Medical Xpress

CDC: American cigarettes contain more carcinogens

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Cigarette-smoking Americans receive higher doses of the most potent carcinogens than do smokers in many foreign countries because of variations in the way tobacco is processed for cigarettes, researchers from the Centers for Disease Control and Prevention reported Monday.

American cigarettes are typically made from "American blend" tobacco, a specific blend that, because of growing and curing practices, contains higher levels of cancer-causing tobacco-specific nitrosamines. The most popular Canadian, Australian and British brands, in contrast, are made from "bright" tobacco, which is lighter in color and cured differently.

The study was designed primarily to correlate how well levels of the chemicals in cigarettes correlate with levels of their metabolites in smokers' urine. The data about exposure to the chemicals in different countries were an added benefit.

The CDC team enlisted 126 regular smokers in Australia, Canada, Britain and, in the U.S., in New York and Minnesota. All smoked one brand routinely, typically the most popular brands in their country. Smokers in Minnesota smoked Marlboro, Newport, Marlboro Light and Camel Light, while those in New York smoked Marlboro, Newport, Newport Light, Camel Light and Marlboro Menthol.

The team focused on the most lethal carcinogen in the tobacco smoke, 4-(methylnitrosoamino)-1-(3-pyridyl)-1-butanone (NNK), and its primary metabolite in urine, known informally as NNAL. They collected

cigarette butts from each smoker over a 24-hour period and analyzed them for the content of NNK, an indicator of how much of the carcinogen the smokers were exposed to. They also collected urine and measured levels of NNAL.

The team reported in the journal Cancer Epidemiology Biomarkers and Prevention that the amount of NNAL in urine was directly related to the amount in the cigarette butts and that significantly higher levels were found in U.S. smokers, with levels in New York higher than those in Minnesota. The lowest levels were found in Australia and Canada, while the British smokers displayed intermediate levels.

"We know that cigarettes from around the world vary in their ingredients and the way they are produced," Dr. Jim Pirkle of CDC's National Center for Environmental Health said in a statement. "All of these cigarettes contain harmful levels of carcinogens, but these findings show that amounts of tobacco-specific nitrosamines differ from country to country, and U.S. brands are the highest in the study."

Changes in curing and blending practices could reduce U.S. smokers' exposure to this particular carcinogen, he added, but that would not necessarily result in a safer product.

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