

Research on Oral Health and Health Behaviors of Some Senior Citizens'

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Abstract. This study carried out to supply basic data for 259 senior citizens' oral health promotion, 128 of owner-occupation, and 131 of convalescent hospital that inhabit in Daegu, Republic of Korea. It showed the aged who live in owner occupation have more than the aged in nursing home in that the number of survival teeth, and appeared negative interrelation of the number of survival teeth by dwelling forms, -0.397 ($p < 0.01$).

Keywords: senior citizen (the aged, the elderly), health behaviors, oral health

1 Introduction

Our country is expected that the elderly population's ratio among the total population enters to super-aged society that exceeds 20% in 2026 [1]. Old man's health problems is risen by important social problem according to change of structure of population, and social interests and expectation are increasing in connection with countermeasure and researches. According to preceding researches, Yang etc.[2] states the aged who live in nursing homes show more caries experience of permanent teeth index and staphylococcus aureus caused by denture stomatitis than ordinary senior citizens, and Paltola etc. [3] states that Xerostomia(Dry Mouth) occurrence critical rate rises from the aged inhabiting to nursing homes by sequence of taking medicines of several drugs, and Jung etc.[4] that utilization ratio of nursing facilities is increasing to the aged that need another person's good care, woman's social activities increase, change of sense of values about filial piety.

Hereupon, the purpose of this study is to offer basic data for oral health program of the aged dwelling on nursing homes by investigating and comparing health behaviors and oral health states of the aged dwelling on nursing home and the aged living in owner-occupation.

2 Research Methods

2.1 Materials

This research was done with 259 of the aged, 131 who can communicate freely among 170 dwelling on nursing home in Daegu, Republic of Korea and 128 of owner-occupation who locate in the same area. The data collected from December 21, 2014 to December 27, 2014, and Dentist's medical team, consisted of a dentist, a dental hygienist and a dental mechanic, carried out oral inspection of quality and health questions.

2.2 Analysis

Survey contents were composed by general characteristics and health behaviors. General characteristics composed by gender, age, attainment in scholarship, monthly allowance, the latest dentist's office visit availability, subjective oral health condition and ADL, and health behaviors composed by smoking, drinking alcohol, tooth brush number of times, taking in sugary diet and the number of survival teeth.

The collected data are analyzed using SPSS WIN 21. 0 (SPSS Inc., Chicago, IL., USA) and a significant level used for statistical significance test was 0.05.

3 Results

3.1 The correlation of residential patterns and general characteristics

As to the correlation of residential patterns and general characteristics, 'Age' ($p < 0.001$), 'Monthly allowance' ($p < 0.001$), 'The latest dentist's office visit' ($p < 0.01$), 'Subjective oral health condition' ($p < 0.001$), 'ADL' ($p < 0.01$), 'Number of survival teeth' ($p < 0.001$) < Table 1>.

Table 1. The correlation of residential patterns and general characteristics

| | | No. | Residential Patterns | | <i>p</i> -value |
|--------|--------|-----|----------------------|-------------------------|-----------------|
| | | | Owner-Occupation | Elderly care facilities | |
| Gender | Male | 76 | 44(57.89) | 32(42.11) | .129 |
| | Female | 183 | 87(47.54) | 96(52.46) | |

| | | | | | |
|----------------------------------|-----------------------------------|------------------|------------|------------|---------|
| Age | 60-69 | 49 | 34(69.39) | 15(30.61) | .000*** |
| | 70-79 | 113 | 67(59.29) | 46(40.71) | |
| | 80-89 | 81 | 27(33.33) | 54(66.67) | |
| | More than 90 | 16 | 3(18.75) | 13(81.25) | |
| Academic Background | None | 104 | 55(52.88) | 49(47.12) | .543 |
| | Over elementary school | 155 | 76(49.03) | 79(50.97) | |
| | Less than 490 USD | 230 | 102(44.35) | 128(55.65) | |
| Monthly allowance | More than 500 USD | 29 | 29(100.00) | 0(0.00) | .000*** |
| | The latest dentist's office visit | Less than 1 year | 22 | 5(22.73) | |
| Subjective oral health condition | More than 1 year | 237 | 126(53.16) | 111(46.84) | .000*** |
| | Bad | 146 | 72(49.31) | 74(50.69) | |
| | So-so | 47 | 40(85.11) | 7(14.89) | |
| ADL | Good | 66 | 19(28.79) | 47(71.21) | .008** |
| | Inconvenient | 98 | 57(58.16) | 41(41.84) | |
| Number of survival teeth | So-so | 36 | 23(63.89) | 13(36.11) | .000*** |
| | Convenient | 125 | 51(40.80) | 74(59.20) | |
| | 0-10 | 144 | 51(35.42) | 93(64.58) | |
| | 11-20 | 39 | 18(46.15) | 21(53.85) | .000*** |
| | More than 21 | 76 | 62(81.58) | 14(18.42) | |

Statistically significant differences by chi-square test, *p<0.05, **p<0.01, ***p<0.001

3.2. The correlation of residential patterns and health behaviors

As to the correlation of residential patterns and health behaviors, 'Smoking'(p<0.001) and 'taking in sugary diet'(p<0.001) show significant levels < Table 2>.

