

Health and non-Health College Students' Perception of Scaling Insurance

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Abstract

To investigate the awareness and improvement requirements of this study was conducted on college students who were the beginnings of adulthood and who were subject to scaling health insurance. Subjects were divided into health and non-health college students to investigate the perception of whether or not to apply scaling health insurance, payroll costs, and the number of benefits. In addition, this study was conducted to provide basic data for the long-term scaling health insurance business to become a social system for improving the quality of life of the people

The subjects of this study were to have health and non-health college students respond to the questionnaire from October 10th to October 23rd, 2019 by using the self-assessment writing method and the total of 341 questionnaire was analyzed as the final subject. Cross-analysis was used to verify the difference in perception of the presence or absence of scaling to the general characteristics of the study subjects, and t-test was used to verify the difference in the recognition score for the detailed criteria of scaling insurance. The significance level of the collected data was verified at $p < 0.05$.

Recognition of scaling benefits was high in 32.5% of health and 25.7% of non-health college students and the awareness of detail was low in all items. In the improvement requirements, the highest response from both health and non-health sectors were that to increase the number of scaling which is covered in dental insurance in south Korea more than once per year. Looking at the needs of health-related and non-health related college students for the scaling health insurance benefit project, 16.2% of respondents wished to increase the number of times applied per year, 11.7% needed business promotion, 11.2% answered it should included the stain removal (colorants), 9.2% wished age-reduced relief for the business, 6.6% for the cost adjustment in the health-related college student.

To raise awareness about scaling salary among college students, it is necessary to recognize the importance of oral health through education and promotion on scaling. In order to raise awareness about scaling insurance among college students, it is necessary to recognize the importance of oral health through education and promotion of scaling. Through this study, it is thought that the scaling health insurance reimbursement project will contribute to the improvement of oral health of the people and furthermore to a healthy life. In the future, the government should continue to develop policies to promote oral health by collecting thoughts and opinions of college students and others as well.

Key words: *scaling, college students, awareness*

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Introduction

In modern society, as the level of education, income increases and aging, interest in social welfare increases, and the need for medical quality and services is increasing as well¹⁾. Currently, South Korea's national

health insurance system is implemented, and it is making efforts to pursue a healthy life for the people by providing and environment where all people can receive medical benefits without a burden. However, the National Health Insurance System provides medical care centering on serious diseases such as cancer or those requiring hospitalization, and has not been greatly benefited in the dental field where there is little need for hospitalization or severe diseases²⁾. The oral cavity is the first step in the digestive system, and maintaining healthy teeth and healthy periodontal tissue is an essential element in leading a high-quality life, and the importance of oral health is increasing³⁾. The most common oral diseases are dental caries and periodontal diseases, especially periodontal diseases are a serious oral disease with a high incidence among Korean adults. Periodontal disease is often treated after the alveolar bone is destroyed and the tooth is shaken because there are almost no subjective symptoms at the early stage. Once the alveolar bone is destroyed, it is impossible to regenerate it, so it is very important to find and prevent it early. A typical method for preventing periodontal disease is proper brushing and scaling. Proper brushing is important, but it is necessary to remove the major causes of periodontal diseases such as dental hygiene membrane, plaque, and calculus which are difficult to remove by only brushing by performing regular scaling managed by experts⁴⁾.

However, health insurance was applied to scaling only in the case of periodontal disease from July 2001, and in the case of removal of calculus accompanied by gum treatment or surgery, most people were able to receive scaling by paying a high amount⁵⁾. Accordingly, the Ministry of Health and Welfare induces regular scaling of the public by extending the application of scaling health insurance once a year to health insurance subscribers and insured persons over the age of 20 from July 1st, 2013, so that they can receive a scale of approximately 14,000 won per clinic. As a result, it is possible to prevent periodontal disease and to save time and economic costs through treatment of periodontal disease⁶⁾.

However, despite the application of scaling health insurance, gingivitis and periodontal disease were ranked first in the outpatient status by multi-incident ranking by disease subclass according to the health insurance review and evaluation statistics released

in the third quarter of 2019⁷⁾. Recently, it has been reported that periodontal disease can be related to cause heart diseases, cerebrovascular diseases, and coronary artery disease. Thus, measures for periodontal disease management is urgent⁸⁾.

