



Original Article

Factors of unmet dental care needs due to the time, economic, and physical constraints among older people

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ABSTRACT

Objectives: We aim to identify factors associated with unmet dental care needs in older adults and explore the impact of time, economic and physical constraints on each. **Methods:** The analysis was based on the 2023 Community Health Survey. Statistical analyses were conducted using chi-square test and multinomial logistic regression for 65,952 people aged 65 years and older. **Results:** First, we looked whether subjects experienced unmet dental care needs and found that 8.4% did. Second, according to the type of unmet dental care needs, 54.1% of the time, economic, and physical constraints were economic constraints. Analyzing each of the time, economic, and physical constraints, we found that time constraints were associated with younger age. For economic constraints, lower education level and health security type of recipients in medical aid program were more likely to experience unmet dental care needs. In terms of physical constraints, those living in rural areas were more than three times more likely to experience unmet dental care needs than those living in urban areas. **Conclusions:** The results showed that time constraints were related to age, economic constraints were related to household income level, and physical constraints were related to residential area.

Key Words: Community Health Survey, Constraint, Dental care, Older people

Introduction

As of July 2024, in Korea, individuals aged 65 and older constitute 19.5% of the total population, indicating that the nation is on the verge of becoming a super-aged society, with one in five people comprising older adults [1]. With the increasing older adult population, various issues related to aging are also on the rise, particularly concerning health. Older adults are more prone to physical and mental deterioration, leading to a higher disease incidence, increased severity, and a greater risk for complications. Furthermore, physical limitations often result in restricted mobility, and the discontinuation of economic activity reduces income, thereby lowering accessibility to healthcare services. Health disparities among different social classes also become more pronounced during older adulthood [2,3], and disparities in oral health are also evident [4].

Oral health is vital not only for maintaining adequate nutrition, which supports a healthy life and sustains life itself, but also for preserving the enjoyment of eating, maintaining social relationships, and ensuring overall quality of life. Older adults often experience significant oral health challenges, such as difficulty chewing secondary to accumulated oral diseases and tooth loss, necessitating extensive dental treatment. However, dental care in South Korea is highly inaccessible due to low coverage, high patient out-of-pocket costs, and geographic disparities in healthcare resources with several uncompensated care [5].

Unmet dental care needs refer to situations where individuals require dental treatment but do not receive sufficient services,

which negatively impacts the health of older adults [2,6]. A study of unmet dental care needs in accordance to the 6th Korea National Health and Nutrition Examination Survey (KNHANES) found that the rate of unmet dental care needs among low-income older adults was more than twice as high as the overall rate among beneficiaries [7]. As Korea moves towards a super-aged society, the issue of unmet dental care among older adults may become an even larger societal problem, calling for proactive measures [2,8].

In the older adult population, studies on unmet healthcare needs have highlighted the significant impact of economic burden and time constraints [2,9], with various factors, such as demographic (e.g., sex and age), socioeconomic (e.g., income level and financial status), disease-related, and temporal factors, being reported as causes of unmet dental care needs [10,11]. However, the impact of economic, time, and physical constraints on unmet dental care needs warrants further exploration. To address the problem of unmet dental care needs, it is essential to identify the underlying causes preventing individuals from receiving necessary services and to explore ways to improve access to dental care services [2]. Available Korean data analyzing the predictors of unmet dental care needs include the National Survey of Older Koreans, KNHANES, Community Health Survey (CHS), and health insurance data [2-4,7,9]. Among these, this study aims to utilize the CHS, which has a large representative sample, to identify factors related to unmet dental care needs among older adults and to examine the impact of temporal, economic, and physical constraints on unmet dental care needs. This study also aims to provide foundational data for future efforts to enhance access to dental services for older adults and to inform the development of oral health policies.

