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Associations Between Oral Health-Related Characteristics, Awareness of Dental Health Insurance and Dental Service Utilization in Middle-Aged Adults

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ABSTRACT

The purpose of this study was to investigate the differences in awareness of dental health insurance, including the awareness of dentures and dental implants, according to the oral health-related characteristics, and to analyze the related factors affecting the use of dental care of middle-aged adults. Using an online survey, logistic regression analysis was conducted to investigate awareness of oral health-related characteristics, dental health insurance-related, and dental care utilization among 250 middle-aged adults residing in the metropolitan area. Awareness in relation to dental health insurance was highly investigated and showed a significant difference the more subjectively they thought they were healthy (2.56 points), the more they were interested in oral health care (2.51 points), and in terms of people who received an oral exam within the last year (2.52 points) ($P<0.05$). On the other hand, there was no significant difference in the awareness of dental health insurance in relation to the use of dental care ($P>0.05$). In summary, it is thought that active publicity and education on the necessity of oral examination are fundamental so that middle-aged adults can pay attention to oral health prevention.

1. Introduction

Along with the rapid aging of the population, Korea's median age has risen by 5.8 years from 37.9 years in 2010 to 43.7 years in 2020 (Korean Statistics Information Service, 2021). As elderly population expands, the main contents of the 4th Basic Plan for Low Fertility and Aging Society (2021-2025) include policies to prepare for the old age of future generations as well as guaranteeing the quality of life for the elderly in the present generation (Lee, 2021; Ministry of the Interior and Safety, 2021), and concentrate on the health problems of the elderly now and in the future.

Middle-age is a period in life in which the individual's influence on society reaches its peak while, at the same time, due to biological changes related to aging (Havighurst, 1972), the immune function declines, the likelihood of developing chronic geriatric diseases increases and health-related quality of life decreases (Bosworth et al., 2001). In addition, in terms of oral health, asymptomatic dental caries and periodontal disease increase in middle-aged people in their 50s, and overall oral health-related values tend to deteriorate rapidly from their 60s (Cho, 2020). In addition, the chance of tooth loss increases with age, with the highest number of patients and implants in people in their 40s and 50s (Hong et al., 2002). As a result of using data from the 4th-6th periods of the National Health and Nutrition Examination Survey, the subjective poor oral health status of middle-aged Koreans decreased by 5.3% from 9 years ago, but still close to half of the middle-aged people reported that their oral health was bad (Kim & Kim, 2019). However, the middle-aged population shows more interest in health and especially people in their 40s and 50s are more active in oral examinations (Cho, 2020), and over the past year, those in their 40s and 50s have more frequent dental visits than other age groups (Go et al., 2011).

Appropriate dental care is known to have a high correlation with good oral health (Jung, 2020), and the higher the number of dental visits, the lower the risk of tooth loss (Yoon et al., 2016) and the lowering of unmet dental care (Kim et al., 2020). The usage rate of dental care can be increased by policies that expand dental health insurance coverage, which would also improve the access to dental care for the elderly and low-income groups (Seo & Kim, 2020).

Therefore, while the current health insurance for dentures and dental implants is applied to people 65 years or older, it is necessary to be aware that health dentures and dental implants insurance is necessary for middle-aged people who have higher demand for implants and to comprehend the current use of dental care. However, studies on the awareness insurance for dentures and dental implants for middle-aged people are insufficient, whereas there are many studies targeting people already in old age.

Thus, this study aims to identify characteristics related to oral health and awareness of dental health insurance for middle-aged people to age in a healthy way, and to analyze the relevance of dental care utilization.

2. Materials and Methods

2.1 Study design

This is a cross-sectional correlation study to investigate the relationship between the awareness of dental health insurance and dental care utilization related to the characteristics of oral health in middle-aged adults.

2.2 Study participants

The population studied was middle-aged adults selected by random sampling, 250 middle-aged

adults between the ages of 40 and 64 living in the metropolitan areas of Seoul, Gyeonggi, and Incheon. The appropriate sample size for this study was determined using G*Power 3.1.9.2 with an effect size of 0.15, a significance level of 0.05, a power of 0.80, and 9 independent variables that can test the regression analysis results. Thus, the calculation amounted to 232 persons, so the study subjects were set at 250. The final analysis target was 250 people, excluding 20 dropouts who were 65 years of age or older. For ethical reasons towards the research subjects, the guidelines of the Declaration of Helsinki were followed, and it was reviewed by the Institutional Bioethics Committee of Dankook University (IRB No. 2021-08-027).