Therefore, this study was conducted on college students who were the beginnings of adulthood and who were subject to scaling health insurance. Subjects were divided into health and non-health college students to investigate the perception of whether or not to apply scaling health insurance, payroll costs, and the number of benefits. In addition, this study was conducted to provide basic data for the long-term scaling health insurance business to become a social system for improving the quality of life of the people.

Material and Methods

Research Subject

From October 10th to October 23rd, 2019, college students in their 20s were randomly selected. The purpose of the study was described, and subjects with voluntary consent were asked to respond to the questionnaire by themselves using the self-assessment method, and 341 persons except for unfaithful responses were taken as final subjects and collected and analyzed.

Research Method and evaluation

This study used a questionnaire to find out the perceptions of health-related and non-health related college students about the scaling health insurance benefit project. The collection of data was conducted by distributing the Naver Form (mobile) questionnaire or paper questionnaire to the survey subjects, and the collected data were analyzed using the SPSS (Statistical Package for the Social Science) 24.0 program.

The frequency and percentage were calculated by conducting a frequency analysis to find out the general characteristics of the study subjects, the recognition degree for scaling insurance, the recognition route, and the recognition timing and the detailed criteria for scaling insurance.

Cross-analysis was used to verify the difference in perception of the presence or absence of scaling to the general characteristics of the study subjects, and t-test

was used to verify the difference in the recognition score for the detailed criteria of scaling insurance.

The significance level of the collected data was verified at $p < 0.05$.

Research Results

Shows the general characteristics of the study

subjects. In the case of gender, the proportion of women was 16.1% for men and 83.9% for women. In the case of majors, there were 57.8% of health related college students and 42.2% of the non-health related college students (Table 1.)

Table 1: General characteristics of study subjects

| Sort | | Frequency (No.) | Percentage(%) |
|--------|--------------------|-----------------|---------------|
| Gender | Men | 55 | 16.1 |
| | Women | 286 | 83.9 |
| Majors | Health related | 197 | 57.8 |
| | Non-health related | 144 | 42.2 |
| Total | | 341 | 100 |

1.1. Recognition degree, recognition path, and recognition period according to majors in the scaling health insurance benefit business shows the recognition rate, recognition route, and recognition time according to the majors of the scaling health insurance benefit program. Among the health-related college students, about 66.5% of respondents answered “do not know” and 33.5% of respondents answered “know” about the scaling health insurance benefit project. As for the recognition route, “being informed” was the highest with 12.2%, ‘via an expert when visiting the hospital’ was 9.1%, ‘via the internet’ was 5.1%, and ‘via media’ was 4.6%. As for the recognition period, ‘after one month of project implementation’ was 16.8%, ‘within one-month project’ was 7.6%, ‘before project implementation’ was 5.1%, and ‘after six months of project implementation’

was followed by 4.1%.

Among the non-health related college students, about 74.3% of respondents answered “do not know” and 25.7% of respondents answered “know” about the scaling health insurance benefit project. As for the recognition route, ‘being informed around’ and ‘via an expert when visiting a hospital’ was the highest at 9.0%, ‘via the internet’ was 5.6%, ‘via media’ was 2.1% and ‘via education’ was followed by 0%. As for the recognition period, ‘after one month of project implementation’ was 15.3%, ‘after six months of project implementation’ was 4.2%, ‘before project implementation’ was 3.5%, and ‘within one month of project implementation’ was followed by 2.8%(Table 2).

