

## The association between eating vegetables at start of meal and dental caries among Japanese children

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### Background:

Dental caries is still serious problem among Japanese children. Previous studies suggested that higher consumption of vegetables prevent dental caries. Eating order habit, such as eating vegetables at start of meal, called “Vege-first”, may increase the amount of vegetable consumption, and in turn, prevent dental caries. However, no published studies have examined the impact of “Vege-first” habit on dental caries. The aim of this study to investigate the association between “Vege-first” and dental caries among Japanese children.

### Methods:

We used the 2015 cross-sectional data from the Adachi Child Health Impact of Living Difficulty (A-CHILD) study, a population-based study of all first-grade students in Adachi City, Tokyo, Japan. The number of DMFT (decayed, missed

due to decay, and filled teeth) was used as an outcome. Poisson regression analyses were applied to determine the independent association between “Vege-first” habit and the number of DMFT after controlling for the effects from child’s sex, parents’ marital status, socioeconomic status, and frequency of tooth brushing, drinking sweet beverages, and snacking.

#### **Results:**

Of 3,689 valid Japanese children participants, 38.2% had DMFT and 11.6% were having the “Vege-first” habit. The number of DMFT decreased linearly with “Vege-first” habit ( $p < 0.001$ ). After controlled for covariates, the number of DMFT was still significantly and independently decreased with “Vege-first” habit (prevalence ratio = 0.89 (95% confidential interval [0.81-0.98])).

#### **Conclusions:**

This study showed that having the “Vege-first” habit was associated with dental caries even accounting for socioeconomic status, dental health behavior, and dietary habits. Health policy introducing “Vege-first” habit may be effective to prevent pediatric dental caries.

#### **Key messages:**

- Eating habit which vegetables at start of meal called “Vege-first” may increase the amount of vegetable consumption and possibly reduce dental caries.
- The habituation of Vege-first was likely to reduce child’s dental caries even accounting for socioeconomic status, dental health behavior and dietary habits.