

March 20th, World Oral Health Day

After a year of COVID-19 pandemic, the mouth is more important than ever to protect our health

- *After a year of the COVID-19 pandemic and coinciding with World Oral Health Day, DENTAID highlights the importance of taking care of the mouth for keeping good general health*
- *Several studies carried out by research centres in collaboration with the DENTAID Research Center show that mouthwashes containing Cetylpyridinium Chloride (CPC) reduce the infectious capacity of SARS-CoV-2 and are a potential tool to prevent the transmission of the virus*

Barcelona, 18 March 2021. As multiple studies have shown, the mouth is not an isolated system within the human body as a whole, but rather there is a relationship between periodontal diseases and various other diseases, such as, cardiovascular disease, diabetes or even adverse effects during pregnancy. In fact, **the mouth is considered one of the main routes of entry for diverse microorganisms that can multiply and cause infections *in situ* and at the systemic level.**

In this sense, **Dr Mariano Sanz, investigator and professor at the Universidad Complutense de Madrid**, explains that *“patients with clear signs of periodontitis have a higher risk of suffering complications if they are infected by the SARS-CoV-2 virus. Specifically, they have a 9 times higher risk of death, 3.5 times higher risk of requiring ICU care and 4.5 times higher risk of needing artificial respiration.”* And, to understand this relationship between pathologies, he adds that *“the focus has been placed on the systemic inflammation with which patients with severe periodontitis present, which is due to a local inflammation in the oral cavity, capable of spreading through the bloodstream and triggering a generalised inflammation of the body”*.

For his part, **Dr Adolfo Contreras, professor of periodontology at the Universidad del Valle (Colombia), microbiologist and doctor in craniofacial biology**, underscores that *“the virus enters through the mouth and most likely infects the nasopharyngeal epithelia where it completes its first replication cycle. That is why oral health is extremely important”*.

For this reason, it is so important to pay special attention to oral health, especially in the context of the pandemic. The **virus is transmitted mainly through droplets containing SARS-CoV-2** (the pathogen that is causing COVID-19), **from the upper respiratory tract**, which are expelled when an infected person coughs, sneezes, exhales, talks, etc. For this reason, **the mouth is considered an entry and exit door for the virus** and in itself a high-risk focal point for the development of the Coronavirus disease.

Along these lines, **the importance of hand washing could be equated with that of having good oral hygiene as a preventive measure**: reducing the viral load in the mouth could help reduce the severity of certain infectious diseases and, above all, reduce the risk of transmission to healthy people.

As pointed out by **Dr David Herrera, professor of Periodontology at the School of Dentistry of the Universidad Complutense de Madrid (UCM) and co-director of the UCM’s ETEP Research Group** (Aetiology and Therapeutics of Periodontal and Peri-implant Diseases, for its acronym in Spanish), *“the*

mouth is one of the points of entry of SARS-CoV-2 into our body and, without a doubt, the most significant route of transmission. Therefore, maintaining adequate oral health and healthcare in times of the pandemic can help reduce the transmission of the virus, and even the severity of the disease in infected people, for example, by using mouthwashes with virucidal activity”.

CPC action

Mouthwashes play a fundamental role in oral hygiene because they reach all parts of the oral cavity and provide different benefits depending on their composition: if they contain antiseptics, they help control bacterial plaque and other microorganisms, and also reduce oral pathogens.

Cetylpyridinium Chloride (CPC), an antiseptic contained in some mouthwashes, has been shown in *in vitro* studies to be **capable of degrading viruses with a lipid envelope**.

According to **Dr Dieter Hoffmann, virologist and laboratory director at the Technical University of Munich (Technische Universität München)**, *“The infectivity of SARS-CoV-2 originates mainly in the nose, mouth and throat. This is why mouthwashes can definitely have an impact on viral load and infectivity. Specifically, the ingredient CPC appears to be active against SARS-CoV-2. Therefore, intense gargling reduces viral load”.*

The results of a study carried out by IrsiCaixa research staff, in collaboration with the [DENTAID Research Center](#), affirm that CPC is **capable of reducing the infection capacity and transmission of SARS-CoV-2 by about 1,000 times** in cells in the laboratory.

“The results are fruit of preclinical studies, and now we have started with infected people to measure the amount of viral load in a few hours, and from here we will continue to advance. But there is no doubt that, at least in the laboratory, the CPC has great potential to stop the spread”, says **Dr Bonaventura Clotet, Director of IrsiCaixa**.

For his part, **Dr Joan Gispert, Director of the DENTAID Research Center**, explains that *“chronic oral diseases, such as caries, gingivitis or periodontitis are among the 10 most common [diseases in humans]. In addition, the relationship between periodontitis and cardiovascular disease or diabetes, etc, has been described. Likewise, the importance of the mouth in COVID-19 seems clear, both because it is a route of entry and spread of the virus by aerosols, and because of the appearance of symptoms in the mouth and the relationship described between periodontitis and the severity of COVID-19. For this reason, it is of great importance to ensure oral health, especially during the pandemic”.*

Bibliography

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