

Prevalence of dental visits in older Japanese adults receiving public assistance

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Funding information

Innovative Research Program on Suicide Countermeasures; Chiba Foundation for Health Promotion & Disease Prevention; Japan Health Promotion and Fitness Foundation; Japan Science and Technology Corporation; Japan Society for the Promotion of Science; Meiji Yasuda Life Foundation of Health and Welfare; National Center for Geriatrics and Gerontology; Niimi University; Sasakawa Sports Foundation; the 8020 Promotion Foundation; the Ministry of Health, Labour and Welfare in Japan

Abstract

Objectives: Exemption from paying dental care costs among recipients of public assistance contributes to universal health care coverage. Although this system might reduce the financial barriers to dental care among patients, there are still several other barriers for public assistance recipients. Therefore, this study examined whether receiving public assistance was associated with a higher prevalence of dental visits for any reason, treatment and prevention.

Methods: Data were obtained from 16366 respondents from the 2019 wave of a nationwide cohort study on older adults in Japan. Poisson regression analyses with robust error variance were used to examine the associations between receiving public assistance and dental visits, adjusting for number of teeth, dental pain, periodontal conditions, age, sex, number of family members, education, equivalent household income, working status, instrumental activities of daily living, medical conditions, depressive symptoms, instrumental support and geographical variations.

Results: More than half of the non-recipients of public assistance visited a dentist for some reason in the past 6 months. Meanwhile, only 37% of the recipients visited a dentist. In addition, almost half of the non-recipients had treatment visits, while only 34% of the recipients visited. Furthermore, 46% of the non-recipients had dental visits for prevention, while 32% of the recipients had preventive visits. In the fully adjusted models, compared to non-recipients, public assistance recipients were 24% (Prevalence Ratio [PR]: 0.76, 95% Confidence Intervals [CI]: 0.64, 0.90), 23% (PR: 0.77, 95% CI: 0.65, 0.92) and 21% (PR: 0.79, 95% CI: 0.65, 0.95) less likely to have dental visits for any reason, treatment, and prevention, respectively.

Conclusions: Although recipients were exempted from dental treatment fees, receiving public assistance was associated with a lower prevalence of dental visits for any reason, treatment and prevention. Future studies should identify the barriers to accessing dental care among public assistance recipients to improve dental visits.

KEYWORDS

dental health services, health expenditures, Japan, public assistance

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1 | INTRODUCTION

Universal health coverage plays an important role in reducing the number of people who do not receive the health services they need.¹ Therefore, it should be expanded to dental care worldwide.^{2,3} Welfare assistance recipients, who are socioeconomically disadvantaged, tend to have adverse health outcomes compared to non-recipients.⁴ Hence, welfare policies for economically disadvantaged populations often consider healthcare coverage, including in Japan.

In Japan, the public assistance program (*Seikatsu-hogo* in Japanese), a welfare system for individuals from low-income backgrounds who required financial support, provides eligible households with monthly income benefits to meet the minimum standard of living. Furthermore, it ensures universal health coverage by providing full exemption from payment for medical, dental, and nursing care, including transportation fees. The recipient's eligibility for public assistance is assessed through a rigorous means evaluation for each potential household, conducted by the local municipal welfare office to calculate their assets (i.e. whether they are living below the poverty line), ability to work, financial support they receive from relatives and use of any other welfare services. In September 2020, 1.63% of the Japanese population received public assistance, and more than half of the households that received public assistance included older people.⁵

Oral health is crucial for maintaining overall health, including health-related quality of life.^{6,7} Oral diseases and conditions related to aging increase the need for preventive, restorative and periodontal dental care, especially among older people aged 65 years and older who are socio-economically disadvantaged.⁸ However, dental care utilization is costly. Hence, people who are socioeconomically disadvantaged do not tend to benefit from dental visits. A previous study reported that utilization of dental care was linked to reduced expenditure on other products and services, which showed that people with financial difficulty could have competing financial demands.⁹ In addition, women who had exited from the welfare system were significantly more likely to report financial obstacles to the reception of medical and dental care.¹⁰ Furthermore, restrictive state welfare policies were linked to lower utilization of dental care in the United States.¹¹ Therefore, exemption from dental care fees stemming from a welfare system could reduce unmet dental care needs among older adults who are socioeconomically disadvantaged. In contrast, a previous qualitative study in Canada reported that welfare recipients were strongly critical of the dental profession and developed a culture of rejecting it.¹² Thus, even though welfare recipients are exempted from dental fees, they might not try to benefit from the medical assistance.