3.3 Multiple regression analysis for factors that impact the residential patterns

To analyze the factors that affect residential patterns, the multiple regression analysis was conducted by setting up the statistically items have been noted by the independent variable, and residential patterns, by an independent. As a result of it, 'Age' ($p < 0.05$), 'Subjective oral health' ($p < 0.01$), 'Smoking' ($p < 0.001$), 'Taking in sugary diet' ($p < 0.01$) and 'Number of survival teeth' ($p < 0.001$) appeared variables that make significant effect < Table 3>.

Table 2. The correlation of residential patterns and health behaviors

| | | Residential Patterns | | | p-value |
|-----------------------|-------------------|----------------------|------------------|-------------------------|---------|
| | | No. | Owner-Occupation | Elderly care facilities | |
| Smoking | No | 96 | 20(20.83) | 76(79.17) | .000*** |
| | Yes | 163 | 111(68.10) | 52(31.90) | |
| Dirking Alcohol | No | 210 | 82(39.05) | 128(60.95) | .000*** |
| | Yes | 49 | 49(100.00) | 0(0.00) | |
| Brush number of times | Less than once | 60 | 26(43.33) | 34(56.67) | .281 |
| | Twice | 103 | 51(49.51) | 52(50.49) | |
| | More than 3 times | 96 | 54(56.25) | 42(43.75) | |
| Taking in sugary diet | Rarely | 64 | 35(54.69) | 29(45.31) | .000*** |
| | Sometimes | 156 | 63(40.38) | 93(59.62) | |
| | Frequently | 39 | 33(84.61) | 6(15.39) | |

Statistically significant differences by chi-square test, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 3. Multiple regression analysis for factors that impact the residential patterns

| | | Residential patterns | | | p-value |
|-----|-------|----------------------|-------|--------|---------|
| | | B | S.E | t | |
| | | -.696 | 1.401 | .247 | |
| Age | 60-69 | 4.100 | 1.271 | 10.403 | .001*** |
| | 70-79 | 3.421 | 1.202 | 8.103 | .004** |
| | 80-89 | 2.609 | 1.216 | 4.606 | .032* |

| | | | | | |
|--|------------------|--------|------|--------|---------|
| | More than 90 | | | | |
| The latest dentist's office visit | Less than 1 year | -1.509 | .913 | 2.735 | .098 |
| | More than 1 year | | | | |
| Subjective oral health condition | Bad | 2.044 | .727 | 7.902 | .005** |
| | So-so | 4.253 | .856 | 24.663 | .000*** |
| | Good | | | | |
| ADL | Inconvenient | 1.231 | .696 | 3.132 | .077 |
| | So-so | .610 | .763 | .640 | .424 |
| | Convenient | | | | |
| Smoking | No | -1.900 | .443 | 18.373 | .000*** |
| | Yes | | | | |
| Taking in sugary diet | Rarely | -1.804 | .696 | 6.712 | .010** |
| | Sometimes | -2.294 | .645 | 12.640 | .000*** |
| | Frequently | | | | |
| Number of survival teeth | 0-10 | -3.052 | .536 | 32.471 | .000*** |
| | 11-20 | -2.180 | .615 | 12.545 | .000*** |
| | More than 21 | | | | |
| Adjusted R ² =0.683 p-value = 0.001 | | | | | |

SE: standard error.

The data were analysed by multiple regression analysis.

*p<0.05, **p<0.01, ***p<0.001

4 Discussion and Conclusions

In order to maintain oral health, regular checking should be accompanied by a constant improvement of individual oral care skills [5]. But, the elderly due to the physical or mental problem are difficult to practice it, and this failure of the deterioration of oral health also seems to have an effect on deteriorated quality of life [6]. The research of this study ensures to the difference between residential types, as a result of that, the elderly show differences in the number of teeth remaining. Therefore, in order to improve oral health for dwelling on nursing care facilities, it is necessary to develop ongoing management program for them.

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