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Air pollution, SARS-CoV-2 incidence and COVID-19 mortality in Rome: a longitudinal study

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Long-term exposure to air pollution (PM$_{2.5}$ and NO$_2$) was associated with COVID-19 mortality, but not with SARS-CoV-2 incidence, in a large observational population-based cohort of >1.5 million subjects in Rome, Italy https://bit.ly/3zZjjSC

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To the Editor:

Chronic exposure to ambient air pollution has been related to increased mortality in the general population [1]. After the outbreak of the SARS-CoV-2 pandemic in 2019, there has been a fast proliferation of epidemiological studies linking ambient air pollution to coronavirus disease 2019 (COVID-19) incidence or adverse prognosis [2]. It has been hypothesised that ambient air pollution might increase human vulnerability to viruses by reducing immune defences, promoting a low-level chronic inflammatory state, or leading to chronic diseases [3]. Most studies have applied ecological designs, and failed to account for key individual-level or area-level determinants of COVID-19 spread or severity, such as demographic characteristics of the studied populations, socioeconomic or clinical susceptibility, and area-level proxies of disease spread such as mobility or population density [4].