Hence, this study examined whether receiving public assistance was associated with a higher prevalence of dental visits for treatment and prevention among older Japanese adults due to free access to dental care stemming from a welfare system. If there were no differences in dental visits between the recipients and non-recipients, the exemption from dental fees would work well in terms of access to dental care, while if the recipients were less likely to

have dental visits, it would be important to further consider non-financial obstacles.

2 | METHODS

2.1 | Study population

The cross-sectional data were from the 2019 wave of a nationwide community-based cohort study of older adults in Japan, called the Japan Gerontological Evaluation Study (JAGES). The JAGES survey used self-report questionnaires and investigated the social determinants of healthy aging among people aged ≥ 65 years. In the 2019 wave, questionnaires were mailed to approximately 345 356 community-dwelling individuals in 60 municipalities, and 240 889 older adults responded (response rate = 69.8%). A subset of the 2019 wave provided data on oral health (one-eighth of the total participants were invited to participate; $N=27 009$). This study included the participants who answered all the variables used in this study. Hence, this study included 16 366 respondents.

2.2 | Ethical considerations

The JAGES was approved by the Ethics Committees on Human Participants of the National Centre for Geriatrics and Gerontology (No. 992), Faculty of Medicine of Chiba University (No. 2493), Faculty of Medicine of the University of Tokyo (No. 10555), and Graduate School and Faculty of Medicine of Kyoto University (No. R3153). Written consent to participate was obtained in the questionnaire.

2.3 | Dependent variables

Three outcomes were used: dental visits for any reason, treatment and prevention. Information on the dental visits for treatment was obtained from the following question: 'When was the last time you visited a dentist for 'treatment'? Information on dental visits for prevention was obtained from the following question: 'When was the last time you visited a dentist for "non-treatment" (e.g. check-ups)?' The answer options were dichotomized into dental visits within 6 months or not to consider dental pain within 6 months and current periodontal conditions in the analyses. A dental visit for any reason was defined as a visit for treatment or prevention.

2.4 | Explanatory variables

Receiving public assistance was identified as the primary explanatory variable. The information on receiving public assistance was obtained using the following question: 'Do you receive public assistance now?' There were three response options: 'did not receive public assistance,' 'received public assistance,' and 'applied for public

assistance'. Those who responded 'applied for public assistance' were excluded from the analyses as they were remarkably less in number (0.03%).

2.5 | Covariates

The following covariates were chosen based on previous literature.¹³ Number of teeth was treated as a categorical variable and was measured using the following question: 'How many remaining teeth do you currently have?' (Teeth inserted or covered with metal were also included). The answers ranged from 0, 1–4, 5–9, 10–19, 20 or more. Dental pain (any toothache) within the past 6 months was also measured. The answer options were dichotomized into yes (sometimes, often, and always) and no (not at all and almost none). Participants were also asked about the condition of their gums with the following options: gums bled recently, teeth feel stretched (gums felt thin), were told by a dentist that 'gums needed treatment', or none of the above. 'None of the above' was considered as no periodontal conditions.

