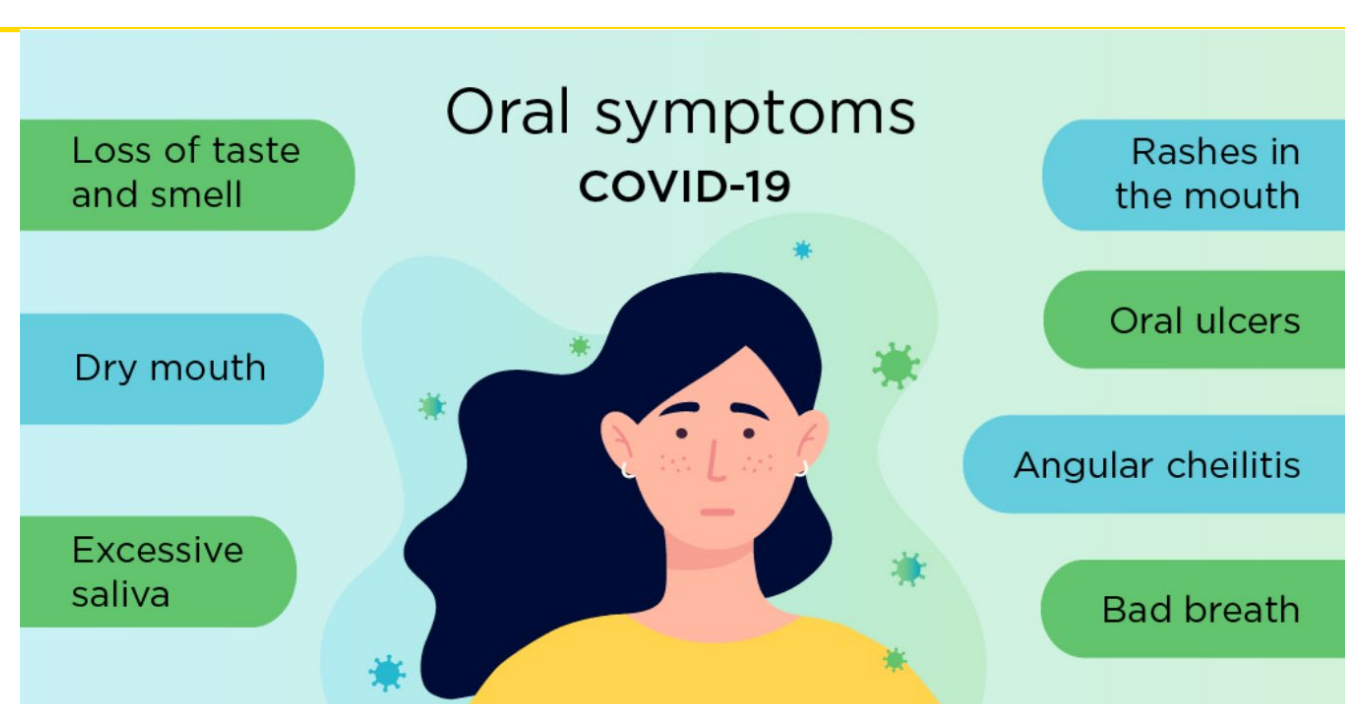


# Oral Manifestations Commonly Seen in Post COVID-19 Patients



## INTRODUCTION & BACKGROUND

- Evolving information has determined the oral cavity can be a reservoir for the SARS-Cov-2 within the salivary glands and periodontal pockets of infected individuals.
  - Patients have distinctly complained about symptoms within the oral cavity, such as:
    - Loss of Taste (Dysgeusia)
    - Oral ulcers
    - Extreme coating over dorsal surface of tongue
- (Eita, 2021).
- Additionally, the “cytokine storm” produced by COVID-19 has shown to increase the risk of periodontitis (Ramkumar, 2021).
  - Dental hygienists play an important role in helping their patients manage these post COVID-19 symptoms.

