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Letter to the Editor

Has there been an increased interest in smoking cessation during the first months of the COVID-19 pandemic? A Google Trends study



The city of Wuhan in China became the centre of a pneumonia outbreak of unknown cause in December 2019. On 7 January 2020, a novel coronavirus, severe acute respiratory syndrome coronavirus 2, was isolated from the patients with pneumonia in Wuhan.¹ The official name of the disease is coronavirus disease-19 (COVID-19) and common symptoms include fever, coughing and shortness of breath. Most cases resolve spontaneously; however, some develop severe complications, including pulmonary oedema, severe pneumonia and acute respiratory distress syndrome.^{2,3} On 10 April 2020, the total number of COVID-19 cases reported worldwide was 1,563,857, including 95,044 deaths. The majority of deaths have been reported in Italy (18,281), the US (16,690), Spain (15,238), France (12,210) and the UK (7,978).⁴ Unfortunately, the COVID-19 pandemic is continuing to spread, and there is an urgent need for measures to limit the harmful effects of the virus.

Smokers are known to be more vulnerable to infectious diseases, including influenza and Middle East respiratory syndrome-related coronavirus.^{5,6} Smoking has also been found to be associated with negative progression and adverse outcomes for COVID-19.⁷ The current evidence comes from five Chinese studies, which find smokers who are hospitalised with COVID-19 have 2–9 times greater risk of serious COVID-19 complications compared with non-smokers.⁷ In the short-term, smoking cessation leads to reduced respiratory symptoms and bronchial hyperresponsiveness, as well as prevents unnecessary decline in lung function.⁸

The COVID-19 pandemic is having a major impact on the whole world and has gained huge public awareness. Globally, millions of people search for health-related information online, which makes Web search queries on Google Trends a valuable source of information on collective health trends.⁹ The number of Google searches on 'COVID' and 'hand sanitizer' rose sharply in late February and March (Fig. 1).¹⁰ This study aims to investigate the interest in quitting smoking during the first months of the COVID-19 pandemic. As the interest in 'COVID' and 'hand sanitizer' increased rapidly in

late February, we have examined the interest in smoking cessation from January to April 2020.

Data were collected from Google Trends (trends.google.com), which provides information on how many 'hits' different words had on a given day on Google. This can be used as a measurement of public interest over time. The highest interest on a search query is quantified as 100 relative search volume (RSV), decreasing to 0 RSV indicating no interest.⁹ We retrieved worldwide public query data for the following terms: 'quit smoking', 'smoking cessation', 'help quit smoking', 'how do I quit smoking' and 'nicotine gum' between 16 January 2000 and 13 April 2000 and 6 April 2020. We investigated whether there was an increased interest in quitting smoking in the late February and March compared with the preceding weeks.

The Google Trends data for Web search queries for the terms 'smoking cessation', 'quit smoking' and 'nicotine gum' from 16 January 2000 to 13 April 2000 to 6 April 2020 are shown in Fig. 1. All search terms show stable interest over the selected time period; there was no tendency for increased interest in any of the key terms. Outputs for the terms 'help quit smoking' and 'how do I quit smoking' are not shown in Fig. 1 but are available on trends.google.com and show the same stable trend.

Previous Google Trends studies have found increased numbers of searches relating to smoking cessation in association with the launch of national smoking cessation programmes and changes in tobacco control policies.¹¹ We found no increase in the number of searches for smoking cessation on Google in the first months of the COVID-19 pandemic. This could indicate that there has been no actual increase in smoking cessation during the pandemic; however, this may change over the coming weeks and months, as the COVID-19 pandemic is likely far from over. We hope that public health messages will focus on smoking cessation to improve lung health during this continued pandemic. Smoking cessation campaigns are important as smokers are more vulnerable to viral infections and lung diseases, as well as appear to have worse outcomes when hospitalised with COVID-19 than non-smokers.^{5–7}



Fig. 1. Google Trends data from between 16 January 2000 and 13 April 2000. Web search queries for the terms 'COVID' (A), 'hand sanitizer' (B), 'smoking cessation' (C), 'nicotine gum' (D) and 'quit smoking' (E). The number of Google searches on 'COVID' and 'hand sanitizer' increased sharply worldwide in the late February and March. On the other hand, the interest in 'smoking cessation', 'nicotine gum' and 'quit smoking' is unchanged, with no tendency for increased interest.

Author statements

Ethical approval

No ethical approval from the Committee on Health Research Ethics was needed. The data used in this study was freely available information on trends.google.com and was completely anonymized.

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Competing interests

None declared.

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