

**Title:** THE ASSOCIATION BETWEEN NON-TRAUMATIC TOOTH LOSS AND CARDIOVASCULAR DISEASE IN A SAMPLE OF US ADULTS

**Category:** Prevention

### **Abstract**

**BACKGROUND:** Cardiovascular disease (CVD), remains the leading cause of death in the US. In 2014, the number of deaths due to CVD was 747,451. Oral disease (OD) is a chronic systemic inflammation that frequently causes tooth loss due to the breakdown of periodontal tissue. However, there is a lack of consent on the causal association of OD and CVD. The aim of this research is to study the association between non-traumatic tooth loss and cardiovascular disease in a sample of US adults.

**METHOD(S):** We conducted a secondary data analysis of the 2014 Behavioral Risk Factor Surveillance System (BRFSS), which uses telephone surveys to obtain state-representative samples of non-institutionalized adults aged  $\geq 18$  years living in the US. The independent variable was tooth loss and the dependent variable was the presence of CVD which includes heart attack, angina and/or strokes. We included all respondents residing in the US and territories aged 40-79 years. Multivariable logistic regression was utilized to obtain the odds ratio (OR) and 99% confidence interval (CI) for the association of tooth loss and CVD after adjustment for potential confounders. A p-value  $< 0.01$  was considered statically significant.

**RESULT(S):** The study sample included 316,588 participants. The highest percentages of participants were 50 and 59 years old (32%) and 52% were females. Overall, 8% (n=25,365) were edentulous and 13% (n=40,690) had CVD. The proportion of CVD among participants who were also edentulous was 28% compared with those with CVD who did not have missing teeth 7% (p=0.001). Participants who reported 1-5 missing teeth, 6 or more teeth but not all, or were edentulous were more likely to develop CVD (OR=1.2, 95% CI= 1.1-1.3; OR=1.7, 95% CI= 1.5-1.8; OR=1.8, CI= 1.7-2.0, respectively) after adjusting for gender, age, race, education, income, BMI, health insurance coverage, exercise, smoking, heavy alcohol intake, dental visits, and diabetes.

**CONCLUSION(S):** There is an independent association between the number of non-traumatic tooth loss and CVD among US residents aged 40-79 years. Findings of this study lend to support the recommendation of adequate oral health care in this age group.