2.3 Variables and measurement

The questionnaire consisted of demographic and sociological characteristics (11 items), oral health-related characteristics (17 items), awareness of dental health insurance (8 items), and dental care utilization (3 items).

The demographic and sociological characteristics consisted of gender, age, place of residence, marital status, educational background, economic activity, monthly average gross income, occupational classification, type of medical insurance, main dental care institution, and dental cost payer.

Oral health-related characteristics were composed to include subjective health and oral health cognition, oral health behavior, and oral senility. Subjective health and oral health were composed of subjective health and oral health, interest in oral health care, and subjective oral health problems and problems. The questions by Oh et al. (Oh et al., 2014) about general health and oral health were used, and the Cronbach's α value in this study was 0.730. Oral health behavior consisted of daily brushing frequency, period, time, method, and whether or not oral hygiene products were used and types. Oral senescence, as described by Tanaka et al. (Tanaka et al., 2018), modified and supplemented the measurement items used in the study to consist of less than 20 teeth, dysphagia, tongue pressure, chewing discomfort perception, mastication discomfort, and pronunciation discomfort, and measured on a Likert 5-point scale. A higher score meant more severe oral senescence. Since the total is a maximum of 30 points, consisting of 6 questions with 5 points, the sum of oral senescence was calculated by categorizing them into 15 points, 1-15 points = low group, and 16-30 points = high group. Cronbach's α value in this study was 0.818.

The awareness of dental health insurance was composed of general awareness and awareness of denture and dental implant health insurance by modifying and supplementing the questions of Hong & Shin (Hong & Shin, 2020). We converted each of the four items of interest in health insurance, whether it is a necessary system, whether it is being implemented properly for national oral health, or whether it is a beneficial system for stabilizing family life, into a Likert 5-point scale, and the sum of the items was divided into upper, middle, and lower levels and evaluated as 'awareness level of dental health insurance'. The higher the average score, the higher the awareness of dental health insurance. Cronbach's α value was 0.616 as a result of reliability analysis of interest, necessity, operation, and benefit of general awareness of dental health insurance and denture and dental implant health insurance in this study.

For dental use, Kim; based on the questions used in The Korean Society for Equity in Health (Kim, 2013; The Korean Society for Equity in Health, 2007), whether or not oral examination has been performed within the past year, whether or not to use dental hospitals and clinics and received treatment, and whether or not dental treatment has been unsatisfactory and the reasons.

2.4 data collection

From September 16 to October 14, 2021, an online survey was conducted using a structured questionnaire. People were recruited using Naver online form (http://naver.me/FCbus4CN) and EMBRAIN data information company. After explaining the purpose and aim of this study, people agreed to participate voluntarily and, as a result, a total of 270 copies were collected. Among them, 250 respondents were used as the final analysis target, excluding 20 who were over the age of 65.

2.5 Statistical analysis

For the collected data, frequency analysis was performed on demographic characteristics, subjective health and oral health cognition, oral health behavior, and dental use of middle-aged adults using the SPSS 23.0 program. Oral senescence and awareness of health insurance were obtained from descriptive statistics as mean and standard deviation after frequency analysis. In addition, the t-test and one-way ANOVA analysis were performed on the differences in the awareness of dental health insurance according to the demography of middle-aged adults, oral health-related characteristics, and dental care utilization, and a post-hoc test was performed using Duncan's multiple comparisons. Dichotomous logistic regression analysis was performed for relevant factors affecting the utilization of dental care by middle-aged adults. The significance level of this study was set as α =0.05.

3. Results

The awareness of dental health insurance according to the demographic and sociological characteristics of the subject is shown in Table 1. According to the gender of the subject, the awareness of dental health insurance was higher (P = 0.035) for women (2.51±0.28) than men (2.43±0.30). 40's (2.40±0.30), 50s (2.50±0.28), 60s (2.53±0.28), the higher the age, the higher the awareness (P = 0.013). In the occupational classification, service workers (2.57 points) showed the highest awareness (P = 0.039). There was no significant difference in the awareness of dental health insurance according to the place of residence, marital status, final education, economic activity, monthly average gross income, type of medical insurance, main dental institution, and payment of dental medical expenses (P > 0.05).

