



## Case Reports

### Covid-19 Impact on Dental Practice: An Overview

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#### Abstract

Covid 19 has emerged as a sever pandemic respiratory infection around the world at a very high transmission rate. Much efforts made by all health stake holders around the world who are working day and night to stop or decrease the spread of this disease. The health sector, including dentists and other related staff are in a great challenge to adopt and deal with such aggressive unpredictable outbreak. In this review article, we will try to point out and discuss what has been circulated in scientific research in order to come up with certain recommendations and suggestions that may help dental staff to work and serve patients with a higher standard of professionalism, protection and safety.

**Keywords:** Outbreak; Infection control measures; Diagnostics

#### Covid-19 Outbreak

A recent coronavirus (2019-nCoV), which caused an epidemic of acute respiratory syndrome in humans in Wuhan, China, started on 12 December 2019 [1]. Coronaviruses have produced two well-known pandemics in the last two decades, SARS (Severe Acute Respiratory Syndrome) and Middle East respiratory syndrome (MERS) [2,3]. Anonymous pneumonia disease outbreak in Wuhan, Hubei province, central China began from a local seafood market- has grown significantly and led to the infection and deaths of many people in China and outside around the world [4]. Typical clinical findings of infected patients are fever, dry cough, breathing complications (shortness of breath), headache, pneumonia and finally progressive respiratory failure causing alveolar damage (as observed by transverse chest computerized-tomography images) and even death. It appears that most of the early cases had contact history with the unique seafood market; however, the disease has now advanced to be spread by human-to-human communication [1]. The original coronavirus was initially termed 2019-nCoV and formally as severe acute respiratory syndrome coronavirus 2 (SARSCoV-2) [5]. Although patients with symptomatic COVID-19 have been the main cause of transmission, recent remarks propose that asymptomatic patients and patients in their incubation period are also transporters of SARS-CoV-2 [6,7]. Furthermore, it remains to be shown whether patients in the improving phase are a potential cause of transmission<sup>7</sup>. The incubation period of COVID-19 has been assessed at five to six days on normal, but there is an

indication that it could be as long as two weeks, which is now the commonly assumed duration for medical observation and isolation of (potentially) exposed individuals [8,9].

#### General Infection Control Measures

Infection control procedures are essential to stop the virus from further spreading and to help control the epidemic situation [5]. All ages are usually liable to this novel infectious disease. However, those who are in near contact with patients with symptomatic and asymptomatic COVID-19, including health care providers and other patients in the hospital, are at advanced risk of SARS-CoV-2 infection [10]. Coronaviruses are large, enveloped, positive-strand RNA viruses that can be categorized into four classes: alpha, beta, delta, and gamma, of which alpha and beta types are known to infect humans. Coronaviruses are ecologically assorted with the greatest variety seen in bats, signifying that they are the pools for many of these viruses [11]. Regarding data gained from similar coronaviruses, e.g. severe acute respiratory syndrome (SARS) and Middle East respiratory syndrome (MERS), virology specialists are confident that 70% ethanol and 0.1% sodium hypochlorite should deactivate the virus [12].

Travel limitations, quarantines, self-isolation, social distancing, and intensified hygiene are considered public governmental measures to manage virus outbreak [13].

#### Diagnosis and Salivary Gland Diagnostics

The laboratory investigative assessments should be accomplished using nasopharyngeal, oropharyngeal, and blood samples. Coughed sputum and other specimens in severe

respiratory complication should be thought as lower respiratory tract indications [14,15].

Further investigations are required to inspect the probable diagnostic of COVID-19 in saliva and its influence on spread of this virus, which is critical to improve effective policies for prevention, especially for dentists and healthcare professionals that accomplish aerosol-generating procedures. Saliva can have a crucial role in the human-to-human transmission, and salivary diagnostics may afford an appropriate and profitable point-of-care stand for COVID-19 infection [16].

### Dental Treatment Protocols during Covid-19 crisis

Dental clinical procedures generate droplets and aerosols can lead to viral transmission [16]. China (the country of virus origin) recommended that all healthcare providers use personal protective protocol, similar to that previously reserved for awfully infectious pathogens such as plague and cholera. Routine dental care was on hold in January 2020 and three months later is starting to be resumed [17].

Emergency dental treatment was provided with guidance on firm personal protection and procedures to reduce and prevent production of droplets and aerosols, use of high-volume aspiration, and others, as had been suggested during the earlier SARS outburst [18].

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