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[home](#) >

CSU 79/2011: CIGARETTE SMOKE INCREASES SUSCEPTIBILITY TO TUBERCULOSIS

Sunday, 6th of March 2011  

From the *Journal of Infectious Diseases*, 'Cigarette smoke increases susceptibility to tuberculosis.' Why is it that so few governments in Africa and Asia have declared war on tobacco, or even taken up arms against it? Why can I buy unfiltered cigarettes for a dollar a pack in most of Africa, where they would cost \$10, with age screening, in most OECD countries? Who benefits by making premature death cheap and easy?

Full text is at <http://jid.oxfordjournals.org/content/early/2011/02/22/infdis.jir009.full>

From the discussion: In summary, we have shown in an in vivo model of *M. tuberculosis* infection that prior CS exposure impairs host defense against tuberculosis. We corroborated these findings in differentiated THP-1 human macrophages and primary human alveolar macrophages exposed to CS extract. Using both types of human macrophages, we showed that 2 of the major components of CS—nicotine and acrolein—likely play a role in the increased susceptibility to tuberculosis with CS exposure. These studies are the first (to our knowledge) to experimentally explain the biological mechanisms behind the epidemiological link between CS exposure and increased susceptibility to tuberculosis described in the literature. Future studies should examine the mechanisms by which acrolein, nicotine, and possibly other components of CS may be responsible for the enhanced susceptibility to tuberculosis. Since there is also strong epidemiological evidence that CS exposure increases the risk of reactivation tuberculosis, future studies should address a latent model of tuberculosis infection to determine whether CS increases susceptibility to reactivation tuberculosis.

Cigarette Smoke Increases Susceptibility to Tuberculosis—Evidence From In Vivo and In Vitro Models

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