Table 1. Comparison of dental health insurance-related awareness according to demographic and sociological characteristics

Variables	Division	N (%)	M ± SD	P^*
Gender	Male	109(43.6)	2.43±0.30	0.035*
	Female	141(56.4)	2.51±0.28	
Age (yrs)	40-49	85(34.0)	2.40±0.30	0.013*
	50-59	106(42.4)	2.50±0.28	
	60-64	59(23.6)	2.53±0.28	
Area	Seoul	79(31.6)	2.48±0.33	0.684.
	Incheon	68(27.2)	2.44±0.28	
	Gyeonggi	103(41.2)	2.48±0.27	
Marriage	Married	206(82.4)	2.47±0.30	0.605.
	Single	38(15.2)	2.45±0.26	
	Divorced	6(2.4)	2.58±0.38	
Final education	High	77(30.8)	2.43±0.30	0.127.
	≥College	173(69.2)	2.49±0.29	
Economic activity	Yes	186(74.4)	2.46±0.30	0.503.
	No	64(25.6)	2.49±0.28	
Monthly household-income	<200	36(14.4)	2.48±0.26	0.842.
	200-300	44(17.6)	2.47±0.29	
	300-400	44(17.6)	2.49±0.29	
	400-500	23(9.2)	2.46±0.36	
	500≤	39(15.6)	2.42±0.32	
Job classification	Manager	19(7.6)	2.46±0.29	0.039*
	Expert	45(18.0)	2.48±0.27	
	Office worker	17(6.8)	2.49±0.24	
	Service worker	40(16.0)	2.57±0.25	
	Sales worker	38(15.2)	2.41±0.30	
	Skilled worker	27(10.8)	2.33±0.37	
Health security	Employee health insurance	170(68.0)	2.48±0.30	0.696.
	Local-subscriber health insurance	78(31.2)	2.46±0.29	
	Medical care(1, 2)	2(0.8)		
Main dental-institution	Dental clinic	159(63.6)	2.48±0.30	0.856.
	Dental hospital (College dental hospital, General hospital)	88(35.2)	2.46±0.28	
	Public health center	3(1.2)	2.42±0.38	
Person who pays-for dental expenses	Personally	209(83.6)	2.47±0.30	0.798.
	Family(Partner, Children, Relative, parents, Etc.)	41(16.4)	2.48±0.26	

M ± SD = mean ± standard deviation
*by t-test, one-way ANOVA and Duncan analysis at a=0.05

Table 2 is the results of the analysis on the oral health characteristics of middle-aged adults and the awareness of dental health insurance according to the use of dental care.

The more subjectively they thought they were healthy (2.56±0.33), the higher their awareness of dental health insurance (P = 0.010). The higher the interest in oral health care (2.51±0.29), the higher

the awareness of dental health insurance (P = 0.003). Dental health insurance-related awareness (2.52±0.27) was higher the more oral examinations were conducted in the past year (P = 0.003). There were no significant differences in the perception of subjective oral health, subjective oral health problems, oral health behavior, oral senility, use of dental hospitals and clinics in the past year, and awareness of dental health insurance according to unmet dental care among middle-aged adults (P > 0.05).

Table 2. Comparison of dental health insurance-related awareness according to Oral health-related characteristics and use of dental care

Variables	Division	N (%)	M±SD	P^*
Subjective general health status	Healthy	67(26.8)	2.56±0.33	0.010.
	Normal	128(51.2)	2.44±0.28	
	Not healthy	55(22.0)	2.44±0.25	
Subjective oral health status	Healthy	46(18.4)	2.52±0.31	0.367.
	Normal	113(45.2)	2.45±0.33	
	Not healthy	91(36.4)	2.47±0.23	
Interest in oral health care	High	170(68.0)	2.51±0.29	0.003.
	Middle	76(30.4)	2.38±0.28	
	Low	4(1.6)	2.44±0.38	
Subjective oral health problem	Yes	179(71.6)	2.48±0.28	0.419.
	No	71(28.4)	2.45±0.33	
The number of teeth brushing	Once	16(6.4)	2.38±0.20	0.354.
	Twice	113(45.2)	2.47±0.29	
	Three times	104(41.6)	2.47±0.30	
	Four times	17(6.8)	2.56±0.31	
Time to teeth brushing	< 1 minute	14(5.6)	2.50±0.29	0.822.
	1-2	72(28.8)	2.49±0.31	
	2-3	115(46.0)	2.47±0.28	
	≥ 3 minute	49(19.6)	2.44±0.30	
Method of brushing teeth	Horizontal	7(2.8)	2.36±0.20	0.734.
	Vertical	27(10.8)	2.52±0.32	
	Horizontal+Rolling	15(6.0)	2.43±0.27	
	Vertical+Rolling	90(36.0)	2.47±0.28	
	Rolling	111(44.4)	2.47±0.31	
Use of oral hygiene aids	Yes	153(61.2)	2.48±0.30	0.600.
	No	97(38.8)	2.46±0.28	
Oral frailty	Low	196(78.4)	2.46±0.30	0.108.
	High	54(21.6)	2.53±0.27	
Oral examinations	Yes	139(55.6)	2.52±0.27	0.003.
	No	111(44.4)	2.41±0.31	
Visits to dental hospital and clinic use	Yes	151(60.4)	2.49±0.29	0.204.
	No	99(39.6)	2.44±0.30	
Unmet dental needs	Yes	52(20.8)	2.44±0.32	0.355.
	No	198(79.2)	2.48±0.29	