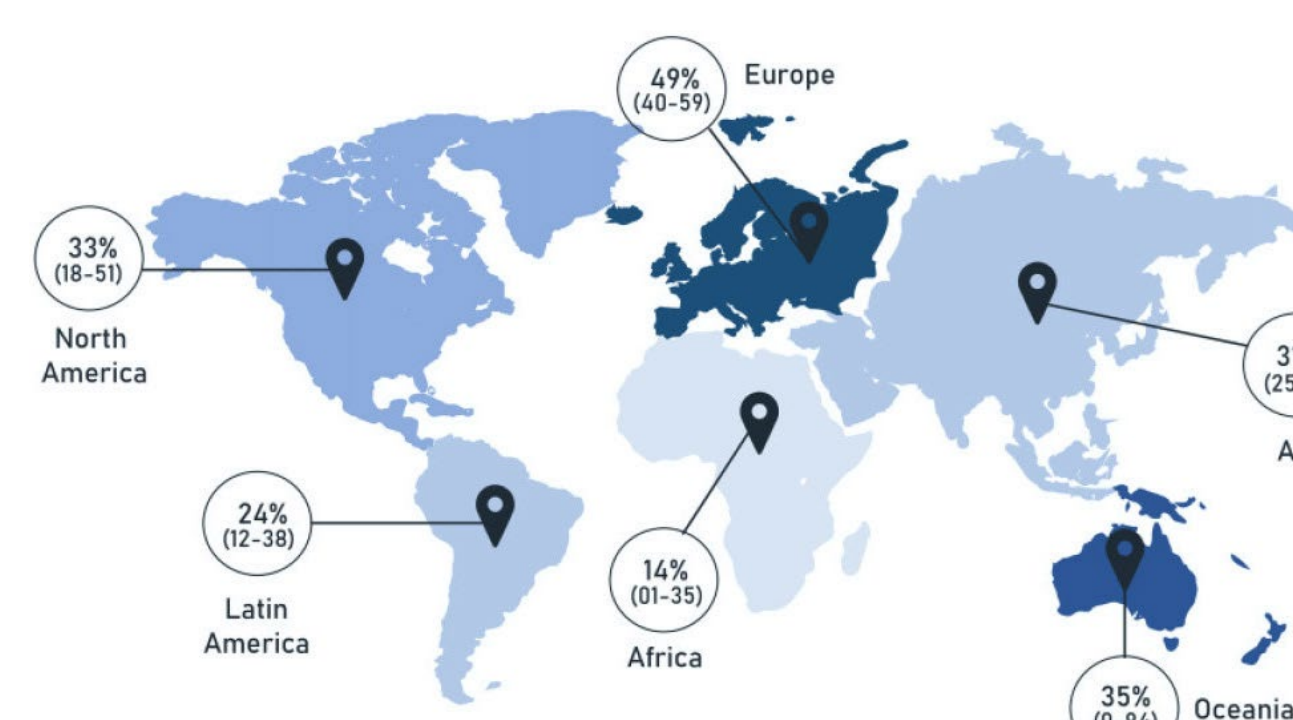


Dental, Delta. "Exploring the Connection between Covid-19 and Oral Health." FYI, 22 Jan. 2021. <https://fyi-online.com/2021/01/oral-signs-of-covid-19/>.

