

E-cigarettes and tobacco product use linked to increased risk of oral cancer

July 29 2018

At the 96th General Session of the International Association for Dental Research (IADR), held in conjunction with the IADR Pan European Regional (PER) Congress, Benjamin Chaffee, University of California, San Francisco, USA gave a poster presentation "Nicotine and Carcinogen Exposure by Tobacco Product Type and Dual-Use." The IADR/PER General Session & Exhibition is in London, England at the ExCeL London Convention Center from July 25-28, 2018.

Tobacco use remains a leading cause of oral cancer but the tobacco landscape is evolving with increasing use of non-cigarette tobacco products and dual-use of multiple product types. Chaffee and co-author Neal Benowitz, also from the University of California, San Francisco, evaluated exposure to known carcinogens according to recent use of different tobacco product types, alone or in combination.

Data was analyzed from the Population Assessment of Tobacco and Health which includes a sample of U.S. adults who provided urine specimens for analysis of tobacco-specific nitrosamines (TSNAs) N'-nitrosonornicotine (NNN), a known oral and esophageal carcinogen, 4-(methylnitrosamino)-1-(3)-pyridyle-1-butanol (NNAL), a metabolite of lung carcinogen (NNK) and total nicotine equivalents.

Participants were categorized according to use of combustible—which includes cigarettes, cigars, water pipe, pipes, blunts (marijuana-containing cigars), smokeless—which includes moist snuff, chewing tobacco and snus, e-cigarettes and [nicotine replacement products](#). For

each product, recent use was defined as within the prior 3-days and non-use defined as none within 30-days.

All tobacco use categories demonstrated elevated nicotine and TSNA concentrations relative to non-users. TSNA exposures were highest among smokeless tobacco users, whether used or together with other product types. Exclusive e-cigarette users were exposed to lower NNN and NNAL levels than other product users, despite comparable nicotine exposure. However, most e-cigarette users concurrently used combustible tobacco resulting in TSNA exposure similar to exclusive cigarette smokers.

The analysis shows that the vast majority of non-cigarette [tobacco](#) users are exposed to [carcinogen](#) levels comparable to or exceeding [exposure](#) among exclusive cigarette smokers—levels that are likely to place users at substantial risk.

More information: www.iadr.org/

Provided by International & American Associations for Dental Research

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