Sociodemographic variables included age (65–69, 70–74, 75–79, 80–84, 85+ years), sex (male vs. female), number of family members (one (c.f., lived alone), two, and three or more), education (≤ 9 years vs. > 9 years; i.e. 9-year education is mandatory in Japan), equivalized household income (which included subsidies based on public assistance and pensions, continuous; divided by 10000 Japanese yen: < 100 , ≥ 100 to < 200 , ≥ 200 to < 300 , ≥ 300 to < 400 , and ≥ 400) and working status (not working vs. working). In addition, health status, such as instrumental activities of daily living (IADL), medical conditions and depressive symptoms, were also considered. Information on IADL was obtained using five questions pertaining to the (1) use of public transportation, (2) shopping for daily necessities, (3) boiling water, (4) paying bills and (5) handling banking deposits (continuous scoring, and higher scores indicated greater functional ability). The total score indicated those who were instrumentally active. Medical conditions were measured by summing the number of diagnosed diseases/health conditions (range: 0–16), namely: hypertension, stroke (brain haemorrhage), heart disease, diabetes, hyperlipidaemia, respiratory disease (pneumonia or bronchitis), gastrointestinal,

liver, or gallbladder disease, kidney or prostate gland disease, musculoskeletal disease (osteoporosis or arthrosis), traumatic injury (fall or fracture), cancer, blood or immune system disease, dementia (Alzheimer's disease), Parkinson's disease, eye disease and ear disease. The scores were categorized into three groups: 0, 1 or 2 and 3 or more. Depressive symptoms were assessed using the short Japanese version of the Geriatric Depression Scale that comprised 15 binary questions.^{14,15} The total score (range: 0–15) was dichotomized, and a score of ≥ 5 was considered as having depressive symptoms. This measure had satisfactory internal consistency (Cronbach's $\alpha = 0.81$). Additionally, information on instrumental support was obtained using the following question: 'Do you have anyone to take care of you when you are sick and resting for a few days?' Answers of no one and others were considered as did not receive and received instrumental support, respectively. Individual municipalities were also considered to adjust for geographical variations.

2.6 | Statistical analysis

Figure 1 depicts the directed acyclic graph. When the prevalence of outcome variables is not rare, odds ratios estimated by logistic regression can overestimate the association.¹⁶ In this study, the prevalence of dental visits was high (c.f., 45%–55%); hence, Poisson regression analyses with robust error variance were used instead of logistic regression analysis to examine the association between receiving public assistance and dental visits. First, a null model for each variable was estimated. Subsequently, multivariable Poisson regression analyses was conducted controlling for various covariates (number of teeth, dental pain, periodontal conditions, age, sex, number of family members, education, equivalent household income, working status, IADL, medical conditions, depressive symptoms and instrumental support). To adjust for possible geographical variations, individual municipalities were included as dummy variables. This allowed us to control for unobserved heterogeneity in municipalities regarding variations in geographical, cultural, historical and social conditions during data collection. Since multiple imputation caused a strong bias in the data for the small number of welfare recipients, a complete-case analysis was performed. In addition, a

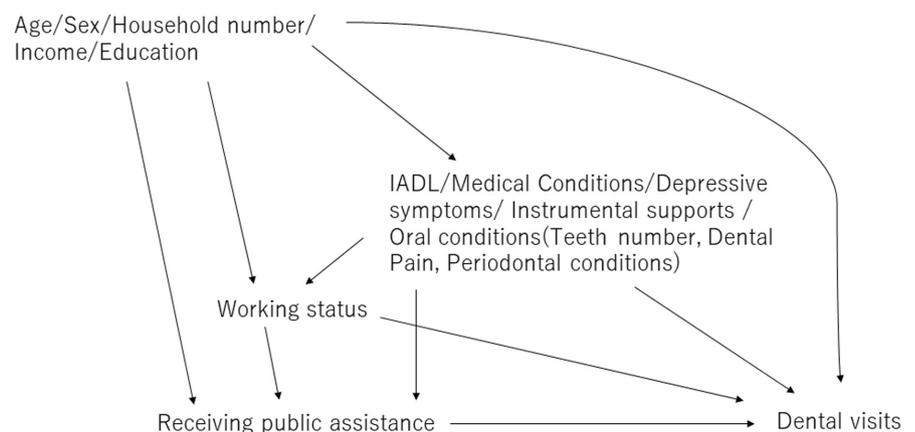


FIGURE 1 Directed acyclic graph.