Methods

1. Study participants

This study utilized data from the 2023 CHS (Korea Disease Control and Prevention Agency). To identify the health status of local residents and calculate health statistics at the city, county, and district levels and comparative statistics between regions to serve as a basis for local healthcare planning, the CHS is conducted annually by 258 public health centers nationwide based on Article 4 of the Community Health Act [12]. Between May 16, 2023 and July 31, 2023, trained surveyors visited the sampled households in person and conducted one-on-one interviews using electronic survey sheets on tablet computers. The 2023 CHS surveyed 231,752 people aged 19 and older nationwide. We excluded 149,854 respondents under the age of 65 and 4,222 respondents who did not meet the unmet dental care needs defined in the study. Ultimately, a total of 65,952 participants were selected for the final analysis, after excluding missing data (e.g., no response). The CHS were collected after obtaining an informed consent from the respondents, and this study was approved by the Institutional Review Board of Suwon National University of Science and Technology (IRB No. IRB2-7008167-AB-N-01-202406-HR-001-02).

2. Instruments

The independent variables were selected based on Anderson's behavioral model of healthcare utilization behavior [13]. We established the predisposing factors to sociodemographic characteristics, enabling factors to economic characteristics, and need factors to oral health characteristics. Sociodemographic characteristics included sex, age (65–69, 70–74, 75–79, ≥ 80 years), marital status ('no spouse present' and 'spouse present'), educational attainment ('no education', 'elementary school graduates', 'middle school graduates', 'high school graduates or higher'), and place of residence ('urban (dong)' and 'rural (eup/myeon)'). Economic characteristics included household income level ('low', 'low-middle', 'high-middle', and 'high') and health security type ('recipients in medical aid program' and 'insured in national health insurance'). Oral health-related characteristics included subjective oral health status ('good', 'moderate', and 'bad') and chewing discomfort ('good', 'moderate', and 'bad'). Variables were recategorized according to the study's objectives.

The dependent variable, unmet dental care, was defined as respondents answering ‘yes’ to the question: “In the past year, have you ever needed dental care (examination or treatment) but were unable to receive it?”. Reasons for unmet dental care were classified into temporal, economic, and physical constraints based on the concept of accessibility to healthcare services [14,15]. Specifically, responses to the question, “What was the main reason you could not receive the necessary dental care (examination or treatment)?” were categorized as follows: ‘reasons for time constraints’ indicated temporal constraints, ‘Reasons for economic burden’ indicated economic constraints, and ‘reasons for physical constraints’ indicated physical constraints. Reasons such as ‘due to the COVID-19 pandemic’ were excluded from the types of unmet dental care experiences as defined in this study.

3. Data analysis

Using the chi-square test, the differences in unmet dental care needs according to older adults’ general characteristics were analyzed. Multinomial logistic regression was used to examine how the predictors of unmet dental care differed across types of unmet dental care. A complex sampling design with weighted analysis was employed, and the statistical significance level (α) was set at 0.05. Data were analyzed using STATA (ver. 12.0; Stata Corp., College Station, TX, USA).

Results

1. General characteristics of the unmet dental care needs according to older people

In the past year, 6,179 older adults (8.4%) reported that they needed dental care but did not receive it. Among older adults with unmet dental care needs, the female was more common (60.3%), and the 65–69 years age group was more common (36.0%) ($p<0.001$). In terms of marital status, unmet dental care needs were higher among ‘no spouse present’ (43.2%) compared to ‘spouse present’. Regarding education level, those with ‘elementary school graduates’ (37.5%) reported the highest unmet care. In terms of residence, ‘rural (eup/myeon)’ (30.3%) had a higher proportion of unmet dental care ($p<0.001$). Older adults with unmet dental care needs were more likely to have ‘low’ (35.2%) and ‘middle’ (32.2%) household income, and health coverage type was more likely to be ‘Insured in national health insurance’ (18.8%) ($p<0.001$). Older adults with unmet dental care needs were likely to have ‘bad’ subjective oral health status (71.4%) and rate their chewing discomfort as ‘good’ (62.3%) ($p<0.001$) <Table 1>.

