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## The aftermath of COVID-19: between anosmia and ageusia<sup>☆</sup>



## Las secuelas de la COVID-19: entre la anosmia y la ageusia

Dear Editor,

The COVID-19 pandemic caused by the SARS-CoV-2 coronavirus, which is generally transmitted by respiratory secretions, has given rise to alterations in individual and collective lifestyles. This is especially so for those who have been infected, as they have to isolate themselves socially and undergo medical treatment to mitigate the effects of the virus on their health.

The paper "Olfactory alterations in COVID-19, a review of the evidence and implications for the management of the pandemic"<sup>1</sup>, states that some patients with anosmia show the usual symptoms of this disease, although with certain limitations in the evidence and data gathering. Nevertheless, these may include an association of anosmia with ageusia.

The presence of COVID-19 within the organism is diagnosed on the basis of several symptoms, such as fever, a sore throat and diarrhoea, among others. However, it is also diagnosed based on olfactory and taste dysfunctions such as anosmia, when there is a complete loss of the said faculty, as well as ageusia, a disorder in which an individual completely loses their sense of taste.<sup>2</sup>

It is important to know that anosmia is caused by a certain obstruction inside the nose, and damage to central nervous system pathways that include the olfactory epithelium, the mucus membrane of which functions as the cellular receptor of SARS-CoV-2; on the other hand, ageusia, which is caused by involvement of the mucus membrane within the whole oral cavity and particularly the epithelial cells of the tongue, causes the loss of the modulation of the perception of taste.<sup>3</sup>

In this medical context it is valid to state that tests exist to determine such dysfunctions. These tests include the Connecticut Test, olfactometric tests and electro-olfactography, among others. Possible practical treatments also exist, such as olfactory training by exposure to products with intense aromas (cloves or lemon, etc.), the consumption of vitamin A and Omega 3 as anti-inflammatory agents, and the consumption of cold foods, avoiding fried meat, eggs, onions or garlic, etc.<sup>4,5</sup>

It is therefore extremely important to warn patients with anosmia and ageusia of the existence of environmental risks, and to suggest that they use gas and carbon monoxide detector alarms. Respecting diet, patients should be warned that the connection between taste and smell may compromise their nutrition due to the reduction in appetite caused by the seeming insipidity of foods. It is also possible to go to the other harmful extreme of over-seasoning foods, as this may have a negative effect on individuals who are overweight or have diabetes or arterial hypertension, etc.

To summarise, patients with pre- and post-viral olfactory and taste dysfunctions should maintain social distancing and take the relevant tests and therapies. They should also take all of the precautions necessary to ensure that they do not expose themselves to environmental risks or food toxicity, until they have completely recovered from the physiological disorder caused in the said senses by the SARS-CoV-2 coronavirus.

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## Conflict of interests

The authors have no conflict of interests to declare.

## Author inputs

The authors contributed to writing and revising the final version.

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