At least 27 million COVID patients may have long-term smell and taste problems

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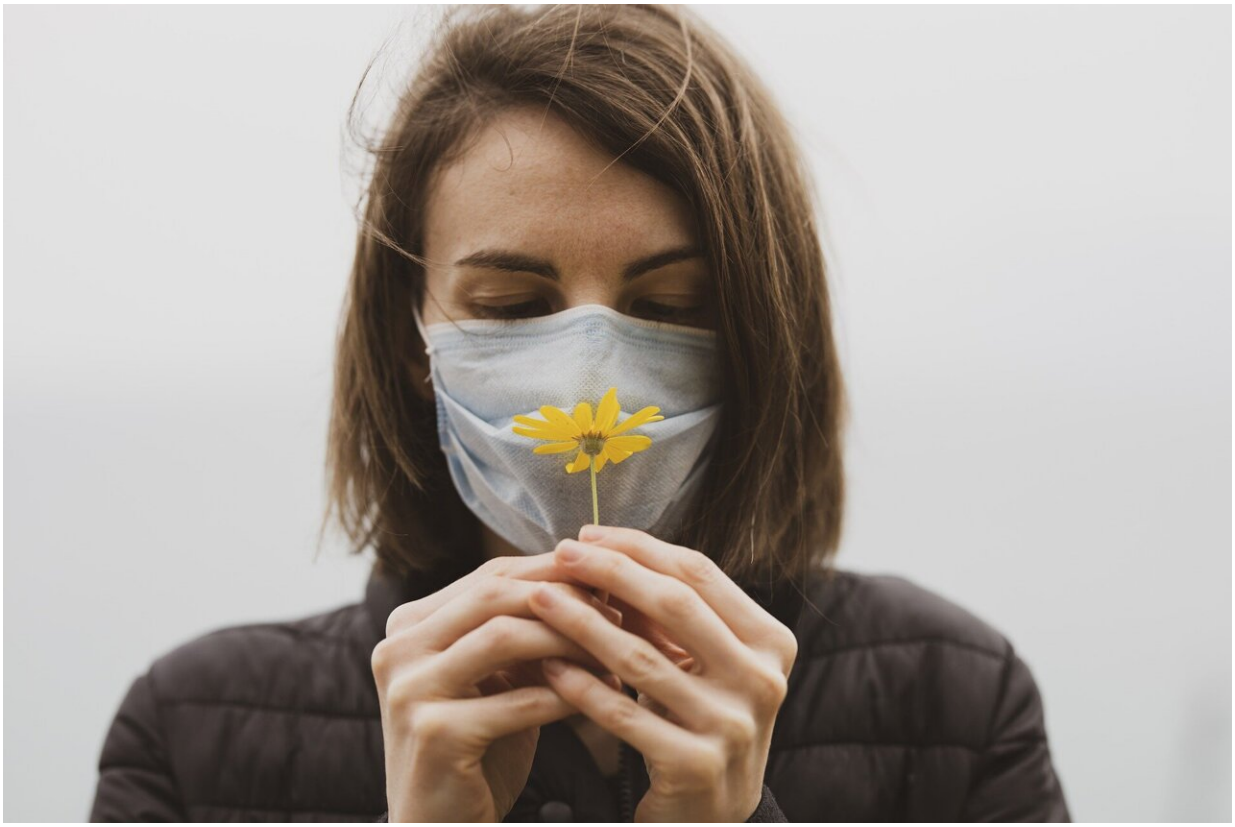

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About 5% of adults may develop long-lasting changes to their sense of smell or taste after COVID-19 infection, suggests research published by *The BMJ* today.

With more than 550 million confirmed COVID-19 cases to date, this means that at least 15 million and 12 million adult patients may experience long-term smell and taste deficiencies, respectively.

Given the huge impact that loss of smell and taste can have on quality of life and general health, this could contribute to the rising burden of long COVID, warn the researchers.

Change in the sense of smell and taste is common in patients with COVID-19, with 40-50% of people on average reporting these symptoms globally. But little is known about the clinical course of these symptoms or how many patients develop persistent problems.

To address this knowledge gap, an international research team trawled databases for studies of adults with COVID-19 related changes to smell or taste and studies that described factors associated with these changes and time to recovery.

In all, 18 observational studies involving 3,699 patients met their criteria. Four of the studies were conducted in the community setting and 14 studies in the hospital setting.

The researchers then used a mathematical technique known as cure modeling to estimate self-reported rates of smell and taste recovery and identify key factors associated with the duration and likelihood of recovery.

They found that smell loss may persist in 5.6% of patients, while 4.4% may not recover their sense of taste. At 30 days after initial infection, only 74% of patients reported smell recovery and 79% of patients reported taste recovery.

Recovery rates increased with each passing month, reaching a peak of

96% for smell and 98% for taste after six months.

Women were less likely to recover their sense of smell and taste than men, while patients with greater initial severity of smell loss and those with nasal congestion were less likely to recover their sense of smell.

One patient the researchers spoke to said she has yet to recover her sense of smell, even though it has been over 27 months since initial infection.

However, they note that the virus variant of SARS-CoV-2 was not reported in association with smell or taste recovery.

The researchers acknowledge several limitations in their analysis. For instance, the included studies varied in quality and relied on self-report, which they say "may overestimate recovery, suggesting that the true burden of olfactory dysfunction is even greater."

However, this was a well-designed study with rigorous search methods, and the findings were unaltered after further analysis that excluded high risk studies, suggesting that they are robust.

As such, the researchers say that while most patients are expected to recover their sense of smell or taste within the first three months, "a major group of patients might develop long lasting dysfunction that requires timely identification, personalized treatment, and long-term follow-up."

"Our findings are likely to be of substantial relevance to general doctors and otolaryngologists in the counseling of patients with smell and taste disorders post-COVID-19," they conclude.

Health systems are unprepared for the scale of the challenge, warn experts in a linked editorial.

They say health leaders, policy makers, and research funders "should realize the extraordinary importance of good chemosensory function for the well-being of humans, allocate adequate resources to support chemosensory research, and sustain medical specialists faced with an exceptional number of patients with smell and taste dysfunction."

More information: Prognosis and persistence of smell and taste dysfunction in patients with covid-19: meta-analysis with parametric cure modelling of recovery curves, *The BMJ* (2022). DOI: 10.1136/bmj-2021-069503

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