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## Dental Hygiene and Covid-19

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### Editorial

The novel coronavirus (SARS-CoV-2) is creating anxiety among medical professionals due to its global expansion. The fact that asymptomatic patients can be infection sources requires a careful examination of the current outbreak's transmission patterns [1]. The virus is mostly transmitted by contact with the mucous membranes of the eyes, nose, and mouth. The presence of SARS-CoV-2 and a high viral load in the sputum of a recovering patient raises concerns about the virus's potential for transmission after recovery [2,3].

When compared to those without gum disease, COVID-19 patients with gum disease were 3.5 times more likely to be admitted to the intensive care unit, 4.5 times are more likely to require a ventilator, and 8.8 times are more likely to die. Until now, no other research on the destructive effects of gum disease in COVID-19 patients has been performed.

The role of oral bacteria in enabling COVID-19 co-infection is important but underappreciated. Poor oral hygiene is thought to be a major ecological stressor that causes dysbiosis in the mouth's complex microbial ecosystems. The dysbiotic ecosystem's ecological alterations support an increase in the prevalence of pathogenic oral bacteria. Bacteremia is caused by daily actions like mastication, flossing, and tooth brushing, which allows for the hematogenous spread of oral bacteria and inflammatory mediators, resulting in systemic inflammation in some patients. Controlling overall microbial

development in the mouth, maintaining or restoring the oral symbiotic balance, and avoiding the transfer of oral bacteria to other parts of the body all require good oral hygiene.

Many people suffered from poor oral health and periodontal disease during the Covid-19 pandemic. If a person has a lung infection, there is a chance that oral secretions will be drawn into the lungs, causing infection. "*Porphyromonas gingivalis*, *Fusobacterium nucleatum*, *Prevotella intermedia*" are some of the microorganisms found in the mouth that can cause these illnesses. Gum infection, also known as periodontitis, is one of the most common causes of severe bacterial infections. These microorganisms cause the production of cytokines such as Interleukin 1 (IL1) and Tumor Necrosis Factor (TNF), which can be detected in saliva and can infect the lungs. Inadequate oral hygiene may increase the risk of inter-bacterial exchanges between the lungs and the mouth, as well as the risk of respiratory infections and post-viral bacterial complications.

### Strategies for Dental Hygiene

1. Brushing teeth twice a day for at least 2 minutes with toothpaste
2. Never let anyone else use your toothbrush.
3. Clean and disinfect the toothbrush after each use; it can be dipped in an antiseptic mouthwash.
4. Avoid storing a family's toothbrushes in the same toothbrush holder.
5. Brushes should be replaced every 2-3 months.
6. Before flushing, place the toilet lid down.
7. Disinfect the floss holders and floss containers. Disposable interdental cleaning tools should be used.

It is critical to keep tooth brushes from the same family out of the same container in order to avoid cross-contamination. Cleaning equipment become polluted after usage and, if not disinfected, can become a reservoir of microorganisms (including bacteria, viruses, and fungi) that can survive for up to seven days if not disinfected. When cleaning items are stored together or shared, microbial persistence encourages the reintroduction of possible pathogens into the mouth cavity or the dissemination of pathogens to other people [4].

Because the brush filaments can be affected by germs from the environment, disinfecting the brush head after use with povidone-iodine at 0.2 percent or hydrogen peroxide diluted at 1 percent for 1 minute [5] is critical for maintaining good cleanliness [5,6]. It is crucial to understand and account for the temporary duration of the coronavirus's stay on various surfaces; in order to avoid infection; it is required to understand that the duration of the coronavirus's stay on plastic is 72 hours. When COVID-19 is active, a 0.2 percent povidone-iodine mouthwash or a 1 percent dilution of hydrogen peroxide can be used for 1 minute to try to control the oral load of germs, as although scientific evidence is limited [1, 5], such products have been observed to be effective in rendering the virus's lipid envelope inoperative.

A study by Maria Jose, et al. included a cross-sectional study on COVID-19 positive subjects which concluded that tongue brushing helped in prevention to an extent [7]. However, less attention has been placed on oral hygiene in order to lower viral load and on the dental environment in order to avoid the

danger of COVID-19 cross-contamination. If the virus's capacity of reinfestation is unknown, it is important to remember that the brush can act as a germ emitter to other brushes used by other members of the family, or even to oneself, at the end of an eventual infectious phase.

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