

2015

Geographical variation and correlates of tobacco smoking, second-hand smoke exposure, workplace tobacco prohibition, and pro-tobacco and counter-tobacco advertising in mainland China: a cross-sectional study of 98 058 participants

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Abstract

Abstract presented at The Lancet-CAMS Health Summit, 30-31 October 2015, Beijing, China

Keywords

cross, sectional, tobacco, correlates, study, 98, 058, participants, advertising, counter, pro, prohibition, china, workplace, geographical, exposure, smoke, hand, second, variation, mainland, smoking

Disciplines

Education | Social and Behavioral Sciences

Publication Details

Astell-Burt, T., Zhang, M., Feng, X., Wang, L., Li, Y., Page, A., Zhou, M. & Wang, L. (2015). Geographical variation and correlates of tobacco smoking, second-hand smoke exposure, workplace tobacco prohibition, and pro-tobacco and counter-tobacco advertising in mainland China: a cross-sectional study of 98 058 participants. *The Lancet*, 386 S17-S17.

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Geographical variation and correlates of tobacco smoking, second-hand smoke exposure, workplace tobacco prohibition, and pro-tobacco and counter-tobacco advertising in mainland China: a cross-sectional study of 98 058 participants

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Background With more than 300 million people directly affected by tobacco smoking and an additional 740 million non-smokers affected by second-hand smoke, new insights are needed to inform more aggressive and effective tobacco prevention and control policy in China.

Methods Choropleth maps and multilevel logistic regression was used to assess geographical variation in data on tobacco smoking, exposure to second-hand smoke, the prominence of tobacco advertising and promotion, counter-advertising and regulatory responses for 98 058 participants spread across 161 Disease Surveillance Points (DSPs) and in all 31 provinces of China in 2010. The data and study was approved by the ethics committee of the China Center for Disease Control and Prevention.

Findings 98 058 people participated in the survey. Current tobacco smoking was markedly different between men (54% [95% CI 52·6–54·9%]) and women (3% [3·0–3·8%]). Workplace tobacco prohibition was highest among provinces in the north and east parts of China, whereas smoking in public places was more common in the west, central, and far northeast parts of China. Men (19% [17·7–19·4%]) were more likely to notice pro-tobacco advertising in public places than women (13% [12·4–13·8%]). Awareness of pro-tobacco advertising was highest in Tibet and in southern China. Men (36% [34·4%–36·6%]) were also slightly more likely to notice counter-tobacco advertising in public places than women (30% [29·1–31·1%]). After adjusting for confounders, substantial geographic variation in all of the outcome variables remained unexplained. Awareness of workplace tobacco prohibition was more common in the most affluent urban areas. Awareness of workplace tobacco prohibition was weakest in the least affluent urban and rural areas. Sightings of tobacco smoking in public places was especially high in restaurants (80% for men, 75% for women) and tended to be more commonly reported in the least affluent urban and rural areas. Exposure to passive smoking was lowest among women where workplace tobacco prohibition was more common and in areas where smoking in public places was sighted more often.

Interpretation Geographical targeting is required to ensure that prevention and control of tobacco is optimised in China, particularly within the least affluent communities.

Funding Australian-China Science and Research Fund. XF is supported by a UIC International Links Scheme. TAB is supported by a National Heart Foundation of Australia Postdoctoral Fellowship (#100161).