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A global assessment of changes in tobacco smoking behaviours during the early phases of the COVID-19 pandemic

Lyon, France, 12 April 2022 – A new study by researchers from the International Agency for Research on Cancer (IARC), the Daffodil Centre (a joint venture between the University of Sydney and Cancer Council NSW, Australia), and partners assesses changes in tobacco smoking behaviours during the early pre-vaccination phases of the COVID-19 pandemic in 2020.

The findings, published in the journal *eClinicalMedicine*,¹ suggest that there was a relative reduction of 13% in overall smoking prevalence – the proportion of the population who smoke – during the early phase of the pandemic in 2020 compared with the years before the pandemic.

The scientists performed a systematic review and meta-analysis, pooling data from 31 scientific articles with information on smoking behaviours for 269 164 participants across 24 countries. They found that the proportion of people who smoke was lower during the pandemic than before the pandemic. Among people who smoked, 21% smoked less, 27% smoked more, 50% smoked the same amount, and 4% reported quitting smoking. Among people who did not smoke, 2% started smoking during the pandemic. Overall, changes in smoking behaviours during the first phases of the COVID-19 pandemic in 2020 were highly mixed.

“The COVID-19 pandemic has had a profound impact on the mental and physical health of individuals, and this may lead to substantial changes in health behaviours, which, if not addressed early, will go on to have long-term impacts on health,” says Dr Peter Sarich, a postdoctoral research fellow at the Daffodil Centre and the lead author of the study.

Early online surveys reported diverging evidence on changes in smoking behaviours during the pandemic. Whereas some people may have smoked more as a coping mechanism for psychological distress, others may have smoked less because of reduced access to retailers and limited social interactions. This new study did not identify sufficient data to assess the changes in smoking behaviours in population subgroups (e.g. by socioeconomic status), which could inform more tailored and targeted prevention strategies. This should be a focus for current and future studies.

¹ Sarich P, Cabañas CJ, Liebermann E, Vaneckova P, Carle C, Hughes S, et al. Tobacco smoking changes during the first pre-vaccination phases of the COVID-19 pandemic: a systematic review and meta-analysis. *eClinicalMedicine*. Published online 12 April 2022; <https://doi.org/10.1016/j.eclinm.2022.101375>



“Knowledge of changes in tobacco smoking behaviours during the first pre-vaccination phases of the pandemic is important to inform recovery and preventive efforts,” says Dr Isabelle Soerjomataram, Deputy Head of the Cancer Surveillance Branch at IARC and the senior author of the study.

Globally, tobacco use remains the largest cause of premature death. In 2019, it accounted for 8.71 million deaths (15.4% of all deaths),² largely due to smoking-related noncommunicable diseases such as cancer.

“This study stresses the importance of strengthening the implementation of tobacco control measures and the delivery of tobacco cessation services,” adds Dr Soerjomataram. “This is to enable those who have cut down or quit during the pandemic to maintain these positive changes in behaviours, and to target those who have increased their tobacco use, in order to ensure that the COVID-19 pandemic does not exacerbate the smoking pandemic.”

This study is part of the research being carried out by IARC and partners as part of the COVID-19 and Cancer Global Modelling Consortium, which aims to summarize evidence on COVID-19 and cancer and to provide open platforms to inform decision-making in cancer control.

About the COVID-19 and Cancer Global Modelling Consortium

The COVID-19 and Cancer Global Modelling Consortium (<https://ccgmc.org/>) brings together the global modelling community to support decision-making in cancer control both during and after the crisis. The aim is to help to configure modelling platforms and teams that can provide more informed advice to governments, particularly those in low- and middle-income countries, as they rise to this overwhelming health systems challenge. The focus on the longer term, as well as the shorter term, recognizes that recovery strategies will be required as countries move beyond the acute phase of the crisis.

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The International Agency for Research on Cancer (IARC) is part of the World Health Organization. Its mission is to coordinate and conduct research on the causes of human cancer, the mechanisms of carcinogenesis, and to develop scientific strategies for cancer control. The Agency is involved in both epidemiological and laboratory research and disseminates scientific information through publications, meetings, courses, and fellowships. If you wish your name to be removed from our press release emailing list, please write to com@iarc.fr.

² Murray CJL, Aravkin AY, Zheng P, Abbafati C, Abbas KM, Abbasi-Kangevari M, et al. (2020). Global burden of 87 risk factors in 204 countries and territories, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019. *Lancet*. 396(10258):1223–49. [https://doi.org/10.1016/S0140-6736\(20\)30752-2](https://doi.org/10.1016/S0140-6736(20)30752-2)