TABLE 1 Participants' demographic characteristics.

| | Total (%) (n = 16 366) | Non-recipients of public assistance (%) (n = 16 137) | Recipients of public assistance (%) (n = 229) |
|---|------------------------|--|---|
| Dental visit | | | |
| No | 45.4 | 45.1 | 62.9 |
| Yes | 54.6 | 54.9 | 37.1 |
| Treatment visit | | | |
| No | 51.1 | 50.9 | 65.5 |
| Yes | 48.9 | 49.1 | 34.5 |
| Prevention visit | | | |
| No | 54.5 | 54.4 | 67.7 |
| Yes | 45.5 | 45.7 | 32.3 |
| Number of teeth | | | |
| 0 | 5.6 | 5.5 | 9.6 |
| 1-4 | 5.4 | 5.3 | 12.7 |
| 5-9 | 8.4 | 8.3 | 16.2 |
| 10-19 | 21.4 | 21.4 | 24.0 |
| 20+ | 59.2 | 59.5 | 37.6 |
| Dental pain | | | |
| No | 72.0 | 72.1 | 63.3 |
| Yes | 28.0 | 27.9 | 36.7 |
| Periodontal condition | | | |
| No | 53.7 | 53.8 | 48.9 |
| Yes | 46.3 | 46.2 | 51.1 |
| Age (years) | | | |
| 65-69 | 27.4 | 27.4 | 29.7 |
| 70-74 | 31.2 | 31.2 | 31.9 |
| 75-79 | 23.4 | 23.4 | 25.3 |
| 80-84 | 12.5 | 12.5 | 10.0 |
| 85+ | 5.4 | 5.5 | 3.1 |
| Sex | | | |
| Male | 51.7 | 51.6 | 58.5 |
| Female | 48.3 | 48.4 | 41.5 |
| Household number | | | |
| 1 | 13.6 | 13.0 | 57.6 |
| 2 | 59.4 | 59.8 | 34.1 |
| 3+ | 27.0 | 27.2 | 8.4 |
| Education | | | |
| ≤9 years | 20.7 | 20.5 | 36.2 |
| >9 years | 79.3 | 79.5 | 63.8 |
| Equalized household income (JPY10,000) | | | |
| <100 | 9.4 | 8.9 | 45.4 |
| ≥100 to <200 | 32.1 | 32.1 | 34.1 |
| ≥200 to <300 | 22.4 | 22.7 | 5.2 |
| ≥300 to <400 | 16.1 | 16.3 | 2.2 |
| ≥400 | 20.0 | 20.1 | 13.1 |

TABLE 1 (Continued)

| | Total (%) (n = 16 366) | Non-recipients of public assistance (%) (n = 16 137) | Recipients of public assistance (%) (n = 229) |
|-------------------------------|------------------------|--|---|
| Working status | | | |
| Not working | 67.3 | 67.1 | 81.7 |
| Working | 32.7 | 32.9 | 18.3 |
| IADL | | | |
| ≤4 | 42.7 | 42.8 | 37.1 |
| 5 | 57.3 | 57.2 | 62.9 |
| Medical conditions | | | |
| 0 | 22.0 | 22.1 | 14.9 |
| 1 or 2 | 60.2 | 60.2 | 58.5 |
| 3+ | 17.8 | 17.7 | 26.6 |
| Depressive symptoms | | | |
| No | 77.9 | 78.3 | 49.8 |
| Yes | 22.1 | 21.7 | 50.2 |
| Receiving care support | | | |
| No | 4.6 | 4.2 | 31.0 |
| Yes | 95.4 | 95.8 | 69.0 |

Abbreviations: IADL: instrumental activities of daily living; JPY: Japanese yen.

sensitivity analysis was conducted using ordered logistic regression with continuous variables or original categories wherever possible to avoid losing important information and underestimating the extent of variation between groups. For this analysis, the original categories used for the outcome of treatment visits and preventive visits were as follows: (1) None, (2) More than 3 years ago, (3) 1–3 years ago, (4) 6 month–1 year ago and (5) within 6 months ago. Analyses were conducted using STATA 18 MP (Stata Corp.). Results were presented as prevalence ratios (PR) with 95% confidence intervals (CI). Statistical significance was set at $p < .05$ (two-tailed).