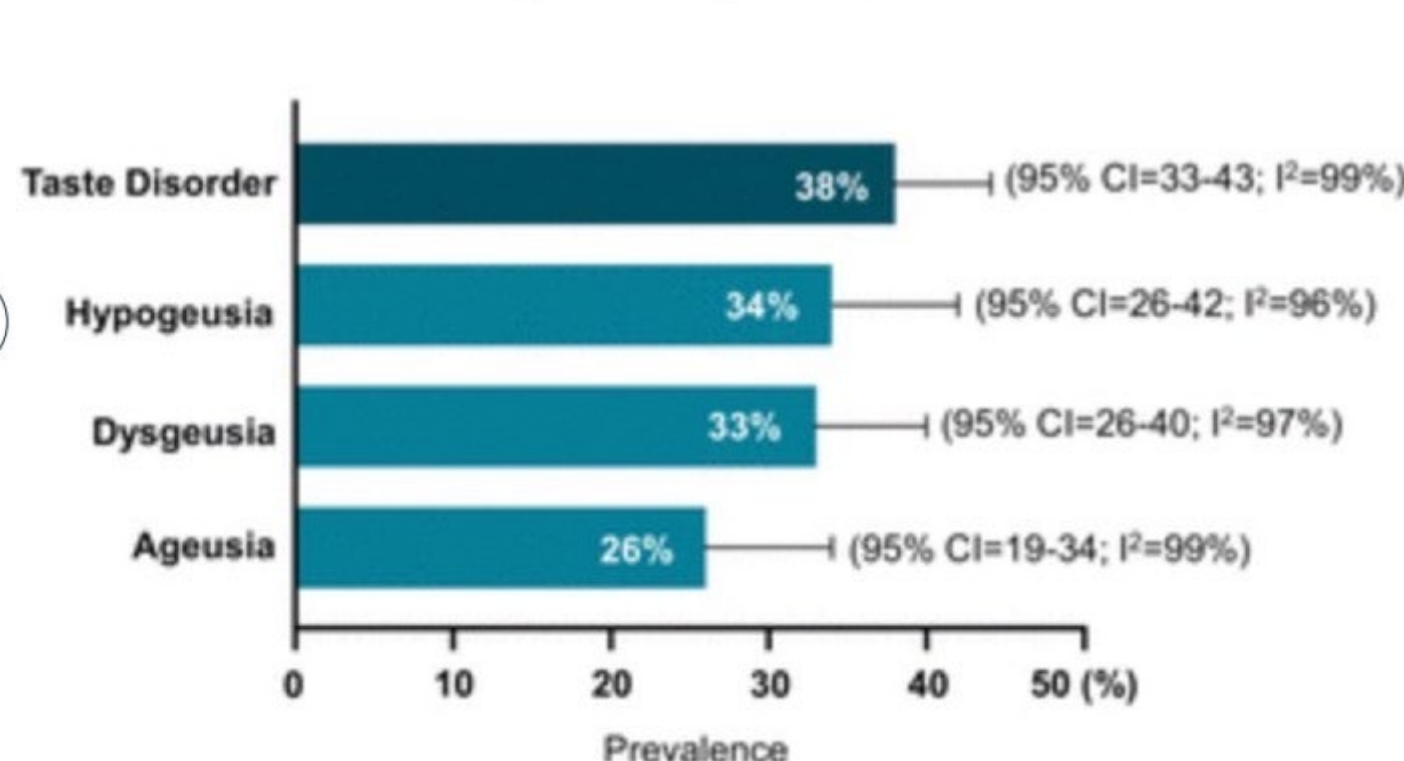
## LOSS OF TASTE & XEROSTOMIA

- The dorsal surface of the tongue is rich with ACE-2 receptors which is the attachment site for the SARS-CoV-2 antigen (Eita, 2021).
- Additionally, 60% of individuals complained of dysgeusia & 56% of patients complained of xerostomia (Chmielewski, 2021).
  - Xerostomia is commonly seen as a precursor symptom to COVID-19 (Santos, 2021).
- Research has indicated a higher rate of female individuals were seen to suffer with the impairment of taste & smell (Omezli, 2021).
- Taste impairment, xerostomia, & oral ulcers are known as the trifecta of symptoms for individuals who suffer with post COVID-19 syndrome (Santos 2021).

Worldwide Prevalence of Taste Disorders in Patients with COVID-19



Prevalence of Taste Disorders in Patients with COVID-19 (n= 59998 patients)



Santos, J. Amorim dos, et al. "Oral Manifestations in Patients with COVID-19: A 6-Month Update." *Journal of Dental Research*, 29 July 2021. <https://journals.sagepub.com/doi/full/10.1177/00220345211029637>.

