

Differences in cigarette design and metal content across five countries: results from the International Tobacco Control (ITC) Project

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Abstract

Objectives: We examined physical cigarette design characteristics and tobacco metal content of cigarettes obtained from 5 countries to determine how these properties vary for cigarette brands, both within and across countries with different dominant manufacturers.

Methods: Cigarette packs were collected from International Tobacco Control Policy Evaluation Survey (ITC) participants in the United States (US), the United Kingdom (UK), Mauritius, Mexico, and Thailand. Cigarettes were assessed for physical and design properties (eg, ventilation, pressure drop, rod density, weight) by published methods, and for metal content (As, Cd, Ni, Pb) by X-ray fluorescence spectrometry.

Results: Statistically significant differences in cigarette design and toxic metal concentrations were observed among countries and among manufacturers within countries. Filter ventilation, which is strongly predictive of machine-measured tar and nicotine levels, varied most widely across countries. Ni and Cd were highest in Thailand (2.23ug/g and 1.64ug/g, respectively); As was highest in Mexico (0.29ug/g) and Pb was highest in the UK. (0.43 ug/g).

Conclusions: Parties to the FCTC should consider the adoption of uniform product standards related to cigarette design, emissions, and tobacco content that would reduce population health risks.

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