3 | RESULTS

Of the 27 009 older adults who participated in the survey, 16 366 people (60.6%) were included in the analysis. Table 1 presents the participants' demographic characteristics. In total, 55% of the non-recipients of public assistance had dental visits for any reason, while only 37% of the recipients visited. In addition, 49% and 35% of the non-recipients and recipients visited a dentist for treatment, respectively. Furthermore, 46% and 32% of the non-recipients and recipients attended for prevention, respectively. Compared to non-recipients, recipients of public assistance tended to have fewer teeth, experienced dental pain and periodontal condition, were male, lived alone, had lower education and income, were unemployed, had better IADL; however, they also had more medical conditions, higher depressive symptoms and received lesser care support.

Table 2 presents the results from Poisson regression analyses with a robust error variance, which examined the association between public assistance and dental visits for any reason, treatment and

prevention among older adults in Japan. In a null model, recipients of public assistance were 34% less likely to visit a dentist (PR: 0.66, 95% CI: 0.56, 0.79) and 31% less likely to have treatment (PR: 0.69, 95% CI: 0.58, 0.83) and preventive dental visits (PR: 0.69, 95% CI: 0.57, 0.83). In a model adjusted for all covariates, public assistance recipients were 24%, 23%, and 21% less likely to visit a dentist (PR: 0.76, 95% CI: 0.64, 0.90), visit a dentist for treatment (PR: 0.77, 95% CI: 0.65, 0.92), and visit a dentist for prevention (PR: 0.79, 95% CI: 0.65, 0.95), respectively.

In addition, the sensitivity analysis using original categories and continuous variables showed the same trends as in the main analyses (Table S1).

4 | DISCUSSION

This study examined whether receiving public assistance was associated with dental visits. The main finding was that receiving public assistance was associated with a lower prevalence of dental attendance for both treatment and prevention.

Previous studies reported that dental care benefit coverage was a significant factor in access to dental care, especially among people who were socioeconomically disadvantaged.^{9–11,17} Furthermore, socioeconomic inequalities in unmet dental care needs were reduced by the expansion of insurance for adult dental care coverage, with an exception of older women in South Korea.¹⁸ Therefore, it was hypothesized that welfare recipients were more likely to visit dentists for treatment and prevention due to free access stemming from dental benefits. However, this study reported that the receipt of public assistance was associated with a lower prevalence of dental visits for both treatment and prevention.

TABLE 2 Association between public assistance and dental visit for any reason, treatment, and prevention among older adults in Japan based on Poisson regression analyses with a robust error variance.

