

Dear Sir/Madam,

DENTAIID, a company specialized in oral health, wants to inform you about the recent studies that indicates the relevance of the mouth during the COVID-19 outbreak.

As it is well known, COVID19 pandemic is caused by coronavirus SARSCoV2

- It has been reported that ACE2 is the main host cell receptor of SARS CoV2 and plays a crucial role in the entry of virus into the cell to cause the final infection. The tongue (as well as bowel, heart, kidney and lung) is an organ with a large number of ACE2, Xu et al, International Journal of Oral Science (2020) 12:8,
- It looks like in the first 10 days, in which the patient is asymptomatic, and highly contagious, the virus accumulates mainly at the naso/oral/pharyngeal level, then passed to lungs (Nature online 2020 <https://doi.org/10.1038/s41586-020-2196-x> (2020).
- The possibility of saliva transmission and aerosolization from infected patients, especially relevance in the dental field (International Journal of Oral Science 2020; 12:9)
- Viral load of the coronavirus is related to the severity of COVID-19 (Lancet Infect Dis 2020, [https://doi.org/10.1016/S1473-3099\(20\)30232-2](https://doi.org/10.1016/S1473-3099(20)30232-2) In this sense, it is postulated that if the pathogenic load in the mouth is reduced, the amount of virus that can be expelled by the carrier is temporarily reduced, and thus reduce the risk of it infecting other people.

Cetylpyridinium chloride, (CPC), a widely known ammonium quaternary antiseptic compound, in vitro, is able to eliminate viruses Influenza A H3N2, Influenza A H1N1, Influenza B and an Oseltamivir-resistant Influenza A virus. The action of the CPC is at the level of the lipid envelope of the virus, disorganizing it. For these reasons the authors note that the CPC could probably have an effect on other wrapped viruses such as RSV (Respiratory Syncytial Virus), parainfluenza, and coronavirus (Pathogens and Immunity. 2017;2(2):253-69.

In a pilot, double-blind, randomized, placebo-controlled clinical trial, a CPC-formulated and inhaled product was evaluated to prevent the onset of upper respiratory tract infections, caused by influenza virus, respiratory syncytial virus, human metapneumovirus, rhinovirus and



adenovirus. In this pilot, it was observed that in treated patients they suffered viral infections with less severity and duration of viral episodes (BMC Infectious Diseases; 2017;17(74):1-8.

Chlorhexidine is a biguanidic antiseptic and disinfectant with action against a wide range of gram-positive and gram-negative bacteria, optional anaerobic, aerobics and yeasts.

A recent meta-analysis evaluate the efficacy of preprocedural mouthrinses in reducing the number of microorganisms disseminated by means of the aerosol generated via dental procedures, demonstrated that mouthrinses with chlorhexidine, and cetylpyridinium chloride significantly reduced the number of colony-forming units in dental aerosols (JADA 2019;150(12):1015-1026)

For all these data, the protocols of care in the dental clinic prepared by the colleges of dentists of Lombardy (Italy), Hong-Kong, Holland and Spain, recommend that the patient be rinsed with a rinse with chlorhexidine and /or CPC before attending.

At Dentaïd, we believe that CPC does not cure or prevent a person from getting infected, but the data show that it could play an important role in reducing the viral load in the mouth and therefore reducing the ability of the disease to spread from infected patients to healthy people who come into contact with the particles scattered or aerosolized by the patients.

Due to the above, our suggestion is to pre-rinse your patients with Chlorhexidine (0.5%-0.12%) + CPC (0,01% - 1%) prior to any dental treatment in order to reduce the infective load.

I am giving you my email address in case you wish to discuss our proposal.

Sincerely,

Dr. Joan Gispert

R&D&I Director, Dentaïd Research Center

joan.gispert@dentaïd.es