Table 1. General characteristics of the unmet dental care needs according to older people Unit: N(%)

| Characteristics | Division | Total | Experience | No experience | p^* |
|------------------|---------------------------------|--------------|-------------|---------------|--------|
| Sex | Female | 37,399(54.2) | 3,977(60.3) | 33,422(53.7) | <0.001 |
| | Male | 28,553(45.8) | 2,202(39.7) | 26,351(46.3) | |
| Age (yr) | 65-69 | 20,149(34.0) | 1,966(36.0) | 18,183(33.8) | <0.001 |
| | 70-74 | 15,977(24.9) | 1,348(23.0) | 14,629(25.1) | |
| | 75-79 | 12,970(19.2) | 1,078(17.1) | 11,892(19.4) | |
| | ≥80 | 16,856(21.9) | 1,787(23.9) | 15,069(21.7) | |
| | | | | | |
| Marital status | No spouse present | 22,162(31.4) | 2,824(43.2) | 19,338(30.3) | <0.001 |
| | Spouse present | 43,790(68.6) | 3,355(56.8) | 40,435(69.7) | |
| Educated | No education | 8,184(8.2) | 1,254(13.9) | 6,930(7.6) | <0.001 |
| | Elementary school graduates | 24,334(30.8) | 2,514(37.5) | 21,820(30.2) | |
| | Middle school graduates | 12,755(20.1) | 1,088(20.2) | 11,667(20.2) | |
| | High school graduates or higher | 20,679(40.9) | 1,323(28.4) | 19,356(42.0) | |
| Residential area | Rural (eup / myeon) | 36,655(25.6) | 3,837(30.3) | 32,818(25.2) | <0.001 |
| | Urban (dong) | 29,297(74.4) | 2,342(69.7) | 26,955(74.8) | |

Table 1. To be continued

Unit: N(%)

| Characteristics | Division | Total | Experience | No experience | <i>p</i> [*] |
|-------------------------------|--------------------------------------|---------------|-------------|---------------|-----------------------|
| Household income level | Low | 16,218(18.7) | 2,356(32.2) | 13,862(17.4) | <0.001 |
| | Low-middle | 22,730(34.9) | 1,952(35.2) | 20,778(34.9) | |
| | High-middle | 11,904(22.7) | 751(15.1) | 11,153(23.4) | |
| | High | 15,100(23.7) | 1,120(17.5) | 13,980(24.3) | |
| Health security type | Recipients in medical aid program | 61,004(91.8) | 5,170(81.2) | 55,834(92.8) | <0.001 |
| | Insured in national health insurance | 4,948(8.2) | 1,009(18.8) | 3,939(7.2) | |
| Subjective oral health status | Good | 11,297(18.3) | 315(5.3) | 10,982(19.5) | <0.001 |
| | Moderate | 23,377(37.9) | 1,280(23.3) | 22,097(39.2) | |
| | Bad | 31,278(43.8) | 4,584(71.4) | 26,694(41.3) | |
| Chewing discomfort | Good | 32,477(51.6) | 1,299(22.3) | 31,178(54.3) | <0.001 |
| | Moderate | 11,446(18.4) | 819(15.4) | 10,627(18.6) | |
| | Bad | 22,029(30.0) | 4,061(62.3) | 17,968(27.1) | |
| | Total | 65,952(100.0) | 6,179(8.4) | 59,773(91.6) | |

^{*}by complex sample chi-square test

Values are presented as number (sample estimation weight %).

2. General characteristics of the older people according to the type of unmet dental care needs

The reasons for the unmet dental care needs of 6,179 (8.4%) of the 65,952 total study participants were categorized as time, economic, or physical constraints. ‘Reasons for economic burden’ were the most common (n=2,800, 54.1%), followed by ‘reasons for time constraints’ (n=2,070, 32.4%) and ‘reasons for physical constraints’ (13.5%) <Table 2>.

Table 2. General characteristics of the older people according to the type of unmet dental care needs

| Unmet care dental needs and why | Frequency | wt% [*] | wt% [†] |
|----------------------------------|-----------|------------------|------------------|
| No unmet dental care needs | 59,773 | 91.6 | |
| Unmet dental care needs | 6,179 | 8.4 | |
| Types of unmet dental care needs | | | |
| Reasons for time constraints | 2,070 | 3.5 | 32.4 |
| Reasons for economic burden | 2,800 | 4.7 | 54.1 |
| Reasons for physical constraints | 1,309 | 2.2 | 13.5 |

wt %, sample estimation weight %

^{*}Weighted % when all 65,952 subjects were denominators[†]Weighted % of 6,179 respondents who responded to unmet dental care need reasons in the denominator

