



## Novel Coronavirus (COVID-19) Infection: An Overview in Dentistry

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Coronavirus (CoV) infections are emerging respiratory viruses and are known to cause illness ranging from the common cold to severe acute respiratory syndrome (SARS) [1]. The name "coronavirus" is derived from the Latin word Corona and the Greek word korónē, which means crown. Novel Coronavirus (COVID-19) have been identified by Chinese authorities, and this was declared by the World Health Organization on January 9, 2020. The virus is related to a pneumonia outbreak in Wuhan City, Hubei Province, China. The current outbreak of novel coronavirus (COVID-19) in Wuhan City, Hubei Province, China, has emerged as a global outbreak and significant public health issue [2]. On January 30, 2020, the World Health Organization (WHO) declared COVID-19 a public health emergency of international concern (PHEIC). Origin of the infection (COVID-19) is currently unknown, but 66% of the initially infected patients (27/41) were directly exposed to the Huanan seafood market [3]. As of March 28, 2020, novel coronavirus (COVID-19) has spread to more than 170 countries with confirmed novel coronavirus cases have crossed 530,000, while more than 24,000 deaths have been reported across the world as Europe becomes the new epicenter of coronavirus. More than 80% of the global COVID-19 cases are currently outside China [4]. According to current data, the fatality rate (cumulative deaths divided by cumulative cases) of COVID-19 is 0.39% to 4.05%.

The common transmission routes of novel coronavirus include direct transmission (cough, sneeze, and droplet inhalation transmission) and contact transmission (contact with oral, nasal, and eye mucous membranes). Other modes of transmission are through sneezing close personal contact, such as touching or shaking hands, touching an object or surface with the virus on it, then touching your mouth, nose, or eyes before washing your hands. Studies have suggested that COVID-19 may be airborne through aerosols formed during medical procedures [5]. From the evidence so far as reported by WHO, the COVID-19 virus can

be transmitted in ALL AREAS, including areas with hot and humid weather. Regardless of climate, adopt protective measures if you live in, or travel to an area reporting COVID-19 [6]. The best way to protect yourself against COVID-19 is by frequently cleaning your hands and by social distancing. By doing this you eliminate viruses that may be on your hands and avoid infection that could occur by then touching your eyes, mouth and nose.

The common COVID-19 symptoms include acute respiratory disease syndrome, including shortness of breath, fever, cough, weakness, and diarrhea. For some people, it may be more severe and may lead to pneumonia or difficulty in breathing. More rarely, the disease can be fatal. Older people and people with pre-existing medical conditions (such as diabetes and heart disease) seem more vulnerable to the virus and became seriously ill. Currently, there are no specific treatments available for the COVID-19 infection. Most people with common human coronavirus illness will recover on their own. Clinical management requires the timely implementation of prescribed interventions for infection, prevention and control and supportive management for the complications, including advanced organ support if indicated. To date, no antiviral treatment or vaccine has been explicitly recommended for COVID-19. Therefore, applying preventive measures to control COVID-19 infection is the most critical intervention. The WHO also initiated several online training sessions and materials on COVID-19 in various languages to strengthen preventive strategies, including raising awareness and training health care workers in preparedness activities [7]. Health care workers can be at great risk of acquiring an infection or become a source of transmission to patients or their colleagues. Therefore, the presence of Coronavirus infection among health care workers underlines the importance of continuing education programs for physicians on infection control measures to upgrade the knowledge and practice regarding diagnosis and control of COVID-19 infections and to cut down the rate of its spread.

Infection control is one of the important procedures to be taken in health care setting to avoid the spread of disease. In dental setup, prior patient enters the diagnostic rooms, all the surfaces including dental chair, lights, drawer handles should be disinfected and cleaned. All the equipment available in the office must be covered with protective covers and mandatory to be replaced after each patient. Non-disposable items example dental tools should be cleaned and sterilized for every patient. Disposable dental tools and needles should be discarded and never be used again. Dental staff should take all infection control precautions by using proper protective equipment like eyewear, disposable gloves, masks and gowns. In between patients all the dental team members should wash their hands and change gloves. Cross-infections are high in the dental setup clinics between dental doctors and patients, if proper infection control protocol not taken. Regular face masks are insufficient protection for them; N95 masks, goggles and protective gowns are necessary for medical personnel. When the dentists treat patients, they should intercept the potentially infected person before they reach the operating areas; for example, those with a fever measuring  $> 37.5^{\circ}\text{C}$  and the posing of a few questions about the patient's general health status in the last 7 days, and about the risk of having been in contact with other infected persons. The American Dental Association (ADA) recommends dentists should postpone elective procedures for the next three weeks. Dental doctors should see only the emergency patients and will ease the burden placed on hospital emergency departments [8]. Protecting the healthcare workers against nosocomial infection is another urgent need since patient care will already represent a heavy burden to the health system and any reduction in health personnel would cause further problems.

For the general public preventive measures includes frequent hand washing, cough and sneezing etiquette and wearing masks when visiting public places are recommended. Effectiveness of wearing masks by an uninfected person is lacking evidence as compare to effectiveness of handwashing against respiratory infections. For public protections involve stay home while are sick, avoid close contact with others, during sneezing and coughing mouth and nose should be covered with tissue, frequent washing hand with soap for 20 seconds, use of sanitisers, clean and disinfect objects and surfaces. Mass quarantine will mount fear in minds of public. Anxiety during this pandemic is to be expected, even without being in quarantine. During disease outbreaks, community anxiety can rise following the first death, increased media reporting, and an escalating number of new cases. Thus,

mass quarantine is likely to raise anxiety substantially for multiple reasons. Moreover, they may not have access to care as a result of mass quarantine restrictions and public transport closure. Duan and Zhu (2020) noted an increase in psychological problems during this epidemic, including anxiety, depression, and stress [9].

While the trajectory of this outbreak is impossible to predict, an effective response requires prompt action from the standpoint of classic public health strategies to the implementation of practical measures. From the viewpoint of citizens, when it comes to the protection of lives, one might ask whether one should not put the same spending on public health and preventive research as on the spending on defence budgets. This expanding epidemic will be a stress test for existing health systems, including those of industrialized countries. The appearance of this virus offers an opportunity for the public and medical health professionals to fight in unity against this common threat. As the global threat of COVID-19 continues to emerge, more significant efforts through educational campaigns that target health professionals and the broader population beyond borders are urgently needed.

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