

New cigarette designs don't offer lower predicted cancer risks

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The tobacco company's description of its new cigarette brand seems to promise a lot.

"May present less risk of cancer associated with smoking," the company boasts on its Web site, making it a natural choice "for smokers who have decided not to quit, but who are interested in a cigarette that responds to concerns about certain smoking-related illnesses, including cancer." Another tobacco firm, in a print ad for the brand, has crowed "All of the taste ... Less of the toxins."

But a study by Dr. James F. Pankow of Oregon Health & Science University may snuff out claims by tobacco companies that smoking such newly marketed "potentially reduced-exposure product" (PREP) cigarettes is safer. The study, appearing March 16 in the journal *Cancer Epidemiology Biomarkers & Prevention*, found that the predicted risks of lung cancer from PREP cigarettes is not meaningfully lower than for the conventional cigarettes that most smokers puff on every day.

The report demonstrates that science does not adequately understand the sources of the cancer effects of smoke from conventional cigarettes. As a result, even if some of the known toxins –such as formaldehyde, arsenic, and cadmium – are removed from cigarette smoke by the new PREP designs, tobacco companies could not be sure the cancer risks had been lowered to any meaningful degree. The paper states that this makes promises of reduced harm based on such removal "speculative and unverified."

"Despite all the years of research, we can only account for a small percentage of the carcinogenicity of smoking conventional cigarettes," said Pankow, Ph.D., professor in environmental and biomolecular systems at OHSU's OGI School of Science & Engineering, and a member of the OHSU Cancer Institute.

"People have known for a long time that there are carcinogens in tobacco smoke, but if you look at the levels in conventional cigarettes and expected potency of those known carcinogens, and you add up all the predicted carcinogen activity, you don't come close to what's observed for the smoking-related lung cancer rate in the population," he said.

Grover Bagby, M.D., professor of medicine (hematology and medical oncology) and director of the OHSU Cancer Institute, said "the tobacco industry would have us believe that the health risks of tobacco use can be reduced by using new tobacco products. Dr. Pankow and his colleagues have challenged that idea in a strong epidemiological way. The Cancer Institute is actively supporting the translational research of projects of Dr. Pankow designed to biologically confirm his epidemiological studies."

Pamela Clark, Ph.D., senior research scientist at Battelle Centers for Public Health Research and Evaluation in Baltimore, said Pankow's study "has profound implications for tobacco product regulation." Clark studies the impact of comprehensive tobacco use prevention and control programs, as well as advertising and promotion of tobacco products in retail stores.

"Dr. Pankow's study shows that simply lowering the levels of a few known harmful compounds from tobacco smoke may not significantly reduce the risks of smoking," she said.

Pankow's group examined carcinogen deliveries from 26 brands of conventional "regular," "light" and "ultralight" cigarettes. Using U.S. Environmental Protection Agency data for the potency of carcinogens, Pankow's team showed that these deliveries are only able to account for about 2 percent of the lung cancer risk associated with smoking cigarettes.

Pankow said: "Since we can't account for the risks from smoking conventional cigarettes, it does not accomplish much to just remove a few of the known toxins. An analogy might be someone who abuses alcohol by drinking 10 beers a day, but says they are going to cut down to 9."

Such findings could lead to tightened restrictions on how tobacco companies market their products. Legislation is now being considered in Congress on whether and how the U.S. Food and Drug Administration should be allowed to regulate cigarettes.

"Marketing claims need to be tightly regulated. Tobacco companies should not be allowed to make expressed or implied promises that can't be completely supported," Pankow said.

Source: Oregon Health & Science University

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