3. Factors according to the type of unmet dental care needs of the older people

The likelihood of experiencing unmet dental care due to temporal barriers is as follows. Compared to those aged 80 and older, individuals aged 65-69, 70-74, and 75-79 had 5.076-fold, 2.998-fold, and 2.002-fold the odds of experiencing unmet dental care due to temporal barriers, respectively. ‘Rural (eup/myeon)’ residents had 1.776 times the odds of experiencing unmet care due to temporal barriers compared to ‘urban (dong)’ residents ($p<0.001$). Regarding marital status, ‘no spouse present’ had 0.603 times the odds of experiencing unmet care due to temporal barriers compared to ‘Spouse present’. Similarly, those with ‘no education’ had 0.598-fold the odds compared to those with ‘elementary school graduates’ or higher ($p<0.001$). Regarding economic characteristics, individuals with ‘low’ household income level had 0.376-fold the odds and those with ‘lower-middle’ income had 0.503-fold the

odds of experiencing unmet care due to temporal barriers compared to those with 'high' income ($p<0.001$). 'Recipients in medical aid program' had 2.879-fold the odds of experiencing unmet care due to temporal barriers compared to health insurance subscribers ($p<0.001$). Regarding oral health-related characteristics, those who perceived their oral health as 'good' had 2.155-fold the odds and those who perceived it as 'moderate' had 1.628-fold the odds of experiencing unmet dental care due to temporal barriers compared to those with 'bad' oral health ($p<0.001$). Furthermore, those who reported 'good' chewing discomfort had 1.951-fold the odds ($p<0.001$) and those with 'moderate' chewing discomfort had 1.378-fold ($p=0.001$) the odds of experiencing unmet care due to temporal barriers compared to those with 'bad' chewing discomfort.

Female had 0.686-fold the odds of experiencing unmet care compared to male for unmet dental care due to economic barriers ($p<0.001$). Individuals aged 65–69 had 0.794-fold the odds of experiencing unmet care due to economic barriers compared to those aged 80 and older ($p=0.007$). 'Rural (eup/myeon)' residents had 0.298-fold the odds of experiencing unmet care due to economic barriers compared to 'urban (dong)' residents ($p<0.001$). Regarding marital status, 'no spouse present' had 1.418-fold the odds of experiencing unmet care due to economic barriers compared to 'spouse present' ($p<0.001$), and individuals with 'elementary school graduates' had 1.186-fold the odds compared to those with 'high school graduates or higher' ($p=0.040$). Regarding economic characteristics, individuals with 'low' household income level had 2.047-fold the odds, and those with 'low-middle' income had 1.891-fold the odds of experiencing unmet care due to economic barriers compared to those with 'high' income ($p<0.001$). Regarding the type of health insurance, 'recipients in medical aid program' had 0.508-fold the odds of experiencing unmet care due to economic barriers compared to 'insured in national health insurance' ($p<0.001$). For oral health, individuals who perceived their oral health as 'good' had 0.454-fold the odds and those who perceived it as 'moderate' had 0.544-fold the odds of experiencing unmet care due to economic barriers compared to those with 'bad' oral health ($p<0.001$). Moreover, those who reported 'good' chewing discomfort had 0.452 times the odds ($p<0.001$) and those with 'moderate' chewing discomfort had 0.762-fold ($p=0.002$) the odds of experiencing unmet care due to economic barriers compared to those with 'bad' chewing discomfort.

For unmet dental care due to physical barriers, female had 1.832-fold the odds of experiencing unmet care compared to male, and 'rural (eup/myeon)' residents had 3.325-fold the odds compared to 'urban (dong)' residents ($p<0.001$). In terms of age, individuals aged 65–69 had 0.204-fold the odds, those aged 70–74 had 0.384-fold the odds, and those aged 75–79 had 0.526-fold the odds of experiencing unmet care due to physical barriers compared to those aged 80 and older ($p<0.001$). Regarding household income, individuals with 'low' income had 1.304-fold the odds of experiencing unmet care due to physical barriers compared to those with 'high' income ($p=0.013$). For oral health, those who perceived their oral health as 'moderate' had 1.215-fold the odds of experiencing unmet care due to physical barriers compared to those with 'bad' oral health ($p=0.044$) <Table 3>.