Table 2: Health and non-health related college students' perception of scaling insurance and the route of recognition and period

| Sort | | Health related | | Non-health related | |
|--------------------|---|----------------|----------------|--------------------|----------------|
| | | Freq. (No.) | Percentage (%) | Freq. (No.) | Percentage (%) |
| Awareness | Know | 66 | 33.5 | 37 | 25.7 |
| | Do not know | 131 | 66.5 | 107 | 74.3 |
| Recognition Route | Via media (TV, Radio, Newspaper) | 9 | 4.6 | 3 | 2.1 |
| | Via internet | 10 | 5.1 | 8 | 5.6 |
| | Being informed (Family, Neighbor, Friends, meeting, etc.) | 24 | 12.2 | 13 | 9.0 |
| | via an expert (Doctor, Dental hygienist) when visiting a hospital | 18 | 9.1 | 13 | 9.0 |
| | Via education (Special lecture) | 5 | 2.5 | 0 | 0.0 |
| | Did not know | 131 | 66.5 | 107 | 74.3 |
| Recognition period | Before project implementation | 10 | 5.1 | 5 | 3.5 |
| | Within one month of project implementation | 15 | 7.6 | 4 | 2.8 |
| | After one month of project implementation | 33 | 16.8 | 22 | 15.3 |
| | After six months of project implementation | 8 | 4.1 | 6 | 4.2 |
| | Did not know | 131 | 66.5 | 107 | 74.3 |
| Total | | 197 | 100 | 144 | 100 |

1.2. Perceptions of detailed criteria for scaling insurance by health and non-health students

shows the awareness of the detailed criteria of scaling insurance for health and non-health college students.

Among the health-related college students, 22.8% answered ‘Applicable criteria are over 20 years old’, 20.3% for ‘Number of times that scaling health insurance can be applied for one year’, 19.3% for ‘Expenses to be paid by patients after applying scaling health insurance’, 8.6% for ‘the procedure that is not included

in the insurance’, and 7.6% for ‘when the scaling health insurance was renewed’.

Among the non-health related college students, 20.8% answered ‘Number of times that scaling health insurance can be applied for one year’, 17.4% for ‘Applicable criteria are over 20 years old’, 17.4% for ‘Expenses to be paid by patients after applying scaling health insurance’, 9.7% for ‘the procedure that is not included in the insurance’, and 6.3% for ‘when the scaling health insurance was renewed’ (Table 3).

<Table 3> Perceptions of detailed criteria for scaling insurance by health and non-health college students

| Questions | | Health related | | Non-health related | |
|-----------|---|----------------|----------------|--------------------|----------------|
| | | Freq. (No.) | Percentage (%) | Freq. (No.) | Percentage (%) |
| 1 | The number of times applicable for one year is one time | 40 | 20.3 | 30 | 20.8 |
| 2 | Applicable criteria are over 20 years old | 45 | 22.8 | 25 | 17.4 |
| 3 | Personnel expenses is around 14,000 won | 38 | 19.3 | 25 | 17.4 |
| 4 | July to be renewed every year | 15 | 7.6 | 9 | 6.3 |
| 5 | Removal of tooth colorants is not covered | 17 | 8.6 | 14 | 9.7 |

Recognition score for detailed criteria of scaling insurance according to the general characteristics of the study subjects

4 shows the recognition scores for the detailed criteria for scaling insurance according to the gender of the study subjects. Out of 5 points, men scored 0.91 points, women scored 0.83 points, and the recognitions scores for the detailed criteria for scaling insurance according to major fields were 0.87 points in the health-related students and 0.81 points in the non-health related students (Table 4).

<Table 4> Recognition score for detailed criteria of scaling insurance according to the general characteristics of the study subjects

| Sort | | Mean | Standard Deviation | p-value* |
|--------|--------------------|------|--------------------|----------|
| Gender | Men | 0.91 | 0.21 | 0.479 |
| | Women | 0.84 | 0.09 | |
| Majors | Health-related | 0.87 | 0.11 | 0.305 |
| | Non-health related | 0.81 | 0.12 | |

*By independent sample t-test

Research on subjects’ demand for improvement on the benefits of scaling health insurance shows the demand for improvement of the study subjects’ scaling health insurance benefits.

In the health-related students, 16.2% answered ‘number of applications per year’, 11.7% for ‘business promotion’, 11.2% for ‘add stain removal’, 10.7% for ‘addition of oral care education’, 9.2% for ‘age

restriction on insurance’, and 6.6% for ‘cost adjustment’ were followed.

