



## A Recommendation of PHTALOX® Mouthwash for Preventing Infection and Progression of COVID-19

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The mouth has a significant role when it comes to the transmission process of SARS - CoV-2. This happens due to the spread of small droplets which makes the oral and oropharynx mucosa easy targets for the virus [1]. Therefore, the oral cavity is directly associated with the evolutionary process of SARS-CoV-2 in the inhalation of environmental particles in the air and in the sputum, because it can also be transmitted through saliva [2].

This relation takes place due to the presence of Angiotensin-2 Enzyme on the oral mucosa, especially on the tongue and salivary glands [3]. From this interaction, it is clear the viral load is related to the severity of COVID-19. This evidence showed that an early intervention to decrease the viral load intensity is necessary. The mouth, nose and throat wash can eradicate the viral particles, reducing the viral load in patients exposed to the virus [4].

The use of mouthwashes for gargling can help prevent and treat respiratory infections in the upper and lower tracts [5]. Technological rinses available on the market with antimicrobial action,

may have antiviral action [1]. In this sense, Meister, *et al.* [6] demonstrated in the laboratory the capacity of some antiseptics in combating SARS-CoV-2. Unfortunately, some of the technologies and some types of mouthwash already tested have had no effect against the new virus in clinical trials [7].

Functional dye is an archetypal of so-called photodynamic antimicrobials, in which the combination of a sensitizing drug and visible light causes selective destruction of viruses, bacteria and other pathogens when applied to consumers or medical products [8].

Considering these findings, PHTALOX®, a bioactive functional dye, promotes a self-activation and continuous production of reactive oxygen in the presence of molecular oxygen. PHTALOX® mouthwash has shown an antimicrobial activity associated with the regeneration of soft tissues and reduction in gingival bleeding [9]. This technology has already been approved by Brazilian National Agency of Sanitary Monitoring due to its antiviral effect against SARS-COV-2.

On a first trial, patients who tested positive for COVID-19 presented a rapid recovery after the use of PHTALOX® mouthwash protocol, with reduction of symptoms such as sore throats, mouth ulcers and cough. These patients became asymptomatic after a few days using the mouthwash. Other studies which are taking place in hospitals using the same protocol with patients diagnosed with COVID-19 also suggested the effectiveness of this mouthwash as an additional treatment. In this context, we urge scientists and governments to develop clinical trials to evaluate the effects of PHTALOX® mouthwash protocol in decreasing the SARS-CoV-2 viral load, preventing the spread of the virus and the severity of COVID-19.

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