| | Dental visit | | | Treatment visit | | | Prevention visit | | | | | |
|---|--------------|----------------------|-------------|-----------------|----------------------|--------------|------------------|----------------------|-------------|--------------|-------------|--------------|
| | Null model | Fully adjusted model | | Null model | Fully adjusted model | | Null model | Fully adjusted model | | | | |
| | PR | (95%CI) | PR | (95%CI) | PR | (95%CI) | PR | (95%CI) | PR | (95%CI) | | |
| Public assistance recipients (Ref: non-recipients) | 0.66 | (0.56, 0.79) | 0.76 | (0.64, 0.90) | 0.69 | (0.58, 0.83) | 0.77 | (0.65, 0.92) | 0.69 | (0.57, 0.83) | 0.79 | (0.65, 0.95) |
| Teeth number (Ref: 0) | | | | | | | | | | | | |
| 1-4 | 2.02 | (1.72, 2.37) | 1.92 | (1.64, 2.25) | 2.05 | (1.73, 2.42) | 1.90 | (1.61, 2.24) | 2.01 | (1.67, 2.43) | 1.94 | (1.60, 2.34) |
| 5-9 | 2.64 | (2.28, 3.06) | 2.44 | (2.11, 2.82) | 2.63 | (2.25, 3.06) | 2.36 | (2.02, 2.74) | 2.73 | (2.30, 3.25) | 2.57 | (2.16, 3.06) |
| 10-19 | 2.96 | (2.58, 3.40) | 2.69 | (2.34, 3.09) | 2.98 | (2.58, 3.45) | 2.65 | (2.29, 3.07) | 3.11 | (2.64, 3.67) | 2.90 | (2.45, 3.41) |
| 20+ | 3.01 | (2.62, 3.45) | 2.77 | (2.41, 3.17) | 2.83 | (2.45, 3.27) | 2.58 | (2.23, 2.97) | 3.28 | (2.79, 3.85) | 3.05 | (2.59, 3.59) |
| Dental pain (Ref: no) | 1.27 | (1.23, 1.30) | 1.26 | (1.22, 1.30) | 1.38 | (1.34, 1.42) | 1.35 | (1.31, 1.40) | 1.15 | (1.11, 1.19) | 1.15 | (1.11, 1.19) |
| Periodontal conditions (Ref: none) | 1.12 | (1.09, 1.15) | 1.01 | (0.98, 1.04) | 1.17 | (1.14, 1.21) | 1.04 | (1.01, 1.07) | 1.10 | (1.06, 1.14) | 1.03 | (0.99, 1.06) |
| Age (Ref: 65-69) | | | | | | | | | | | | |
| 70-74 | 1.05 | (1.01, 1.09) | 1.08 | (1.04, 1.12) | 1.06 | (1.02, 1.11) | 1.09 | (1.04, 1.14) | 1.05 | (1.01, 1.10) | 1.08 | (1.03, 1.13) |
| 75-79 | 1.08 | (1.04, 1.12) | 1.14 | (1.09, 1.19) | 1.12 | (1.07, 1.17) | 1.17 | (1.12, 1.22) | 1.09 | (1.04, 1.14) | 1.15 | (1.10, 1.21) |
| 80-84 | 1.03 | (0.98, 1.08) | 1.14 | (1.08, 1.19) | 1.06 | (1.01, 1.11) | 1.15 | (1.09, 1.22) | 1.01 | (0.95, 1.07) | 1.13 | (1.06, 1.20) |
| 85+ | 0.86 | (0.79, 0.93) | 1.05 | (0.97, 1.13) | 0.88 | (0.81, 0.96) | 1.06 | (0.98, 1.16) | 0.88 | (0.80, 0.96) | 1.09 | (0.99, 1.19) |
| Female (Ref: Male) | 1.09 | (1.06, 1.12) | 1.06 | (1.02, 1.09) | 1.08 | (1.05, 1.12) | 1.06 | (1.03, 1.10) | 1.20 | (1.16, 1.24) | 1.13 | (1.09, 1.18) |
| Household number (Ref: Alone) | | | | | | | | | | | | |
| 2 | 1.05 | (1.01, 1.09) | 1.02 | (0.98, 1.06) | 1.02 | (0.98, 1.07) | 0.99 | (0.95, 1.04) | 1.01 | (0.96, 1.05) | 1.01 | (0.96, 1.07) |
| 3+ | 0.99 | (0.94, 1.04) | 0.97 | (0.92, 1.02) | 0.97 | (0.92, 1.03) | 0.96 | (0.91, 1.01) | 0.94 | (0.89, 0.99) | 0.96 | (0.90, 1.01) |
| Education >9 years (Ref: ≤9 years) | 1.19 | (1.15, 1.24) | 1.13 | (1.08, 1.17) | 1.16 | (1.11, 1.21) | 1.11 | (1.06, 1.15) | 1.15 | (1.10, 1.21) | 1.09 | (1.04, 1.14) |
| Equalized household income (JPY10,000; Ref: <100) | | | | | | | | | | | | |
| ≥100 to <200 | 1.09 | (1.03, 1.16) | 1.04 | (0.98, 1.10) | 1.09 | (1.02, 1.16) | 1.04 | (0.98, 1.11) | 1.06 | (0.99, 1.13) | 1.02 | (0.95, 1.09) |
| ≥200 to <300 | 1.14 | (1.08, 1.21) | 1.07 | (1.01, 1.13) | 1.1 | (1.03, 1.18) | 1.05 | (0.98, 1.12) | 1.12 | (1.05, 1.20) | 1.07 | (0.99, 1.14) |
| ≥300 to <400 | 1.20 | (1.13, 1.27) | 1.11 | (1.05, 1.18) | 1.17 | (1.09, 1.25) | 1.11 | (1.04, 1.19) | 1.12 | (1.04, 1.21) | 1.05 | (0.98, 1.13) |
| ≥400 | 1.16 | (1.10, 1.24) | 1.11 | (1.04, 1.18) | 1.13 | (1.06, 1.21) | 1.09 | (1.02, 1.17) | 1.14 | (1.06, 1.22) | 1.09 | (1.01, 1.17) |
| Working (Ref: Not working) | 0.99 | (0.96, 1.02) | 0.99 | (0.96, 1.02) | 0.99 | (0.96, 1.03) | 1.01 | (0.97, 1.04) | 0.96 | (0.93, 0.99) | 0.97 | (0.94, 1.01) |
| Complete IADL (Ref: ≤4) | 1.12 | (1.09, 1.16) | 1.08 | (1.04, 1.11) | 1.12 | (1.08, 1.15) | 1.08 | (1.04, 1.12) | 1.21 | (1.17, 1.25) | 1.10 | (1.06, 1.15) |

