**Editorial**

**Smoke-free Policies in the Global South**

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**Smoke-free Policies in the Global South**

In 2017, exposure to secondhand smoke (SHS) led to 1.2 million deaths and a loss of 36 million disability-adjusted life years (DALYs) globally.1 Children and pregnant women are particularly vulnerable to SHS-related harms.2 In children, SHS exposure increase their risk of acquiring lower respiratory tract infections,3 tuberculosis, and exacerbations of asthma. Children growing up in households with no smoking restrictions are also at risk of taking up smoking.4 In pregnancy, the deleterious effects may include premature births,5 low birth-weight babies,6 congenital anomalies,7 and stillbirths.8

In high-income countries, the implementation of comprehensive smoke-free laws have been associated with improved health outcomes among nonsmokers, particularly children.9 Smoke-free laws in England led to a 7.6% reduction in neonatal mortality and 7.8% reduction in stillbirths.10 Similarly, in Scotland, smoke-free legislation led to positive birth outcomes.9 On the other hand, despite 182 countries (90% of the world population) signed up to the WHO Framework Convention to Tobacco Control (FCTC), only 22% of the world population is protected from SHS exposure due to absence and/or poor enforcement of comprehensive smoke-free laws.11 While robust studies have informed and evaluated smoke-free policies in high-income countries, such evidence has been lacking in low- and middle-income countries (LMICs).14 This issue reports four well-conducted studies highlighting the impact of SHS exposure and the importance of contextual evidence in informing smoke-free policies and their implementation in LMICs.14, 18, 19, 24

In this issue, Bardach et al18 studied the potential health and economic gains of implementing comprehensive smoke-free policies in seven Latin American countries (Argentina, Bolivia, Brazil, Chile, Colombia, Mexico and Peru). The study highlighted the significant health and economic burden posed by smoking with 345,373 deaths, 2.2 million disease events and a healthcare expenditure of USD 25.4 billion. Using a probabilistic Monte Carlo microsimulation model, the study estimated that if comprehensive smoke-free policies were implemented, 180,000 premature deaths and 1.2 million events would be avoided and 13.1 billion USD saved over the next 10 years. The economic estimates may be an underestimate as the study was conducted from a healthcare perspective not taking account of indirect costs or productivity gains. Overall, the study provided robust estimates for the health and economic gains if comprehensive smoke-free policies are implemented as compared to the existing policies for the seven Latin American countries.

The second study by Mamudu et al14 examined the level of support for smoke-free policies (SPF) among adults in four Sub Saharan African (SSA) countries (Cameroon, Kenya, Nigeria and Uganda). The support for smoke-free policies in eight public places was overwhelmingly high (>90%) except for bars; the support ranged from 65.8% for prohibiting smoking in bars in Nigeria to 99.7% support for places of worship in Cameroon. These findings are crucial for policymakers and advocates as without evidence of public support, governments often hesitate to impose such policies fearing public backlash and losing authority. The study also found that better knowledge of SHS harms was associated with increased support for banning smoking in bars in three out of four countries. The study was limited to four SSA countries but it utilised nationally representative data from Global Adult Tobacco Survey and reported public perceptions in previously under researched populations. The study findings are crucial for the advocacy efforts in strengthening support for smoke-free policies in SSA.

In a survey analysis, Lin et al19 explored the effect of smoke-free workplace policies on SHS exposure among 14,195 employees in 79 companies in China. The study confirmed that the policies were associated with reduced SHS exposure, lower smoking prevalence, and fewer numbers of cigarettes smoked per day. The evidence on the impact of smoke-free workplace policies is well established;20, 21,22,23 however, such contextual evidence may still be needed in China where there is a lack of comprehensive smoke-free policies and most of the population is not protected from SHS. The authors reported on how they will use the findings to engage with policymakers and organise country-wide training workshops.

This issue also reports a well-conducted systematic review of individual- and household-level interventions for reducing SHS exposure during pregnancy.24 The review reports limited and mixed evidence with most studies targeting pregnant women with little attention to behaviour change of their smoking partners. While the review provided a global narrative based on nine studies, it used single-screening in selecting citations and was limited to a narrative synthesis. The authors recommended that the smoke-free interventions need to involve fathers/partners and include smoking cessation support. In the absence of strong evidence for interventions to reduce SHS exposure during pregnancy, the authors suggested that the policy and population level approaches (such as smoke-free policies) and educational interventions delivered in groups may be more effective in protecting pregnant women from SHS exposure than individual-level interventions.

The evidence on the impact of SHS on health and economy is well established. However, given that the vast majority of the global population remains exposed to SHS indicates real barriers in getting smoke-free policies in place. The contextual evidence, such as provided in the afore-mentioned studies, is likely to contribute towards the advocacy efforts to implement comprehensive smoke-free policies in the global south. As shown above, smoke-free policies have just as strong effectiveness and public support in the global south as in the north. Moreover, the significant health and economic gains through implementing such policies can help LMICs achieve sustainable development goals in health and a range of other domains such as economics, poverty reduction, environment and education.