M ± SD = mean ± standard deviation
*by t-test, one-way ANOVA and Duncan analysis at a=0.05

Table 3 is the result of binary logistic regression to discover the relevant factors affecting oral examination in middle-aged adults.

The factor that had the greatest influence on oral examination of middle-aged adults was found to be brushing once a day (-2.595). It was found that oral examination was not performed more (P = 0.006) 0.08 times (OR = 0.08) than when the number of brushing was 4 times or more.

Interest in oral health care (-0.957) was also found to be an influencing factor, and oral examination was 0.38 times (OR = 0.38) lower when people were only regularly interested in oral health than when they were interested (P = 0.002).

Economic activity (-0.748) was also found to be an influencing factor, and as economic activity increased, oral examination was 0.47 times lower (OR = 0.47) (P = 0.047).

It was found that the awareness of the person who paid for dental care, oral senescence, and dental health insurance did not affect the oral examinations of middle-aged adults (P > 0.05).

Table 3. Related factors influencing oral examination in middle-aged adults

Variables	B	S.E.	OR	95% C.I	*P*
Constant	1.026.	1.53.	2.79.		.502
Economic activity yes (Ref: no)	-.748	.38	.47	.23-.99	.047*
Pay for dental expenses in personally (Ref: Family)	-.580	.46	.56	.23-1.37	.205
Interest in oral health care (Ref:.High)					
Middle	-.957	.31	.38	.21-.71	.002**
Low	-.429	1.08.	.65	.08-5.37	.690
The number of teeth brushing (Ref: Four times)					
Once	-2.595.	.94	.08	.01-.47	.006**
Twice	-1.176.	.69	.31	.08-1.20	.089
Three times	-1.165.	.69	.31	.08-1.21	.092
Oral frailty low group (Ref: high group)	-.437	.35	.65	.32-1.29	.217
Dental health insurance-related awareness	.848	.50	2.33.	.88-6.18	.088

*$p<0.05$, **$p<0.01$, ***$p<0.001$, by logistic regression analysis

Table 4 is the result of binary logistic regression to find out relevant factors that affect middle-aged adults' use of dental hospitals and clinics.

The factor that had the greatest influence on the use of dental hospitals and clinics for middle-aged adults was found to be brushing once a day (-2.400); it was found that the use of dental hospitals and clinics was not higher (P = 0.013) 0.09 times (OR = 0.09) than when the number of brushing was 4 times or more.

Interest in oral health care (-1.023) was also found to be an influencing factor, and the average use of hospitals and clinics was 0.37 times (OR = 0.37) lower when people were only regularly

interested in oral health than when they were interested (P = 0.001). It was found that middle-aged adults used dental hospitals and clinics 0.42 times (OR = 0.42) lower (P = 0.040) when they paid by themselves (-0.872) compared to when the subjects of payment for dental care were their families.

However, it was found that marital status, oral senescence, and awareness related to dental health insurance did not affect middle-aged adults' use of dental hospitals and clinics (P > 0.05).

Table 4. Related factors influencing visits to dental hospital and clinic use in middle-aged adults

Variables	B	S.E.	OR	95% C.I	*P*
Constant	2.704.	1.66.	14.94.		.102
Marriage (Ref: single)					
Married	.346	.40	1.41.	.65-3.07	.382
Divorced	-.588	.98	.56	.08-3.78	.548
Pay for dental expenses in personally (Ref: family)	-.872	.43	.42	.18-.96	.040*
Interest in oral health care (Ref: high)					
Middle	-.999	.31	.37	.20-.68	.001**
Low	-.645	1.02.	.53	.07-3.90	.528
The number of teeth brushing (Ref: four times)					
Once	-2.400.	.97	.09	.01-.60	.013*
Twice	-1.566.	.80	.21	.04-1.0	.050
Three times	-1.313.	.80	.27	.06-1.30	.101
Oral frailty low group (Ref: high group)	-.298	.35	.74	.37-1.48	.397
Dental health insurance-related awareness	.080	.50	1.08.	.41-2.85	.872

**p<0.05, **p<0.01, ***p<0.001*, by logistic regression analysis

Table 5 is the result of binary logistic regression to find out the relevant factors affecting unmet dental care in middle-aged adults.