Table 3. Factors according to the type of unmet dental care needs of the older people

| Variables | Time constraints | | Economic constraints | | Physical constraints | |
|----------------------|--------------------|--------|----------------------|--------|----------------------|--------|
| | OR(95% CI) | p^* | OR(95% CI) | p^* | OR(95% CI) | p^* |
| Predisposing factors | | | | | | |
| Sex | | | | | | |
| Female | 0.955(0.830-1.098) | 0.521 | 0.686(0.601-0.784) | <0.001 | 1.832(1.540-2.178) | <0.001 |
| Male | 1 | | 1 | | 1 | |
| Age (yr) | | | | | | |
| 65-69 | 5.076(4.150-6.210) | <0.001 | 0.794(0.671-0.939) | 0.007 | 0.204(0.164-0.253) | <0.001 |
| 70-74 | 2.998(2.440-3.684) | <0.001 | 1.061(0.896-1.256) | 0.492 | 0.384(0.316-0.467) | <0.001 |
| 75-79 | 2.002(1.607-2.494) | <0.001 | 1.245(1.051-1.476) | 0.011 | 0.526(0.437-0.632) | <0.001 |
| ≥80 | 1 | | 1 | | 1 | |
| Marital status | | | | | | |
| No spouse present | 0.603(0.522-0.697) | <0.001 | 1.418(1.244-1.615) | <0.001 | 1.110(0.949-1.299) | 0.191 |
| Spouse present | 1 | | 1 | | 1 | |

Table 3. To be continued

| Variables | Time constraints | | Economic constraints | | Physical constraints | |
|--------------------------------------|--------------------|-----------------------|----------------------|-----------------------|----------------------|-----------------------|
| | OR(95% CI) | <i>p</i> [*] | OR(95% CI) | <i>p</i> [*] | OR(95% CI) | <i>p</i> [*] |
| Educated | | | | | | |
| No education | 0.598(0.467-0.767) | <0.001 | 1.219(0.991-1.500) | 0.060 | 1.130(0.881-1.449) | 0.333 |
| Elementary school graduates | 0.880(0.744-1.042) | 0.139 | 1.186(1.007-1.398) | 0.040 | 1.012(0.816-1.254) | 0.911 |
| Middle school graduates | 0.997(0.827-1.201) | 0.975 | 1.094(0.910-1.317) | 0.335 | 0.897(0.695-1.157) | 0.405 |
| High school graduates or higher | 1 | | 1 | | 1 | |
| Residential area | | | | | | |
| Rural (eup/myeon) | 1.776(1.552-2.033) | <0.001 | 0.298(0.264-0.337) | <0.001 | 3.325(2.824-3.914) | <0.001 |
| Urban (dong) | 1 | | 1 | | 1 | |
| Possible factors | | | | | | |
| Household income level | | | | | | |
| Low | 0.376(0.310-0.455) | <0.001 | 2.047(1.711-2.449) | <0.001 | 1.304(1.057-1.609) | 0.013 |
| Low-middle | 0.503(0.425-0.596) | <0.001 | 1.891(1.593-2.244) | <0.001 | 1.215(0.982-1.502) | 0.072 |
| High-middle | 0.853(0.691-1.053) | 0.141 | 1.109(0.892-1.379) | 0.349 | 1.101(0.832-1.458) | 0.499 |
| High | 1 | | 1 | | 1 | |
| Health security type | | | | | | |
| Recipients in medical aid program | 2.879(2.282-3.634) | <0.001 | 0.508(0.432-0.597) | <0.001 | 1.065(0.882-1.287) | 0.509 |
| Insured in national health insurance | 1 | | 1 | | 1 | |
| Necessary factors | | | | | | |
| Subjective oral health status | | | | | | |
| Good | 2.155(1.608-2.889) | <0.001 | 0.454(0.331-0.622) | <0.001 | 0.983(0.694-1.393) | 0.927 |
| Moderate | 1.628(1.384-1.915) | <0.001 | 0.544(0.463-0.639) | <0.001 | 1.215(1.005-1.469) | 0.044 |
| Bad | 1 | | 1 | | 1 | |
| Chewing discomfort | | | | | | |
| Good | 1.951(1.643-2.316) | <0.001 | 0.452(0.380-0.538) | <0.001 | 1.210(0.989-1.480) | 0.063 |
| Moderate | 1.378(1.144-1.660) | 0.001 | 0.762(0.640-0.907) | 0.002 | 1.044(0.837-1.300) | 0.701 |
| Bad | 1 | | 1 | | 1 | |

