

# Oral status and homebound status. A 6-year bi-directional exploratory prospective cohort study

Is oral status associated with being homebound bi-directionally? <https://doi.org/10.1111/odi.14039>



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ORAL DISEASES  
Leading in Oral, Maxillofacial, Head & Neck Medicine



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## Introduction

- Being homebound (defined as going outdoors less than once a week) is a major problem for older people in aging societies like Japan.
- Little is known about the association between oral status and homebound status, and there is a possibility of a bi-directional relationship between them.

**Aim:** we examined the association between four oral status measurements (the number of remaining teeth and three oral functions; chewing difficulty, choking experience and dry mouth) and being homebound bidirectionally.

## Methods

**Target population:** Functionally independent participants aged 65 years and older. The mean age at the baseline was 72.4 years (SD=5.04 years)

**Data:** the JAGES Panel data gathered between 2010 & 2016

**Predictors & Outcome:** Being homebound & the four oral status measurements.

Due to the bi-directional nature of our study, we selected the participants with a favorable status for each outcome at the baseline in each cohort analysis.

**Covariates:** Age, sex, educational attainment, comorbidity, and depressive symptoms (GDS-15).

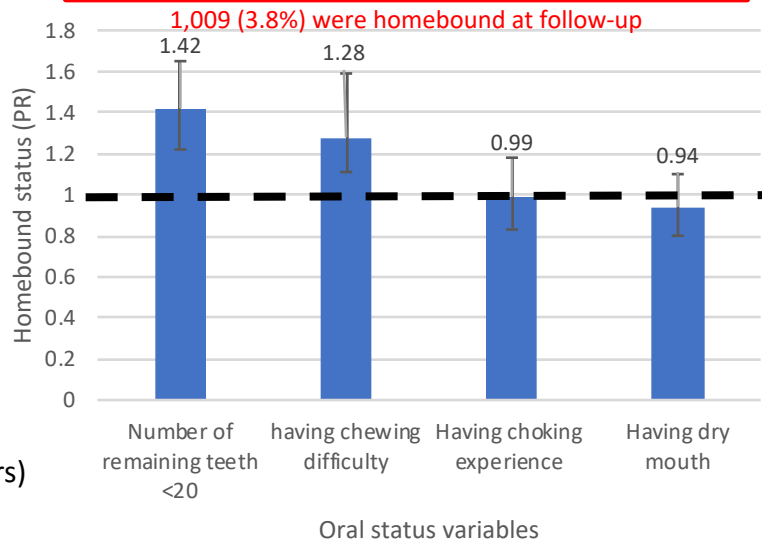
**Statistical analysis:** descriptive analyses followed by Poisson regression analyses to calculate the prevalence ratio (PR) of the outcomes.

## Discussion

- Chewing difficulty and having <20 remaining teeth predicted homebound status after 6-years. While, neither having choking experience nor having dry mouth predicted homebound status.
- The effect of having < 20 teeth or having chewing difficulty on becoming homebound is equivalent to the effect of getting 5 years older from the age of 70 to the age of 75 years old.
- Reversely, homebound status at baseline only predicted having chewing difficulty at follow-up, but, did not predict the incidence of the other three oral health status variables.
- Our findings could be explained by the poor nutrition and/or the poor facial appearance pathways from oral health to homebound status.
- Reversely, sarcopenia of the head and neck muscles could possibly explain the mechanism from homebound status to having chewing difficulty.

## Results

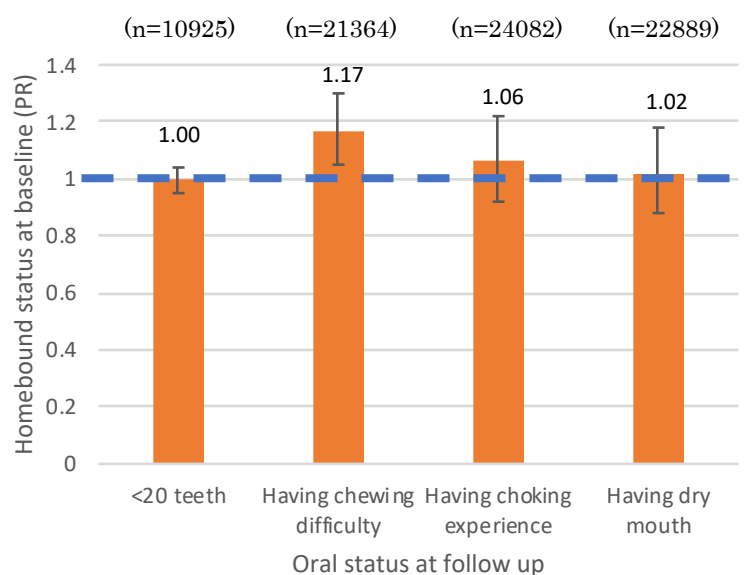
**Figure 1. Findings of the Poisson regression analyses with multiple imputation for the four oral status measures and homebound status at follow-up 2016 excluding those who were homebound at baseline in 2010 (N=26,579).**



Adjusted for age, sex, educational attainment, comorbidity, and depressive symptoms (GDS-15).

**Figure 2. Findings of the fully adjusted Poisson regression analyses with multiple imputation for homebound status at Baseline in 2010 and each of the four oral status measures at follow-up in 2016 separately, excluding those who reported adverse oral status at baseline.**

we created four datasets



Adjusted for age, sex, educational attainment, comorbidity, and depressive symptoms (GDS-15).

## Conclusion

- This study suggests that chewing ability and the number of teeth are the most important measures for oral frailty in relation to being homebound.
- Maintaining the number of remaining teeth in the older population is important to reduce the burden of being homebound.
- These findings may help to determine the oral frailty assessment measures for older people.

## Acknowledgments

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