

# Smokers' cognitive and behavioural reactions during the early phase of the COVID-19 pandemic: Findings from the 2020 ITC Four Country Smoking and Vaping Survey

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## Abstract

**Introduction:** COVID-19 is primarily a respiratory illness, and smoking adversely impacts the respiratory and immune systems; this confluence may therefore incentivize smokers to quit. The present study, conducted in four high-income countries during the first global wave of COVID-19, examined the association between COVID-19 and: (1) thoughts about quitting smoking; (2) changes in smoking (quit attempt, reduced or increased smoking, or no change); and (3) factors related to a positive change (making a quit attempt or reducing smoking) based on an adapted framework of the Health Belief Model.

**Methods:** This cross-sectional study included 6870 adult smokers participating in the Wave 3 (2020) ITC Four Country Smoking and Vaping Survey conducted in Australia, Canada, England, and United States (US). These four countries had varying responses to the pandemic by governments and public health, ranging from advising voluntary social distancing to implementing national and subnational staged lockdowns. Considering these varying responses, and the differences in the number of confirmed cases and deaths (greatest in England and the US and lowest in Australia), smoking behaviours related to COVID-19 may have differed between countries. Other factors that may be related to changes in smoking because of COVID-19 were also explored (e.g., sociodemographics, nicotine dependence, perceptions about personal and general risks of smoking on COVID-19). Regression analyses were conducted on weighted data.

**Results:** Overall, 46.7% of smokers reported thinking about quitting because of COVID-19, which differed by country ( $p < 0.001$ ): England highest (50.9%) and Australia lowest (37.6%). Thinking about quitting smoking because of COVID-19 was more frequent among: females, ethnic minorities, those with financial stress, current vapers, less dependent smokers (non-daily and fewer cigarettes smoked/day), those with greater concern about personal susceptibility of infection, and those who believe COVID-19 is more severe for smokers. Smoking behaviour changes due to COVID-19 were: 1.1% attempted to quit, 14.2% reduced smoking, and 14.6% increased smoking (70.2% reported no change). Positive behaviour change (tried to quit/reduced smoking) was reported by 15.5% of smokers, which differed by country ( $p = 0.02$ ), where Australia had significantly lower rates than the other three countries. A positive behavioural smoking change was more likely among smokers with: lower dependence, greater concern about personal susceptibility to infection, and believing that COVID-19 is more severe for smokers.

**Conclusions:** Though nearly half of smokers reported thinking about quitting because of COVID-19, the vast majority did not change their smoking behaviour. Smokers were more likely to try and quit or reduce their smoking if they had greater concern about susceptibility and severity of COVID-19 related to smoking. Smokers in Australia were least likely to reduce or try to quit smoking, which could be related to the significantly lower impact of COVID-19 during the early phase of the pandemic relative to the other countries.

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