Divorce (2.806) was the most influential factor in unmet dental care among middle-aged adults, and it was found that the number of unmet dental care was 16.54 times (OR = 0.06) higher in divorce than in unmarried people (OR = 0.06) (P = 0.018).

Subjective oral health cognition (-0.978) also appeared as an influencing factor, and unsatisfactory dental care was 0.38 times (OR = 0.38) lower when considered to be normal than when considered to be unhealthy (P = 0.019).

Subjective oral health problems (1.854) also appeared as an influencing factor, and the number of unmet dental care was 6.39 times (OR = 6.39) higher when thinking that there was a problem than when thinking that there was no problem (OR = 6.39) (P = 0.027).

However, subjective health cognition, oral senility, and dental health insurance-related awareness did not appear to affect unmet dental care among middle-aged adults (P > 0.05).

Table 5. Related factors influencing unmet dental needs in middle-aged adults

Variables	B	S.E.	OR	95% C.I	*P*
Constant	-.385	1.93.	.68		.842
Marriage (Ref: single)					
Married	-.115	.47	.89	.35-2.25	.808
Divorced	2.806.	1.18.	16.54.	1.63-167.98	.018*
Subjective general health status (ref: not healthy)					
Healthy	.211	.58	1.24.	.39-3.88	.718
Normal	.063	.41	1.07.	.48-2.37	.877
Subjective oral health status (ref: not healthy)					
Healthy	-19.638.	5689.66.	.00		.997
Normal	-.978	.42	.38	.17-.85	.019*
Subjective oral- health-problem (ref: no)	1.854.	.84	6.39.	1.24-32.99	.027*
Oral frailty low group (ref: high group)	-.168	.40	.85	.39-1.85	.674
Dental health- insurance-related- awareness	-.746	.65	.47	.13-1.69	.249

*$p<0.05$, **$p<0.01$, ***$p<0.001$, by logistic regression analysis

4. Discussion

Korea is expected to enter a Super Aged Society soon due to rapid aging (Park et al., 2020). Currently, 'gingivitis and periodontal diseases' are the highest in the oral health status of middle-aged people (Health Insurance Review and Assessment Service, 2021), such periodontal diseases may be the biggest cause of tooth loss (Lim & Oh, 2013; Han & Beak, 1992). With age, the chance of tooth loss increases, showing the highest number of patients and implants in the 40s and 50s (Hong et al., 2002), because dentures or dental implants are commonly used as a replacement for lost teeth (Kim et al., 2016). Dentures and dental implants have been shown to have a higher share of dental costs among the elderly than among the middle-aged as health insurance coverage has expanded over the past 10 years. Therefore, for the development of health insurance policies in the future, it is important to examine the awareness of dental health insurance and the use of dental care among middle-aged people who will be the beneficiaries of denture and dental implant health insurance. Therefore, in this study, the characteristics related to oral health and the awareness of health insurance for dentures and dental implants for healthy aging of middle-aged people were identified, and the relationship was identified by analyzing the use of dental care.

In this study, the more subjectively they thought they were healthy, the more they were interested in oral health care, and the more they had oral examinations in the past year, the higher their awareness of dental health insurance. Lee et al. (Lee et al., 2018) said that the higher the level of access to information, such as dental workers, the higher the awareness. Even adults in general pay a lot of attention to their oral health, and even if there are no special problems, they try to regularly receive preventive oral examinations. Thus, it seems that the awareness of dental health

insurance is high. Therefore, it is thought that the government's active publicity and guidance is necessary so that ordinary adults can also pay attention to oral health.

In this study, it was found that oral examination was not performed more 0.08 times (OR = 0.08) than when the number of brushing was 4 times or more. In addition, it was found that oral examination was 0.38 times lower (OR = 0.38) when people were only regularly interested in oral health than when they were interested. In addition, the higher the income-related activity, the lower the oral examination was by 0.47 times (OR = 0.47). This can be interpreted as that the worse the oral health behavior, the less interest, and the more income-related activities, the less the use of dental hospitals and clinics.

