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Editorial

Transnational and Transdisciplinary Lessons from the COVID-19 Pandemic

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On 7 January 2020, China identified a virus called severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). This disease was classified as COVID-19 by the World Health Organization. WHO experts admit that the hypothesis that the coronavirus was transmitted by a first animal and then a second before contamination of humans is “most likely”. Because they have played a central role in the emergence of various viral diseases (Gupta et al. 2021), bats were quickly suspected. With 1400 species of bats (20% of all species of mammals), the diversity of the species is highly favorable to the emergence of new viruses. Because they fly, share human environments and have a long-life expectancy, the idea is widespread that bats carry many viruses, but this is not sufficient to threaten humans. Proportionally, bats do not carry a higher number of zoonotic pathogens, normalized by species richness, compared with other mammalian and avian species. Objectively identified evidence that bats carry more viruses that infect humans is needed to identify the pandemic source (Dutheil et al. 2021a). To fight the increase in cases, local authorities of affected areas established quarantine periods and containment that we could compare with those of submariners (Bouillon-Minois et al. 2020a). This resulted in a decrease in industrial activities, mass transit and individual car circulation. Consecutively to these restrictions, NASA scientists have documented a reduction in pollutants firstly in China (30% NO₂, 25% CO₂) then across the world (Dutheil et al. 2020a). Therefore, the coronavirus seems to be the first disaster with benefits on levels of air pollution (Bouillon-Minois et al. 2020b). Air pollution is responsible for many deaths and increased incidences of respiratory disease. The public health benefit of the world's efforts to reduce transmission of SARS-CoV-2 may have indirect health benefits by reducing cardiovascular morbidity (Dutheil et al. 2020b) or respiratory diseases (Dutheil et al. 2020c) such as allergies (Navel et al. 2020a). On the other hand, restriction measures and containment could lead to several adverse effects. People can develop psychological illnesses with long-term post-traumatic disorder (Dutheil et al. 2021b; Croizier et al. 2020). The increasing time on screens can aggravate eye problems such as myopia (Navel et al. 2020b). The limitations of outdoor activity may have favored domestic violence (Bouillon-Minois et al. 2020c) and decreased physical activity related to teleworking (Thivel et al. 2021), provoking an increase in body mass index (Urzeala et al. 2021), increasing metabolic risk, aggravating the accumulation of fat

mass, insulin resistance and metabolic syndrome in future months (Thivel et al. 2021). During this home lockdown, people have also experienced a slowing down of time and an increase in boredom and sadness experienced in lockdown situations (Droit-Volet et al. 2020). The fear due to the COVID-19 pandemic also had unexpected effects on the sales of guns, which were multiplied more than two times in the USA, matching the curve of the increase in cases of COVID-19 (Dutheil et al. 2020d, 2020e). The COVID-19 pandemic also exacerbated the inequalities in public health. For example, we saw local epidemics in more populated and disadvantaged areas, such as prisons (Dutheil et al. 2020f). Furthermore, COVID-19 also caused a paradoxical reduction of admissions in emergency departments that were not in areas of COVID-19 cases (Bouillon-Minois et al. 2021), or a massive decrease in annoyance and stress related to sound pollution and, therefore, potential increased cardiovascular disease (Dutheil et al. 2020g). The global worldwide lockdown was followed by a prolonged period of social distancing aiming to reduce transmission of SARS-CoV2. We observed an interesting debate on the effects of smoking on the transmission of SARS-Cov2, cigarettes being a possible support of transmission (Dutheil et al. 2020h). Finally, COVID-19 caused long-term effects (Dutheil et al. 2020). After a massive decrease in pollution, the lifting of restrictions lead to an economic growth boost. We fear that countries worldwide will choose to protect the economy rather than the environment (Dutheil et al. 2020i). Transnational and transdisciplinary lessons from the COVID-19 pandemic are yet to be made. The COVISTRESS study started before the pandemic and prior to lockdowns, and is still ongoing (Urzeala et al. 2021; Droit-Volet et al. 2020; Ugbolue et al. 2020). The COVISTRESS study aims to encompass all sectors and aspects of our lives and may promote long-term comprehension of the effects of the pandemic, and therefore contribute to effective preventive strategies.

Conflicts of Interest: The authors declare no conflict of interest.

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