*by multinomial logistic regression

OR: Odd ratio; CI: Confidence interval

Discussion

This study aimed to identify factors associated with unmet dental care needs among older adults and explore the impact of time, economic, and physical constraints.

The results revealed that 8.4% of all respondents had experienced unmet dental care needs. The likelihood of unmet dental care was higher among women and those aged 65–69 years. It was also more common among individuals without a spouse, those with lower education levels, rural residents, and individuals in lower economic brackets. Moreover, unmet dental care needs were more common among those who perceived their oral health as poor and those who experienced chewing discomfort. In the study by Lim [10], unmet dental care needs among older adults were 41.8% for those with poor oral health and higher for those who had experienced tooth pain. Similarly, Kim and Seo [11] reported that individuals living alone, women, older adults, those who were unmarried, those with poor subjective health, those with lower education levels, and those who are not economically active were more likely to experience unmet dental care needs.

Economic barriers were the most prevalent (54.1%) regarding the reasons for unmet dental care needs. In Park's study [3], economic difficulties were cited as the primary reason for unmet healthcare needs, including both medical and dental services (49.9% and 72.6%, respectively), indicating that economic barriers play a significant role in unmet dental care needs. Dental services

often involve non-covered procedures, and coverage is generally poor. For older adults, particularly, prosthetic treatments such as bridges, implants, and dentures are necessary for restoring chewing function. While implants and dentures are partially covered for those aged 65 and older, limitations exist: only up to two implants are covered, and dentures are not covered within 7 years; hence, dental care is largely inaccessible for older adults with no income. Therefore, to reduce unmet dental care needs, expanding coverage for prosthetic treatments for older adults is warranted.

We analyzed the predictors of unmet dental care needs due to temporal, economic, and physical constraints. First, younger age groups were more likely to face temporal barriers. With increasing life expectancy, many individuals aged 65 years remain physically capable of engaging in socioeconomic activities despite reaching retirement. This may limit the time available for dental treatment, making temporal barriers more significant than other types of barriers. Regarding economic barriers, women and those aged 65–69 were less likely to experience unmet dental care needs from economic barriers, likely attributed to younger older adults being more active in socioeconomic activities, thus facing more temporal rather than economic constraints. Conversely, individuals without a spouse and those with lower education levels were more affected by economic barriers. Medical aid recipients experienced fewer unmet dental care needs due to economic barriers, likely because the medical aid system in Korea is relatively well-developed and allows recipients to access dental services without economic constraints. Physical barriers were significantly more prominent for rural residents, who were over three times more likely to experience unmet dental care needs than urban residents for this reason, reflecting the urban concentration of healthcare facilities and the regional imbalance in healthcare resources. Moreover, lower household income was associated with a higher likelihood of experiencing unmet dental care needs due to physical barriers.

As life expectancy increases, the proportion of older adults who live alone, have wounds, or limited mobility will rise. While temporal barriers may decrease, unmet dental care needs due to economic and physical barriers is likely to incline. The government must ensure timely and appropriate healthcare and dental care services to the public. To reduce economic and physical constraints, it is imperative to expand public oral health programs and extend health insurance coverage for restoring chewing function. Moreover, based on the Act on the Integrated Support of Local Care for Healthcare and Long-term Care, home-based oral care should be provided for older adults who have difficulty visiting healthcare facilities, ensuring they receive appropriate dental treatment and oral hygiene management through community-linked services.