**References**

1. Stanaway, JD, Gakidou E, Abate D et al. Global, Regional, and National Comparative Risk Assessment of 84 Behavioural, Environmental and Occupational, and Metabolic Risks or Clusters of Risks for 195 Countries and Territories, 1990–2017: a Systematic Analysis for the Global Burden of Disease Study 2017. *The Lancet (British Edition)*. 2018; 392(10159): 1923–1994.
2. U.S. Department of Health and Human Services. [The Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General: Secondhand Smoke: What It Means To You](https://www.cdc.gov/tobacco/data_statistics/sgr/2006/consumer_summary/index.htm). Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2006 [accessed 2015 Feb 6].
3. Cook DG, Strachan DP. Health effects of passive smoking-10: Summary of effects of parental smoking on the respiratory health of children and implications for research. *Thorax*. 1999;54(4):357-366. doi:10.1136/thx.54.4.357
4. Consortium PHR. A review of young people and smoking in England. London, 2009.
5. Shah NR, Bracken MB. A systematic review and meta-analysis of prospective studies on the association between maternal cigarette smoking and preterm delivery. *Am J Obstet Gynecol*. 2000;182(2):465-472. doi:10.1016/s0002-9378(00)70240-7
6. DiFranza JR, Lew RA. Effect of maternal cigarette smoking on pregnancy complications and sudden infant death syndrome. *J Fam Pract*. 1995;40(4):385-394
7. Hackshaw A, Rodeck C, Boniface S. Maternal smoking in pregnancy and birth defects: a systematic review based on 173 687 malformed cases and 11.7 million controls. *Hum Reprod Update*. 2011;17(5):589-604. doi:10.1093/humupd/dmr022
8. Marufu TC, Ahankari A, Coleman T, Lewis S. Maternal smoking and the risk of stillbirth: systematic review and meta-analysis. *BMC Public Health*. 2015;15:239. Published 2015 Mar 13. doi:10.1186/s12889-015-1552-5
9. Turner S, Mackay D, Dick S, Semple S, Pell JP. Associations between a smoke-free home intervention and childhood admissions to hospital in Scotland: an interrupted time-series analysis of whole-population data. The Lancet Public Health. 2020;5(9):e493-500.
10. Been JV, Szatkowski L, van Staa TP, et al. Smoke-free legislation and the incidence of paediatric respiratory infections and wheezing/asthma: interrupted time series analyses in the four UK nations. *Sci Rep*. 2015;5:15246. Published 2015 Oct 14. doi:10.1038/srep15246
11. [Organization WH. WHO report on the global tobacco epidemic 2019: Offer help to quit tobacco use. 2019.](http://paperpile.com/b/aOFSh7/2Mcu) <https://escholarship.org/content/qt1g16k8b9/qt1g16k8b9.pdf>[.](http://paperpile.com/b/aOFSh7/2Mcu)
12. Jha P, Peto R. Global effects of smoking, of quitting, and of taxing tobacco. *N Engl J Med*. 2014;370(1):60-68. doi:10.1056/NEJMra1308383
13. Bardach A, Perdomo HA, Gándara RA, Ciapponi A. Niveles de ingreso y prevalencia de tabaquismo en América Latina: revisión sistemática y metaanálisis [Income and smoking prevalence in Latin America: a systematic review and meta-analysis]. *Rev Panam Salud Publica*. 2016;40(4):263-271.
14. Mamudu HM, Owusu D, Asare B, et al. Support for Smoke-free Public Places among Adults in Four Countries in Sub-Saharan Africa. *Nicotine & Tobacco Research.* 2020: <https://doi.org/10.1093/ntr/ntaa008>
15. Xiao D, Bai CX, Chen ZM, Wang C. Implementation of the World Health Organization Framework Convention on Tobacco Control in China: An arduous and long-term task. *Cancer*. 2015;121 Suppl 17:3061-3068. doi:10.1002/cncr.29608
16. Song Y, Zhao L, Palipudi KM, et al. Global Adult Tobacco Survey (GATS) Collaborative Group Tracking MPOWER in 14 countries: results from the Global Adult Tobacco Survey, 2008-2010. Glob Health Promot (2016) ;23:24-37. 10.1177/1757975913501911
17. Jarvie JA, Malone RE. Children's secondhand smoke exposure in private homes and cars: an ethical analysis. *Am J Public Health*. 2008;98(12):2140-2145. doi:10.2105/AJPH.2007.130856
18. Bardach A, Rodríguez MB, Ciapponi A, et al. Smoke-free air interventions in Seven Latin American Countries: Health and Financial Impact to Inform Evidence-Based Policy Implementation [published online ahead of print, 2020 Jul 22]. *Nicotine Tob Res*. 2020;ntaa133. doi:10.1093/ntr/ntaa133
19. Lin HX, Chang C, Liu Z. The effects of smoke-free workplace policies on individual smoking behaviours in China [published online ahead of print, 2020 Jun 29]. *Nicotine Tob Res*. 2020;ntaa112. doi:10.1093/ntr/ntaa112
20. Phillips K, Howard DA, Bentley MC, Alvan G. Environmental tobacco smoke and respirable suspended particle exposures for non-smokers in Beijing. Indoor Built Environ. 1998;7:254–269.
21. Phillips K, Howard DA, Bentley MC, Alvan G. Assessment of environmental tobacco smoke and respirable suspended particle exposures for nonsmokers in Hong Kong using personal monitoring. Environ Int. 1998 ;24:851–870.
22. Woodruff TJ, Rosbrook B, Pierce J, Glantz SA. Lower levels of cigarette consumption found in smoke-free workplaces in California. *Arch Intern Med*. 1993;153(12):1485-1493.
23. Fong GT, Hyland A, Borland R, et al. Reductions in tobacco smoke pollution and increases in support for smoke-free public places following the implementation of comprehensive smoke-free workplace legislation in the Republic of Ireland: findings from the ITC Ireland/UK Survey. *Tob Control*. 2006;15 Suppl 3(Suppl 3):iii51-iii58. doi:10.1136/tc.2005.013649
24. Nwosu C, Angus K, Cheeseman H, Semple S. Reducing second-hand smoke exposure among non-smoking pregnant women: a systematic review [published online ahead of print, 2020 May 19]. *Nicotine Tob Res*. 2020;ntaa089. doi:10.1093/ntr/ntaa089