In the non-health related students, 12.5% answered ‘number of applications per year’, 11.8% for ‘age restriction on insurance’, 11.1% for ‘add stain removal’, 8.3% for ‘cost adjustment’, and ‘business promotion’, and 6.9% for ‘add oral management education’ were followed. (Table 5).

<Table 5> Subjects’ demand for improvement on the benefits of scaling health insurance (Unit: No. (%))

| | Health-related | Non-health related |
|--|----------------|--------------------|
| Age restrictions for insurance | 18(9.2) | 17(11.8) |
| Cost adjustment | 13(6.6) | 12(8.3) |
| Number of times applied per year (once a year) | 32(16.2) | 18(12.5) |
| Add oral management education | 21(10.7) | 10(6.9) |
| Include stain removal | 22(11.2) | 16(11.1) |
| Business promotion | 23(11.7) | 12(8.3) |
| No response | 113(59.4) | 80(55.6) |

Consideration

As a college student, it is necessary to establish proper health care habits and take responsibility for health physically, mentally, and socially. However, indifferent behaviors and attitudes can be the cause, making it difficult to form good health habits⁹⁾. At this time, correct health care habits can be linked to the elderly which can affect oral health¹⁰⁾, and social attention is needed to ensure that correct health care habits are formed in college⁹⁾.

Therefore, this study identified differences in the perceptions between health and non-health students to determine how much college students in their 20s perceived the scaling health insurance benefit business and it was conducted to improve the importance and necessity of scaling, oral health concerns, and to provide basic data on oral health policy, as a way for preventive

scaling health insurance benefits to maintain oral health.

First of all, the survey subjects’ awareness of scaling is within the health insurance was as follows: 66 out of 197 students (33.5%) in health-related students, and 37 out of 144 (25.7%) in non-health related students answered ‘know’. The cognitive rate was lower than 55.3% of Lee¹¹⁾, 65.2% of Lee¹²⁾, 71.0% of Joo¹³⁾. This is considered to have been low due to lack of interest shortly after becoming a college student in adulthood, after six year of health insurance benefits were applied to scaling. The route for students to learn about the insurance coverage for scaling was the highest at 12.2% when they came to know from their acquaintances, followed by 9.1% when they visited a dentist or dental hygienist during a hospital visit. The route for non-health related students learn about the insurance coverage for scaling was 9.0% when they learned from their acquaintances and through dentist and dental hygienists

when visiting hospitals. This is thought to be a lack of a path to recognize health insurance for scaling due to the limited broadcasting and terrestrial media on oral health education for college students in early adulthood, where periodontal disease prevention is important.

According to the result of examining the perception of the detailed criteria of the scaling health insurance, the recognition rate was low with 20.3% of the health-related students and 20.8% of the non-health related students. In the case of the question about the criteria for the coverage of scaling health insurance, the recognition rate was low with 22.8% for health-related students and 17.4% for non-health related students. The recognition rate when asked about the cost to patients after applying scaling health insurance was 19.3% in health-related students and 17.4% in the non-health related students. In the studies of Lee and Lee¹⁴⁾, the number of applications was 54%, the amount of application was 62.8%, and the application age was 47.5%, which was higher than this study. In order to raise the awareness of the detailed standards, it is considered that it is necessary to prepare a method that not only recognizes the fact of salary for scaling, but also delivers the details of the standards.

The recognition scores for the detailed criteria for scaling insurance of health and non-health related students were out of 5 points and scored 0.88 and 0.81 respectively. Although the degree or recognition was not significantly different, the health-related students was slightly higher than the non-health related students.

For health-related students, the requirements to improve scaling health insurance benefits was the highest in 14.7% for the number received per year, 11.7% in the business promotion, 11.2% in the opinion that it would also include removing stains (colorants), 10.7% in the including oral management education, 9.2% in the age limit of insurance, and 6.6% in the cost control. The non-health related students' requirement for improvement in scaling health insurance benefits was the highest in 12.5% of the number received per year, 11.8% in the age limit of insurance, 11.1% in the include removing stains (colorants), 8.3% in the cost control and business promotion, and 6.9% in the including oral management education. Both health and non-health related students had the highest change in the number of times they were applied once a year in scaling. According to the results

of studies by Lee¹¹⁾, and Joo¹³⁾, scaling 'time to fit' was twice a year, more than once per year which is currently in effect. It is considered that the frequency of scaling required by experts varies depending on the subject's oral hygiene status or oral hygiene management ability.