This study has some limitations. First, the cross-sectional design hinders causal inference. Additionally, the determination of unmet dental care was based on subjective responses from participants, rather than on assessments of dental care needs by professionals. Nonetheless, we were able to identify more detailed predictors of unmet dental care needs by categorizing the reasons into temporal, economic, and physical constraints. Future research should aim to objectively evaluate unmet dental care needs through professional examinations to better understand the actual state of unmet dental care needs in relation to temporal, economic, and physical barriers.

Conclusions

Based on the 2023 CHS, this study analyzed the factors contributing to unmet dental care needs due to temporal, economic, and physical barriers among older adults. We conducted a cross-sectional, multiple logistic regression analysis of 65,953 people aged 65 years and older and obtained the following results:

1. 8.4% of older adults reported experiencing unmet dental care needs. The rate was higher among women and those aged 65–69. Unmet dental care needs were more prevalent among those with lower education levels, rural residents, and individuals in lower economic brackets. Furthermore, those who perceived their oral health as poor or reported chewing discomfort had higher rates of unmet dental care needs.
2. regarding the reasons of unmet dental care needs, economic barriers were the most common (54.1%).
3. the predictors of unmet dental care needs were analyzed due to each reason. Younger individuals were more likely to experience

temporal barriers. Economic barriers were more prevalent among those with lower education levels and medical aid recipients. Regarding physical barriers, rural residents were more than three times more likely to experience unmet dental care compared to urban residents.

In summary, age was the strongest predictor for experiencing temporal barriers, household income level for economic barriers, and place of residence for physical barriers by place of residence. It is essential to establish social systems and policies to reduce unmet dental care needs among the growing older adult population and address health disparities.

Notes

Author Contributions

Conceptualization: MY Kim, JH Han; Data collection: MY Kim; Formal analysis: MY Kim; Writing-original draft: MY Kim, JH Han; Writing-review&editing: MY Kim, JH Han

Conflicts of Interest

The authors declared no conflicts of interest.

Funding

None.

Ethical Statement

This study was approved by the Institutional Review Board (IRB) of Suwon Science College (IRB No. IRB2-7008167-AB-N-01-202406-HR-001-02).

Data availability

Data can be obtained from Korean Community Health Survey (KCHS) repository source.

Acknowledgements

None.

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노인의 시간적, 경제적, 물리적 제약으로 인한 미충족 치과의료 요인

초록

연구목적: 본 연구는 2023년 지역사회건강조사를 바탕으로 노인의 시간적, 경제적, 물리적 제약으로 인한 미충족 치과의료 요인을 파악하고자 하였다. **연구방법:** 65세 이상 노인 65,953명을 대상으로 교차분석, 다중로지스틱회귀분석을 실시한 결과는 다음과 같은 결론을 얻었다. **연구결과:** 첫째, 대상자의 미충족 치과의료 경험 여부를 알아본 결과 전체 노인의 8.4%가 경험하였다. 성별은 여성이, 연령은 65-69세에서 높았다. 교육수준은 낮을수록, 농촌인 경우, 경제적으로는 하위권인 경우에 미충족 치과의료료가 높았으며, 구강건강수준이 나쁘다고 인식하고, 저작불편을 호소할수록 높았다. 둘째, 미충족 치과의료 경험 유형에 따라 시간적, 경제적, 물리적 제약 중 경제적 제약인 경우가 54.1%로 가장 많았다. 셋째, 시간적, 경제적, 물리적 제약에 따른 각각의 영향요인을 분석한 결과 시간적 제약으로는 연령이 낮을수록 높았다. 경제적 제약에 따른 영향 요인으로 교육수준이 낮은 경우, 의료급여 수급자인 경우 미충족 치과의료료를 경험할 가능성이 높았다. 물리적 제약에 따른 영향 요인으로 거주지가 농촌인 경우 도시지역보다 3배 이상 미충족 치과의료 경험 가능성이 높게 나타났다. **결론:** 이상의 결과로 시간적 제약은 연령이, 경제적 제약은 가구소득수준이, 물리적 제약은 거주지가 미충족 치과의료에 영향을 주는 요인으로 나타났다. 향후 증가하는 노인인구의 미충족 치과의료료를 감소시키고, 건강불평등 해소를 위한 사회적 제도 마련이 필요할 것이다.

색인: 지역사회건강조사, 제약, 치과의료, 노인