## “COVID TONGUE”

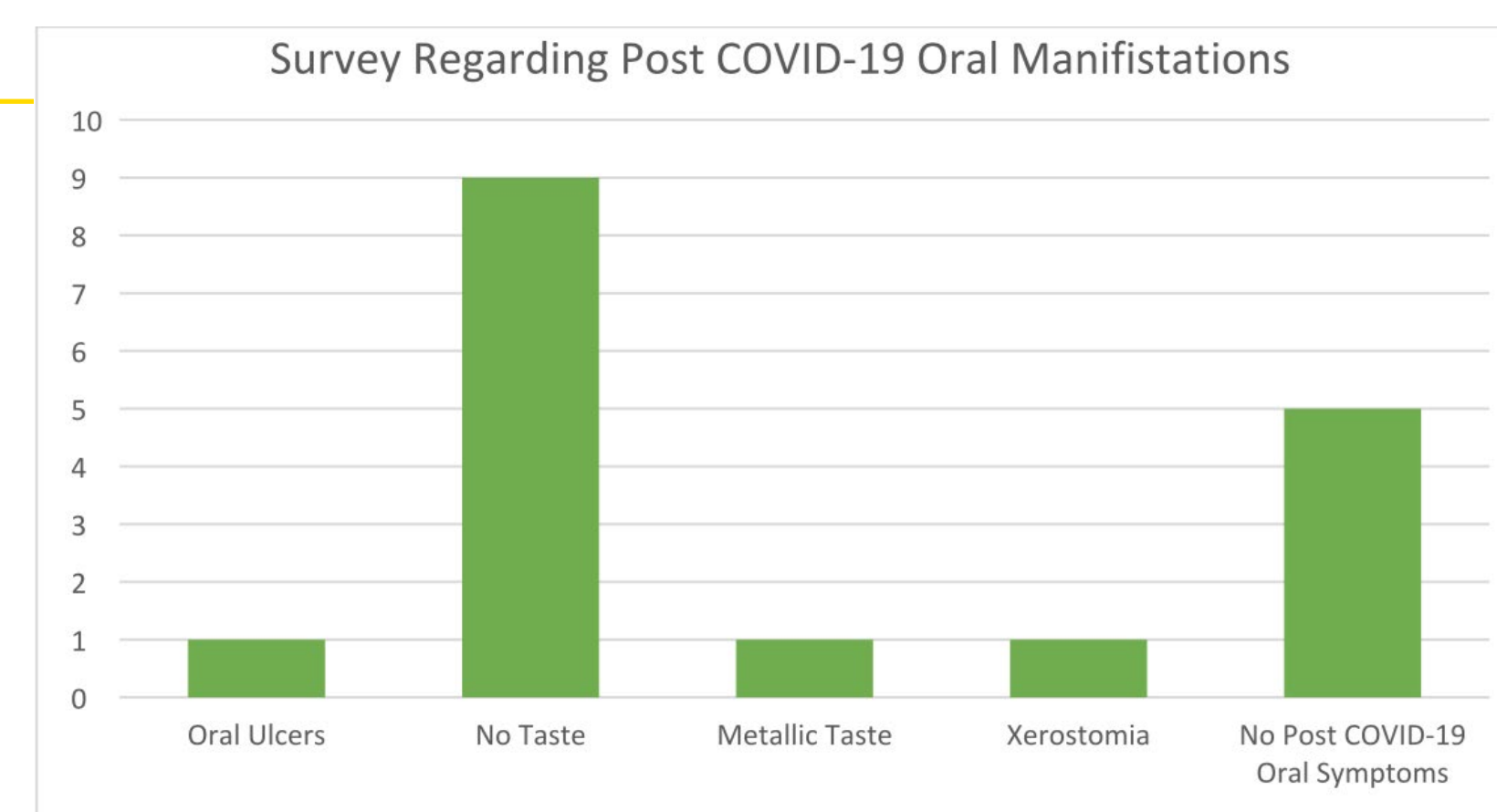
- The patient presents with swollen, transient lingual papillitis, canker sore lesions and mottled depapillation upon the dorsal surface of the tongue.
  - Appeared in 25% of cases studied by the British Journal of Dermatology within a community in Spain (Gonzalez, 2020).
- Associated with an unscrapable white, greasy coating over tongue.
  - Prominent papillae in certain areas (Eita, 2021).
- Symptoms of “COVID tongue” commonly include a burning sensation upon the tongue and taste interference (Gonzalez, 2020).

## ORAL ULCERS

- A recent study suggests that oral ulcers related to COVID-19 can be:
  - Found on patients mucosa and dorsal surface of tongue.
  - Seen in 7 out of 8 patients who experience aphthous ulcers.
  - Associated with a thrush-like lesion.
  - Seen in 50% of individuals who experience specific yellow spots on the dorsal surface of the tongue, similar to herpetic lesions.
  - Associated with red petechiae present on the anterior portion of the hard palate. (Chmielewski, 2021).
- Additionally, high density ACE-2 receptor areas trigger inflammation causing formation of canker sores or petechiae (Chmielewski, 2021).

## PATIENT SURVEY

- Surveyed 17 anonymous participants both male & female using an 5 question form.
- The survey concluded 5 male participants experienced no post COVID-19 oral symptoms.
- The most common post COVID-19 symptom in females was no taste.



## ROLE OF DENTAL HYGIENIST

- Patients with loss of taste:
  - Dental hygienists can recommend the utilization of sugar free lemon lozenges, and mints (Dietitian, 2020).
  - Consumption of zinc tablets for several weeks (Bruad, 2020).
- Patients with Oral Ulcers:
  - Suggest a topical treatment for pain relief with benzocaine as an active ingredient (Wirfs, 2022).
  - Suggest for the DDS to prescribe a mouthrinse containing chlortetracycline to reduce the number of ulcers and alleviate tenderness (Suharyani, 2021).
  - Recommend to avoid products containing sodium lauryl sulfate (SLS).

## CONCLUSION

- All post COVID-19 oral manifestations are continuously evolving based on emerging research, studies, experiments, and new individuals undergoing symptoms.
- As discussed there is an increased prevalence on a global level with patients who exhibit post COVID-19 symptoms however, the dental hygienist plays a pivotal role in how to alleviate the extent of their ailments.
- Since the oral cavity is a reservoir for the attachment origin of the COVID-19 virus, the dental hygienist can pursue additional education on ways to help their patients who suffer from post COVID-19 symptoms.

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