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## REVIEW ANALYSIS &amp; EVALUATION // ETIOLOGY/OTHER

# ACUTE LOSS OF SMELL OR TASTE WITHOUT NASAL BLOCKAGE SHOULD RAISE SUSPICION FOR COVID-19 INFECTION



Can loss of smell (anosmia) and loss of taste (ageusia) be considered common symptoms in patients with coronavirus disease 2019 (COVID-19)?

REVIEWER  
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## ARTICLE TITLE AND BIBLIOGRAPHIC INFORMATION

*Taste and smell as chemosensory dysfunctions in COVID-19 infection. Passarelli PC, Lopez MA, Mastandrea Bonaviri GN, Garcia-Godoy F, D'Addona A. Am J Dent 2020;33(3):135-137.*

## SUMMARY

## Subjects or Study Selection

This systematic review included studies that assessed the number or percentage of patients with COVID-19 presenting with loss of smell (anosmia) and/or loss of taste (ageusia). Only human studies published in English were included and authors excluded letters, review articles, and unpublished abstracts.

## Key Study Factor

The systematic review included cross-sectional studies that reported the prevalence of anosmia and/or ageusia in patients with COVID-19.

## Main Outcome Measure

The main outcome measure was the number or percentage of patients with COVID-19 presenting with anosmia and/or ageusia.

## Main Results

Five cross-sectional studies that came from different parts of the world were included in this systematic review. Of the 10,818 patients with COVID-19 included in this systematic review, 74.8% (range: 5.1% to 85.6%) of the patients presented with olfactory disturbances (anosmia), whereas 81.6% (range: 5.6% to 88%) presented with taste disturbances (ageusia). One study reported that 18.6% of the patients with COVID-19 presented with both anosmia and ageusia.

## Conclusions

Anosmia and ageusia are common symptoms that manifest early in COVID-19 infection.

## COMMENTARY AND ANALYSIS

Loss of smell and/or taste are common clinical manifestations that have long been associated with a spectrum of medical conditions, including neurodegenerative

SORT SCORE			
A	B	C	D

SORT, Strength of Recommendation Taxonomy.

LEVEL OF EVIDENCE		
1	2	3

See page 101566 for complete details regarding SORT and LEVEL OF EVIDENCE grading system.

## SOURCE OF FUNDING

Information not available.

## TYPE OF STUDY/DESIGN

Systematic review.

## KEYWORDS

Anosmia, Ageusia, Coronavirus, COVID-19, Loss of smell, Loss of taste

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diseases such as Alzheimer's, in which olfaction is affected.<sup>1</sup> The evidence associating these clinical symptoms to COVID-19 has led to their inclusion on the list of COVID-19 symptoms by the United States Centers for Disease Control in April 2020 and brought these symptoms to the spotlight. The olfactory disturbances (anosmia) typically observed in upper respiratory infections are associated with inflammation and irritation of nasal mucosa or nasal blockage (rhinitis). By contrast, the olfactory disturbances observed in COVID-19 are not associated with nasal blockage. Hence, acute loss of smell or taste in the presence of a patent nasal airway should warrant investigation to rule out COVID-19.<sup>2</sup> Emerging yet inconclusive evidence also points to association of the increased presence of olfactory/taste disturbances with (1) younger patients and/or (2) patients with lesser severity of COVID-19.<sup>3-5</sup>

Certain methodological aspects of the systematic review in question are unclear. There is lack of information on whether more than one investigator was involved in the study selection and data extraction processes. It is also important to note that this review included studies only until April of 2020, and that 93% of the total patients included in this review came from a single study.<sup>6</sup> In spite of these limitations, the results of this systematic review are consistent with other publications, all confirming the existence of olfactory and taste disturbances in patients with COVID-19, in various populations.<sup>7-9</sup> A recent well-conducted living systematic review that included 10,228 patients with COVID-19 from 19 countries reported the prevalence of taste impairment in these patients to be 45% (95% CI: 34%-55%).<sup>10</sup> The differences in the prevalence of these clinical manifestations between studies could be due to the lack of a standardized method of testing for loss of taste or smell, under-reporting of symptoms, or variations in sample size, disease severity, and study conduction settings.

Adding a specific screening question on the acute loss of smell or taste without nasal blockage will aid in the identification of otherwise asymptomatic patients with COVID-19. In addition to smell and taste disturbances, case reports indicate that patients with COVID-19 could present with a range of oral manifestations, including white and erythematous plaques, blisters, ulcers, petechiae, and desquamative gingivitis.<sup>10</sup> Dentists should be cognizant of the nasopharyngeal and oral manifestations of COVID-19, to help guide patients to seek appropriate medical care and

help prevent transmission of disease in the dental setting. It is equally important for clinicians to stay updated on the evolving scientific evidence related to COVID-19 to serve their patients better.

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