



LETTER TO THE EDITOR

Coronavirus COVID-19 – Impact on Dentistry

Abdulla Alani

Dental Resident, Dental and Maxillofacial Department, Bahrain Defense Force Hospital, Royal Medical Services; Email: alanni.abdullah@gmail.com

COVID-19 is a novel coronavirus identified in the saliva of infected patients. It is linked with human-to-human transmission. Here, the author discusses the possibility of transmission of the virus via saliva.¹ During dental treatment, droplets and aerosols are expected. Therefore, it is extremely important to investigate the transmission of COVID-19 through oral fluids.¹ By understanding the transmission process, dental professionals can effectively plan and implement prevention strategies. As saliva may have a vital role in human-to-human transmission.¹ The current outbreak of the 2019 Coronavirus strain (COVID-19) constitutes a public health emergency of global concern.² International centers of disease control and prevention are observing this pandemic very closely. Symptoms of COVID-19 infection include fever, cough, and acute respiratory disease with severe cases leading to pneumonia, kidney failure, and death. The severe respiratory illness caused by COVID-19 was first spotted in late December 2019 in Wuhan, Hubei province, China, and the infection spread globally.³ Given the novelty of COVID-19, some features of the virus remain unknown. However, as COVID-19 was identified in the saliva of infected patients,⁴ human-to-human transmission has been confirmed.⁵ Several potential situations for COVID-19 transmission have been proposed such as contact with droplets and aerosols generated during dental procedures, talking, coughing, and sneezing (related to human respiratory activity) as in other respiratory infections. The origin of a droplet can be nasopharyngeal or oropharyngeal, generally associated with saliva. Bigger droplets can transmit the virus to subjects nearby. Long-distance transmission is likely with smaller drops in air-suspended particles infected with the virus.⁶ There are at least three different pathways for COVID-19 transmission. Firstly, from COVID-19

in the lower and upper respiratory tract³ that enters the oral cavity with the liquid drops frequently exchanged between these organs. Secondly, COVID-19 present in the blood can enter the mouth via gingival crevicular fluid, an oral cavity-specific exudate that contains local proteins derived from extracellular matrix and serum-derived proteins.⁷ Lastly, COVID-19 can be contracted through major and minor salivary gland infections, with the release of particles in saliva via salivary ducts. It is essential to mention that salivary gland epithelial cells can be infected by severe acute respiratory syndrome-coronavirus (SARS-COV) a short time after infection in rhesus macaques, implying that salivary gland cells could be a vital source of this virus in saliva.⁸ A recent clinical study showed that 29% of 138 patients hospitalized with COVID-19-infected pneumonia in Wuhan, China, were healthcare workers.⁹ Inhalation of airborne particles and aerosols during dental treatment of a patient with COVID-19 can be very risky for dentists as they are directly exposed to the virus. Dentists must use preventive strategies to avoid COVID-19 infection by focusing on proper patient placement, hand hygiene, use of personal protective equipment (PPE) and caution while performing aerosol-generating procedures.¹ There is an urgent need for further studies on the potential role of oral fluids in the spread of COVID-19. It is also vital to devise and enhance the strategies for ensuring the safety of dentists and healthcare workers from this infectious disease.

Competing interests

The author declares that he has no competing interests.

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