



Dentistry During the Coronavirus Disease (COVID-19) Pandemic

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The global spread of the new Coronavirus has caused concerns in the medical community. According to the *Department of Occupational Safety and Health*, dentists and their staff are in the list of jobs with high exposure risk. The provision of dental services has been affected by this pandemic and attention to oral health in the community has diminished due to the anxiety of acquiring the infection. In the following, the effects of this pandemic on dentistry, and strategies for providing better dental services in these conditions, have been suggested.

COVID-19, is the disease caused by infection with Coronavirus. The main symptoms of this disease are headache, fever, cough, sore throat, fatigue, shortness of breath, and intestinal inflammation. Patients may also show symptoms of acute respiratory distress syndrome (1). Asymptomatic patients are a potential source

of spreading the infection. Thus, it is necessary to fully analyze the ways in which the virus spreads. The virus mainly spreads through direct or indirect contact with the mucous membranes of the eyes, nose, or mouth (2). Following the COVID-19 pandemic, dental clinics (public and private), were temporarily closed and elective dental treatments were suspended. Dental school clinics were also closed due to the suspension of classes and clinical education activities (3). As a result, paying attention to oral health declined.

Poor oral health can increase the complications of systemic diseases such as diabetes, chronic kidney disease, and liver disease. Improving oral health can reduce oropharyngeal colonization and the risk of respiratory complications. Besides, by decreasing the risk of developing systemic diseases, it can reduce the severity of COVID-19 disease and its symptoms (1). Based on a study carried out



by González et al. (2), the tongue is the main organ which acts as a reservoir of COVID-19 in the mouth, and brushing the tongue is important for reducing the viral load in a virus carrier. Therefore, the relation between oral health and the severity of COVID-19 symptoms seems logical. However, to prove this relation, more research is required (1).

As the severity of the pandemic increases, the anxiety and fear of acquiring COVID-19 infection may cause people to underestimate the importance of serious oral disease symptoms and avoid receiving services necessary for the diagnosis of oral lesions. Nevertheless, despite the discontinuation of dental services, chronic diseases with significant clinical effects still occur. Therefore, COVID-19 can be an additional aggravating factor in delaying the diagnosis of serious diseases such as oral squamous cell carcinoma, and lead to more complications and worse prognosis (3).

Oral squamous cell carcinoma is a disease with the highest clinical significance. Delays in the diagnosis of the disease are common and most cases are diagnosed at an advanced stage. As a result, the mortality rate of this disease is generally high. It is most likely that pemphigoid is poorly diagnosed or not diagnosed at all during the COVID-19 pandemic. To minimize this effect, it is necessary for the social and dental media to play a role in remote diagnosis of oral diseases as well as in raising public awareness during the course of the pandemic, especially about lesions suspicious for malignancy (3).

Digital instruments can replace some of the common services such as counseling and monitoring patients. Instead of three times going to the dentist (for giving history, treatment, and symptom monitoring), using digital programs, patients can receive dental treatment with only one visit (4). However, it is better to limit elective treatments at this stage of the pandemic. The number of people suffering from diseases and the health system capacity are of high importance. People should be encouraged to use oral hygiene methods in the best way, so that the cases of dental emergency and worsening of oral health reduces as far as possible. In cases where the patients are suffering from pain, spontaneous bleeding, and dental trauma, doing dental treatment in dental clinics is inevitable. In these

circumstances, providing biosafety protection is a fundamental principle. However, the usual biosafety protection methods are probably not enough and one must provide instructions based on the best available evidence. Patients receiving dental services need to be informed of the status quo, and written consent must be obtained from them (5).

Actions which involve using rotatory tools such as hand pieces and scaling with ultrasound, produce aerosols. Therefore, a better understanding of transmission mechanisms, clinical features, and viral detection tests is essential. These help to provide dental treatment protocols and are useful in identifying cases and preventing further spread of the infection in patients and dental staff (4). The recommendations of the *American Dental Association (ADA)* and *Centers for Disease Control (CDC)* on how to provide dental services include making phone calls with patients for screening COVID-19 before treatment, avoiding non-emergency treatment of patients who have COVID-19 symptoms, limiting the number of patients' companions (if possible), minimizing the number of patients in the waiting room, and checking the body temperature of patients before their treatment (5). For all of the staff, using face masks and eye protectors (goggles / face shields), gowns, and disposable gloves as personal protective equipment (PPE) is recommended. All surfaces should be cleaned and disinfected after each patient and the floor of the treatment environment should be cleaned 2 to 3 times a day. This disinfection may be done by the chlorine-based hypochlorite solutions or alcohol (%60-70). Clinical waste needs to be disposed in accordance with the legislations. It is recommended that PPE and other contaminated disposable materials, be put in containers with rigid lids for disposal. A proposed method for disinfecting is washing with H₂O₂, of which there is no clear evidence available. The potential of H₂O₂ in reducing viral load is an example of using the precautionary principle and needs more evaluation (5).

Studies in this area are ongoing. It is hoped that dentistry will adapt to the current situation as soon as possible and appropriate dental services will be provided in the community during the pandemic.

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