In this study, brushing once a day was 0.09 times (OR = 0.09) compared to brushing four times or more; and the use of hospitals and clinics was 0.37 times (OR = 0.37) lower when people were only regularly interested in oral health than when they were interested. This can be interpreted that the poorer the oral health behavior and the less interest, the fewer visits to the dental hospital/clinic. In addition, it was found that the use of dental hospitals and clinics was 0.42 times lower (OR = 0.42) when the patient was paying for their dental care compared to when the person paying for dental care was a family member. This can be interpreted that the worse the oral health behavior, the less interest, and the more you pay for dental treatment, the more you don't get oral examinations.

In this study, the factor that had the greatest influence on unmet dental care among middle-aged adults was divorce (2.806), and the number of unmet dental care was 16.54 times (R = 0.06) higher in divorce than in singles. This was found to be consistent with previous studies that when people are divorced, separated, or widowed, the greater the likelihood of experiencing unmet medical care (Tak, 2018; Yoo, 2016). In addition, subjective oral health awareness was also found to be a factor influencing whether or not dental care was unsatisfactory, and it was found that unsatisfactory dental care was 0.38 times (OR = 0.38) lower when it was considered normal than when it was considered unhealthy. In addition, subjective oral health problems (1.854) were also found to be an influencing factor, and unsatisfactory dental care was 6.39 times (OR = 6.39) higher when thinking that there was a problem than when thinking that there was no problem. This confirmed the fact that the worse the subjective health status, the higher the likelihood of experiencing unmet medical care, which was consistent with the results of a number of previous studies (Kim & Lee, 2012; Yoo, 2016; Song, 2010). Therefore, it is necessary to prevent unmet dental care, especially through proper awareness of oral health. In order to reduce these unmet dental care, the individual must be aware of their health status and efforts are needed not only from experts, but also for the public to take an interest in themselves.

In summary, the awareness of dental health insurance did not affect the use of dental care, but it was confirmed that the more they had oral examinations in the past year, the higher their awareness of dental health insurance was. It was found that there was a change in perception according to the movement to be seen. Therefore, it is thought that active publicity and education on the necessity of oral examination are necessary so that the government can pay attention to oral health prevention in order to conduct independent oral examinations.

This study investigated the awareness related to dental health insurance, including awareness of denture and dental implant health insurance, and it is the first study to examine these as factors

affecting the use of dental care. The study was conducted on adults, and it was differentiated from existing studies on the elderly. Also, as a result of the analysis, the awareness of dental health insurance did not affect the use of dental care, but it was confirmed that the more they had oral examinations in the past year, the higher the awareness of dental health insurance was. It is significant that there was a change in awareness according to movement. However, the limitations of this study are: First, the subjects were mainly those with high education and high income, so those with low socioeconomic level were excluded. Second, it was limited to the medical consumer group, excluding the expert group, to investigate the awareness of dental health insurance. Third, the residential area is limited to the metropolitan area, making it difficult to generalize. Fourth, except for oral senescence, Cronbach's α value was too low. Fifth, in this study, the awareness of middle-aged people, not actual beneficiaries, of denture and dental implant health insurance was investigated. Sixth, the use of dental care could be significantly identified using the Anderson model, but it could not be used, and it was designed as a cross-sectional study, so there was a limit to clarifying the causal relationship.

In future research, it is necessary to investigate the middle-aged and elderly at various socioeconomic levels, and it is necessary to examine both health care providers and consumers. In addition, in order to accurately measure awareness-related things, the need to develop a health insurance awareness survey measurement tool in the future is heightened, and as the demand for dentures and dental implants continues to increase, a survey on satisfaction and satisfaction factors for beneficiaries in the future is needed

5. Conclusions

In this study, the higher the age of women in comparison to men, the higher the awareness of dental health insurance was, and the highest was among service workers.

In addition, the more subjectively they thought they were healthy, the more they were interested in oral health care, and the more they had oral examinations in the past year, the higher their perception of dental health insurance. Awareness related to dental health insurance did not affect the use of dental care, but it was confirmed that the more they had oral examinations in the past year, the higher the awareness of dental health insurance was. It was found that there was a change in awareness. Therefore, it is thought that active publicity and education on the necessity of oral examination are necessary so that middle-aged adults can pay attention to oral health prevention in order to conduct independent oral examination.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

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