

# Cigars expose smokers to harmful, cancer-causing agents

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The levels of several toxic substances are elevated in cigar smokers, and for at least one potent cancer-causing agent, comparable to the levels found in cigarette smokers, according to a study published in *Cancer Epidemiology, Biomarkers & Prevention*, a journal of the American Association for Cancer Research. This research suggests that smoking cigars may be just as harmful as smoking cigarettes.

Results of the study showed that current cigar smokers had substantially higher concentrations of several biomarkers of tobacco exposure than non-tobacco users. In cigar smokers with a prior history of cigarette smoking, the levels of exposure were even greater. These findings are consistent with prior studies showing that former cigarette smokers are more likely to inhale cigar smoke deeply.

"Cigar smoking exposes users to similar types of harmful and cancer-causing agents as cigarette smoking," said Jiping Chen, MD, PhD, MPH, epidemiologist in the Office of Science at the U.S. Food and Drug Administration (FDA) Center for Tobacco Products and lead author of the study.

Cigar consumption in the United States more than doubled from 2000 to 2011, according to data from the Centers for Disease Control and Prevention.

Chen and colleagues analyzed the presence of five biomarkers of tobacco exposure in 25,522 participants in the National Health Nutrition and Examination Survey (NHANES, 1999-2012). Two of the biomarkers, cotinine and 4-(methylnitrosamino)-1-(3-pyridyl)-1-butanol (NNAL), are specific to tobacco. Three [biomarkers](#)—lead, cadmium, and arsenic—are not tobacco-specific and can be found in environmental sources.

The researchers found that cigar smokers, regardless of current cigarette smoking status, had higher concentrations of cotinine, NNAL, cadmium,

and lead than did non-tobacco users. Cigar smokers with a history of [smoking cigarettes](#) had significantly higher concentrations of cotinine and NNAL than cigar smokers who did not previously smoke cigarettes. Finally, the researchers found that concentrations of NNAL in daily cigar smokers are comparable with that of daily cigarette smokers.

"Cigar smokers have higher levels of exposure to harmful constituents, including cotinine, NNAL, and toxic metals, than non-tobacco users," Chen said. "Once differences are accounted for in frequency of use, the levels of NNAL, a strong carcinogen, are comparable in cigar and cigarette smokers."

**More information:** "Biomarkers of Exposure among U.S. Cigar Smokers: An Analysis of 1999–2012 National Health and Nutrition Examination Survey (NHANES) Data." *Cancer Epidemiol Biomarkers Prev* Published OnlineFirst November 7, 2014; [DOI: 10.1158/1055-9965.EPI-14-0849](#)

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