence of oral health status and causes of dental caries on university students. It offers baseline data that can contribute to continuous oral-health promotion. The study was performed between March and June 2013 using students currently enrolled in a dental hygiene care program. They were informed of the purpose of the study, underwent an oral cavity examination, and completed the self-administered questionnaire. The study produced the following results. To conclude, university students is shown to be related to oral-health satisfaction and agreed with the objective oral health indices. There were significantly higher results for males over females in OHI-S and females over males in the intake of sugar-containing foods and carbonated drinks. There was a tendency for higher DMFT rate, snack intake, and intake of sugar-containing foods to be observed in those who positively replied “satisfied” about oral health.

**Keywords:** Dental caries, Oral health status, Students

### 1 Introduction

The increase of life expectancy in Korea from 73.9 years for males and 80.8 years for females in 2003, to 77.8 years for males and 84.7 years for females in 2013 has led to increased interest in health. The interest is not only in physical health, but also in the improvement of quality of life by pursuing life satisfaction and happiness. Eating satisfies the appetite, which corresponds with the physiological needs, the first level of needs according to Maslow’s theory of basic human needs. Mastication not only aids digestion, but also is also closely related to mental health. Therefore, oral health is very important. University students are typically free from the controlled life environment of adolescence, and widening the scopes of their life experience. This leads to various changes in health-related habits [1], and lifestyle habits [2]. Therefore, student life is an important period, as practicing the correct oral-health habits and maintaining a healthy oral cavity can help maintain and enhance oral health for the lifetime. Accordingly, this study analyzes how the oral-cavity environment and causes of dental caries of university students.

## 2 Subjects and Method

This study was performed between March and June 2013. The subjects of this study were 303 students currently enrolled in dental hygiene care program at a university in Busan City, South Korea. The purpose of the study was explained to the subjects, and they underwent an oral assessment and completed the self-administered questionnaire.

### 2.1 Statistical Analysis

The analysis of collected data was performed using SPSS ver. 20, with the significance level of 0.05. The average values related to oral health status of dental caries were presented.

## 3 Results

### 3.1 Oral Health Status and Causes of Dental Caries of the Participants

For oral health status<Table1>, S-OHI was 1.65, O'Leary index was 30.53, DMFT was 34.88, the number of hypersensitivity teeth was 1.91, and salivary flow rate was 1.33 ml. Regarding the causes of dental caries, caries activity time was 222.68 minutes, number of snack intake was 1.40, intake of sugar-containing foods was 1.68, intake of carbonated beverages was 1.18, and oral health behavior was 11.30 points<Table2>.

**Table 1.** Oral Health Status.

Variables <sup>1)</sup>	Mean±SD
S-OHI	1.65±0.96
O'Leary index	30.53±18.65
DMFT	34.88±15.74
Hypersensitivity teeth	1.91±3.62
Salivary flow rate	1.33±0.19

<sup>1)</sup> N=299, S-OHI (score), O'Leary index (%), DMFT (rate), Hypersensitivity teeth (number), Salivary flow rate (mL/minute), Caries activity time (minute).

**Table 2.** Caries Occurrence Factors.

Variables <sup>1)</sup>	Mean±SD
Caries activity time	222.68±186.79
Number of snack intake	1.40±0.90
Intake number of sugar-containing food	1.68±1.20
Intake number of carbonated beverages	1.18±1.22
Oral Health Behavior	11.30±1.97

<sup>1)</sup> N=299, Caries activity time (minute), Number of snack intake (number), Intake number of sugar-containing food (number), Intake number of carbonated beverages Oral (number), Oral Health Behavior.

### 3.2 Oral Health Status Depending on Sex and Oral-Health Satisfaction

According to the analysis of oral health status in terms of sex, males have a higher S-OHI (at 1.88) compared to females (at 1.42) ( $p < .000$ ). Considering the causes of dental caries, the intake of sugar-containing foods was higher in females (at 1.84), compared to males (at 1.50) ( $p < .05$ ); intake of carbonated beverages was higher in males (at 1.45), compared to females (at 0.91) ( $p < .05$ ).

## 4 Discussion

Health is one of the conditions for happiness, and although oral health is a necessary component of a healthy life, poor oral health is not life threatening. Therefore, the interest in oral health is lower, compared to bodily health, and people may neglect oral care.

Oral diseases may be due to only pathogenic organisms, but also the interaction of the characteristics of the host with their environmental factors. It is necessary to analyze this issue from various perspectives. Dental caries is a typical oral disease that develops rapidly in the period between infancy and adolescence, and is steadily maintained after. The prevalence of periodontal diseases rapidly increases after the age of 35, and they require continuous and systematic care, as they are chronic diseases. According to the results of this study, oral health status depending on sex in S-OHI was found to be higher for males (1.88) than females (1.42) ( $p < .000$ ). In other studies, the plaque index in university students was reported to be higher in males compared to females, and the oral health status of male students was worse, which is consistent with the results of this study. As to the causes of caries depending on sex, the intake of sugar-containing food was higher in females (1.84) than males (1.50) ( $p < .05$ ). University students, unlike people older adults, do not experience a decline in quality of life due to decreased oral function resulting from oral diseases. Therefore, it may be difficult for them to understand that incorrect oral-care habits may decrease oral health. During this period, the appropriate education and continuous practice of

oral care may be useful for promoting the correct oral-health habits, and long-term oral-health maintenance.

## 5 Conclusion

This study investigates the influence of oral health status and causes of dental caries on the oral health-related quality of life of university students. It offers baseline data that can contribute to continuous oral-health promotion. The study was performed between March and June 2013 using students currently enrolled in a comprehensive dental hygiene care course. They were informed of the purpose of the study, underwent an oral cavity examination, and completed the self-administered questionnaire. The study produced the following results.

There were significantly higher results for males over females in OHI-S and females over males in the intake of sugar-containing foods and carbonated drinks. There was a tendency for higher DMFT rate, snack intake, and intake of sugar-containing foods to be observed in those who positively replied "satisfied" about oral health. Regarding oral-health related quality of life [3,4], pain, psychological discomfort, and social defects and impairment areas [5], students also had a tendency to score high marks. All these variables presented a significant difference between sexes.

To conclude, the oral health-related quality of life of university students is shown to be related to oral-health satisfaction and agreed with the objective oral health indices. Such results may have a positive influence on middle- and long-term oral care. However, characteristics such as entering adulthood and reversible change are potential factors that may influence oral health, and should not be overlooked. It is necessary to increase the number of university students who benefit from the promotion of oral-health maintenance and periodic dental-hygiene care programs.

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