TABLE 2 (Continued)

| | Dental visit | | | Treatment visit | | | Prevention visit | | | | | |
|--|--------------|--------------|----------------------|-----------------|-------------|----------------------|------------------|--------------|----------------------|--------------|-------------|--------------|
| | Null model | | Fully adjusted model | Null model | | Fully adjusted model | Null model | | Fully adjusted model | | | |
| | PR | (95%CI) | PR | (95%CI) | PR | (95%CI) | PR | (95%CI) | PR | (95%CI) | | |
| Medical conditions (Ref: None) | | | | | | | | | | | | |
| 1 or 2 | 1.06 | (1.02, 1.10) | 1.05 | (1.02, 1.09) | 1.09 | (1.05, 1.14) | 1.08 | (1.04, 1.12) | 1.03 | (0.99, 1.08) | 1.04 | (0.99, 1.08) |
| 3+ | 1.13 | (1.08, 1.18) | 1.14 | (1.09, 1.19) | 1.19 | (1.13, 1.25) | 1.18 | (1.12, 1.24) | 1.08 | (1.03, 1.14) | 1.10 | (1.05, 1.16) |
| Depressive symptoms (Ref: No) | 0.88 | (0.85, 0.91) | 0.90 | (0.87, 0.93) | 0.89 | (0.86, 0.93) | 0.89 | (0.85, 0.93) | 0.88 | (0.84, 0.92) | 0.90 | (0.87, 0.94) |
| Instrumental support (Ref: no support) | 1.14 | (1.06, 1.22) | 1.07 | (0.99, 1.16) | 1.15 | (1.06, 1.25) | 1.10 | (1.02, 1.21) | 1.10 | (1.01, 1.20) | 1.04 | (0.95, 1.14) |

Note: The bold values in table show $p < .05$.

Abbreviations: IADL, instrumental activities of daily living; JPY, Japanese yen; PR, prevalence ratio.

The findings of this study suggested that exemption from dental treatment fees for the recipients of public assistance did not lead to an improvement of dental attendance, which suggested other reasons for not visiting a dentist for treatment or prevention. In Australia, 25% of older adults with disabilities reported an unmet need for dental treatment due to discrimination and negligence towards people with disabilities.¹⁹ There is evidence that recipients of public assistance in Japan might be more susceptible to stigma and discrimination,²⁰⁻²² which might result in welfare recipients avoiding a dentist visit. Furthermore, a Canadian qualitative study also reported that welfare recipients tended to have a culture of rejecting the dental profession.¹² Thus, social norms and discrimination towards welfare recipients might explain the lack of dental attendance among public assistance recipients.

