

Environmental tobacco smoke is associated with periodontitis in US non-smokers

March 13 2015

Today at the 93rd General Session and Exhibition of the International Association for Dental Research, researcher Aderonke A. Akinkugbe, University of North Carolina at Chapel Hill, USA, will present a study titled "Environmental Tobacco Smoke is Associated With Periodontitis in U.S. Non-smokers." The IADR General Session is being held in conjunction with the 44th Annual Meeting of the American Association for Dental Research and the 39th Annual Meeting of the Canadian Association for Dental Research.

Periodontitis affects approximately 47% of adults in the United States and the U.S. Surgeon General has concluded that cigarette smoking is one of its causes. Despite numerous adverse health effects of environmental tobacco smoke (ETS), an association between [periodontitis](#) and this "second-hand smoke" in non-smokers remains questionable. In this study, the researchers aimed to investigate the association between serum cotinine and periodontitis among U.S. non-smokers.

Data for this cross-sectional analysis were derived from 3,255 self-reported lifetime non-smokers aged ≥20 years who participated in the 2009-2012 National Health and Nutrition Examination Survey, underwent periodontal examination and provided blood samples. Serum cotinine, a metabolite of nicotine, was used to classify participants as exposed to ETS when its concentration was between 0.015mg/ml (the lower detection limit of the assay) and 3ng/ml. Participants with >3ng/ml were excluded because it suggests mis-reporting of smoking or exposure

to smokeless tobacco. Moderate/Severe periodontitis was defined as the presence of ≥ 2 interproximal sites with attachment loss of ≥ 4 mm OR ≥ 2 interproximal sites with probing pocket depth of ≥ 5 mm. Odds ratios (OR) and 95% confidence limits (95%CL) were estimated using logistic regression models for survey data. Potential effect measure modification was evaluated and models adjusted for confounding effects of age, gender, race/ethnicity, diabetes, income and education.

The percentage (95%CL) of non-smokers with serum cotinine levels ≥ 0.015 ng/ml was 57.4% (54.5, 60.3) and 31% (28.1, 33.9) had moderate/severe periodontitis. The unadjusted odds of moderate/severe periodontitis was 62% higher [OR(95%CL)=1.62(1.32, 1.98)] among the exposed compared to the unexposed. There was no significant effect modification by race/ethnicity ($p > 0.9$). In the fully adjusted analysis, non-smokers exposed to ETS had 1.45 times the odds of moderate/severe periodontitis as unexposed non-smokers [OR(95%CL)=1.45(1.18, 1.77)]. ETS exposure was significantly associated with greater odds of moderate/severe periodontitis among adult U.S [non-smokers](#).

This research was funded by the National Institutes of Health-National Institute of Dental and Craniofacial Research, 5T90DE021986-04 NIH NRSA T90 Training Grant.

More information: This is a summary of abstract #2876 titled "Environmental Tobacco Smoke is Associated With Periodontitis in U.S. Non-smokers," to be presented by Aderonke A. Akinkugbe on Friday, March 13, 2015, from 3:30 p.m. - 4:45 p.m. in Hall C of the Hynes Convention Center.

Provided by International & American Associations for Dental Research

Citation: Environmental tobacco smoke is associated with periodontitis in US non-smokers (2015, March 13) retrieved 4 May 2024 from <https://medicalxpress.com/news/2015-03-environmental-tobacco-periodontitis-non-smokers.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.