The purpose of this study was to provide basic data on health insurance benefits by comparing the recognition and its scores of health and non-health related students after three years of scaling health insurance benefits that has been implemented. Although, in this study, the gender of respondents who answered the questionnaire was 55 men and 286 women, and it was difficult to generalize the results because women were more than 4 times larger than men. In addition, as less than one-third of respondents said they knew about scaling insurance coverage, the proportion of non-responses to the questionnaire was high, so there were many errors to be generalized. However, this study is meaningful in that it aims to provide a basis for improvement and revitalization of future project by grasping the awareness and improvement requirements of scaling benefits for health and non-health students. In the future research, it is necessary to further refine the questionnaire, and continuous research should be conducted for the development and stable settlement of the scaling benefit project.

Conclusions

This study investigated the recognition, its scores, and improvement requirements of health and non-health college students about the preventive scaling health insurance reimbursement project implemented since July 2013. The study was conducted from October 10th, 2019 to October 23rd, 2019 for health and non-health college students.

In order to objectively judge how well the health and non-health college students know about the detailed criteria as well as whether they are implemented, the questionnaire was presented in the form of a question about the detailed standards, and the research method for the results is analyzed by frequency.

1. Regarding the fact that preventive scaling is possible with health insurance through the scaling health insurance reimbursement project, in the group of health-related college students, 32.5% answered that they

'know' and 67.5% answered 'do not know'. As for non-health related college students, 25.7% answered 'know' and 74.3% answered 'do not know'.

2. Recognition routes were highest among health-related college students by 12.2% through acquaintances, followed by 9.1% through experts when visiting hospital, and 5.1% through internet. In the case of non-health related college students, the highest level was 9.0% when they were informed by experts and through their acquaintances, followed by 5.6% through internet. (Non-response rate was too high)

3. As for the degree of awareness of the details of the scaling health insurance reimbursement project, the criteria applied to health college students accounted 22.8% for the applicable standards, followed by 20.3% for the number of times that scaling health insurance could be applied for one year, 19.3% for the out-of-pocket costs, 8.6% for the procedures that are not included in health insurance, and only 7.6% were aware of the question of when scaling health insurance was renewed, indicating that the recognition was low.

For non-health related college students, the number of times that scaling health insurance can be applied for one year was 20.8%, the applicable standards and the cost of copayment accounted for 17.4%. 9.7% thought that scaling is not included in the health insurance and only 6.3% of respondents were aware of the question of when scaling health insurance was renewed. (Non-response rate was too high)

4. Recognition scores for the detailed criteria for scaling health insurance were 5 out of 5, with a health-related student of 0.87 points and a non-health related student of 0.81 points showing that although the degree of recognition was not significantly different, the health-related college student was slightly higher than the non-health college student.

5. Looking at the needs of health-related and non-health related college students for the scaling health insurance benefit project, 16.2% of respondents wished to increase the number of times applied per year, 11.7% needed business promotion, 11.2% answered it should include the stain removal (colorants), 9.2% wished age-reduced relief for the business, 6.6% for the cost adjustment in the health-related college student.

In the case of the non-health related student, 12.5% of respondents wished to increase the number of times applied per year, 1.8% of age-reduced relief for business, 11.1% of stain removal should be included in the insurance, 8.3% for both business promotion is necessary and the cost adjustment needed. It was found that the demand for improvement in the number of times per year was high in both sectors.

In order to raise awareness about scaling insurance among college students, it is necessary to recognize the importance of oral health through education and promotion of scaling. Through this study, it is thought that the scaling health insurance reimbursement project will contribute to the improvement of oral health of the people and furthermore to a healthy life. In the future, the government should continue to develop policies to promote oral health by collecting thoughts and opinions of college students and others as well.

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