The finding that receiving public assistance was associated with a lower prevalence of dental visits for any reason, treatment and prevention may have important policy implications. The results of this study suggest the importance of additional support for access to dental care among public assistance recipients. In Japan, since 2021, to enhance health support for public assistance recipients, the establishment of a 'health management support program for public assistance recipients' was mandated in all regional welfare offices.²³ Therefore, spreading awareness regarding dental attendance among those who supported public assistance recipients may lead to better interventions. In particular, regular visits to recipients by caseworkers could be used as an opportunity to bridge the gap between public assistance recipients with dental care needs and dental institutions. However, considering the heavy workload of caseworkers in providing support for recipients, it is essential that concrete systems/policies are established to promote access to dental care. A proportionate universalism approach to community dental health activities for older people, which targets the entire older population, although pays more attention to older public assistance recipients, would help address the issues of health inequalities.²⁴

This study has some limitations. First, data were collected using a self-reporting approach. Therefore, recall and self-reporting biases were unavoidable. Second, this study did not consider some possible barriers to dental visits, such as geographical factors, accessibility to dental care and psychosocial barriers, due to limited data availability. Hence, a future study should consider these barriers. Finally, this study included only data from older Japanese adults. Therefore, future studies should examine the impact of social welfare on dental visits among other age groups or in different geographical contexts.

5 | CONCLUSION

Although recipients were basically exempted from dental treatment fees, receiving public assistance was associated with a lower prevalence of dental visits for treatment, prevention and any reason. Future studies should identify the barriers to dental care access among public assistance recipients to improve access to dental care.

AUTHOR CONTRIBUTIONS

SK and JA conceptualized and designed the study; SK analysed the data and prepared the manuscript; KU, DN and NK reviewed and commented on the manuscript; SK and JA finalized the manuscript. All authors read and approved the final manuscript.

FUNDING INFORMATION

This study was supported by Grant-in-Aid for the JSPS Fellows (JP20J01910), JSPS KAKENHI Grant Number (JP22K17266, JP15H01972), Health Labour Sciences Research Grant (H28-Choju-Ippan-002), Japan Agency for Medical Research and Development (AMED) (JP17dk0110017, JP18dk0110027, JP18ls0110002, JP18le0110009, JP20dk0110034, JP20dk0110037), Open Innovation Platform with Enterprises, Research Institute and Academia (OPERA, JPMJOP1831) from the Japan Science and Technology (JST), and grants from Innovative Research Program on Suicide Countermeasures (1-4), Sasakawa Sports Foundation, Japan Health Promotion & Fitness Foundation, Chiba Foundation for Health Promotion & Disease Prevention, the 8020 Research Grant for fiscal 2019 from the 8020 Promotion Foundation (adopted number: 19-2-06), Niimi University (1915010), Meiji Yasuda Life Foundation of Health and Welfare, and the Research Funding for Longevity Sciences from National Centre for Geriatrics and Gerontology (29-42, 30-22), The Ministry of Health, Labour and Welfare in Japan Grant name: the Health Labor Sciences Special Research Grant number: 23CA2001.

CONFLICT OF INTEREST STATEMENT

The authors have no conflicts of interest to declare.

DATA AVAILABILITY STATEMENT

The data are not publicly available; however, the data that support the findings of this study are available on request from <https://www.jages.net/>.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

How to cite this article: Kino S, Ueno K, Nishioka D, Kondo N, Aida J. Prevalence of dental visits in older Japanese adults receiving public assistance. *Community Dent Oral Epidemiol*. 2023;00:1-8. doi:[10.1111/cdoe.12902](https://doi.org/10.1111/cdoe.12902)