

Implementation of key demand-reduction measures of the WHO Framework Convention on Tobacco Control and change in smoking prevalence in 126 countries: an association study

Gravely, S., Giovino, G.A., Craig, L.V., Commar, A., d'Espaignet, E.T., Schotte, K., & Fong, G.T.

Abstract

Background: The WHO Framework Convention on Tobacco Control (WHO FCTC) has mobilised efforts among 180 parties to combat the global tobacco epidemic. This study examined the association between highest-level implementation of key tobacco control demand-reduction measures of the WHO FCTC and smoking prevalence over the treaty's first decade.

Methods: We used WHO data from 126 countries to examine the association between the number of highest-level implementations of key demand-reduction measures (WHO FCTC articles 6, 8, 11, 13, and 14) between 2007 and 2014 and smoking prevalence estimates between 2005 and 2015. McNemar tests were done to test differences in the proportion of countries that had implemented each of the measures at the highest level between 2007 and 2014. Four linear regression models were computed to examine the association between the predictor variable (the change between 2007 and 2014 in the number of key measures implemented at the highest level), and the outcome variable (the percentage point change in tobacco smoking prevalence between 2005 and 2015).

Findings: Between 2007 and 2014, there was a significant global increase in highest-level implementation of all key demand-reduction measures. The mean smoking prevalence for all 126 countries was 24.73% (SD 10.32) in 2005 and 22.18% (SD 8.87) in 2015, an average decrease in prevalence of 2.55 percentage points (SD 5.08; relative reduction 10.31%). Unadjusted linear regression showed that increases in highest-level implementations of key measures between 2007 and 2014 were significantly associated with a decrease in smoking prevalence between 2005 and 2015). Each additional measure implemented at the highest level was associated with an average decrease in smoking prevalence of 1.57 percentage points (95% CI -2.51 to -0.63, $p=0.001$) and an average relative decrease of 7.09% (-12.55 to -1.63, $p=0.011$). Controlling for geographical subregion, income level, and WHO FCTC party status, the per-measure decrease in prevalence was 0.94 percentage points (-1.76 to -0.13, $p=0.023$) and an average relative decrease of 3.18% (-6.75 to 0.38, $p=0.079$). This association was consistent across all three control variables.

Interpretation: Implementation of key WHO FCTC demand-reduction measures is significantly associated with lower smoking prevalence, with anticipated future reductions in tobacco-related morbidity and mortality. These findings validate the call for strong implementation of the WHO FCTC in the WHO's Global Action Plan for the Prevention and Control of Non-communicable Diseases 2013–2020, and in advancing the UN's Sustainable Development Goal 3, setting a global target of reducing tobacco use and premature mortality from non-communicable diseases by a third by 2030.

Recommended Citation

Gravely, S., Giovino, G.A., Craig, L.V., Commar, A., d'Espaignet, E.T., Schotte, K., & Fong, G.T. (2017). Implementation of key demand-reduction measures of the WHO Framework Convention on Tobacco Control and change in smoking prevalence in 126 countries: an association study. *Lancet Public Health*, 2(4), e166-174.

Link To PDF: [http://www.thelancet.com/journals/lanpub/article/PIIS2468-2667\(17\)30045-2/fulltext](http://www.thelancet.com/journals/lanpub/article/PIIS2468-2667(17)30045-2/fulltext)