

SMOKED TOBACCO, AIR POLLUTION, AND TUBERCULOSIS IN LAO PDR: FINDINGS FROM A NATIONAL SAMPLE

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Abstract:

Significance: In 2017, more than half of the global burden of disease from tuberculosis (TB), came from the Western Pacific Region. In Lao People's Democratic Republic (PDR), the high rates of tobacco use and use of polluting biomass fuels for cooking (e.g., wood, charcoal, crop waste, dung) both represent significant risk factors for TB. The purpose of this study was to determine the association between self-reported 1) smoking and TB, and 2) exposure to air pollution (from both cooking fires and environmental tobacco smoke) and TB among adults in Lao PDR. **Methods:** We analyzed data from the 2012 National Adult Tobacco Survey (NATSL) of Lao PDR - a multi-stage stratified cluster sample of 9,706 subjects from 2,822 households located in all 17 provinces. **Results:** Utilizing a nationally representative sample, we observed a significant increase in odds of self-reported TB among those who smoked tobacco (OR = 1.73 95% CI = [1.00, 2.98]). Larger multivariable models identified independent contributions from exposure to tobacco pipes (OR = 21.51 95% CI = [6.34, 72.89]) and communal outdoor fires (OR=2.27 95% CI = [1.15, 4.49]). An index measuring combined exposure to smoked tobacco, environmental tobacco smoke in enclosed work-space, indoor cooking fire, trash fires, other outdoor communal fires also showed a positive association (OR per added exposure = 1.47 95% CI = [1.14 to 1.89]). **Conclusions:** The findings of this study underscore the need for multi-sectoral collaboration between tobacco control, environmental health, TB prevention initiatives and control programs, national authorities, policy makers, civil groups, and the private sector to address the convergence of potential risk factors impacting respiratory health in Lao PDR.

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