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Characteristics and Impact of Covid-19 Pandemic: A Word of Caution for Dental Practices

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The pandemic of COVID-19 continues to spread around the world. As of April 7th, 2020, there were more than 1,279,000 cases of the disease confirmed in 209 countries, territories or areas, and a global death toll close to 73,000 [1].

COVID-19 is a disease caused by a novel coronavirus SARS-COV-2, a sister virus to severe acute respiratory Syndrome Coronary Virus (SARS). It was first identified in Wuhan in Hubei Province, China in late 2019 with world-wide mortality of 0.6-3.4% [2].

The source of the virus is believed to be from an animal which spreads through droplets from the mouth and nose of persons infected after coughing, sneezing or exhaling [3]. Humans are infected from aerosolized or contaminated droplets. Saliva could be a potential medium for infection [4]. The virus can survive for several hours in an aerosolized form and up to three days on plastic and steel surfaces. A viable virus could be detected in aerosols up to 3 hours post aerosolization, up to 4 hours on copper, up to 24 hours on cardboard and up to 2-3 days on plastic and stainless steel [5].

Common symptoms are fever, malaise, dry cough and shortness of breath; that may typify lower respiratory infections. Upper respiratory symptoms such as running nose, body and joint aches and diarrhea may suggest other viral syndromes but can also be seen in mild cases. Therefore, these should not be used solely to exclude the possibility of COVID-19 [6]. The current period of active monitoring for the development of symptoms or disease is 14 days, according to the US Center for Disease Control and Prevention [3].

Risk factors associated with exposure to SARS-COV-2 include people living in or in proximity of outbreaks, health care workers caring for COVID-19 patients, close contacts of persons with COVID-19. Risk of severe illness includes older adults and those with chronic conditions as heart disease,

diabetes mellitus and lung disease [7]. But not all patients are symptomatic with the disease and those who are presymptomatic or asymptomatic may pose a considerable risk of transmission as they shed the virus unintentionally [6].

The biggest goal in fighting COVID Virus now is to decrease the rate of transmission and spread of infection over a longer period. The aim is to prevent surges of infection over a short period that could overwhelm the health care and support systems. One such approach includes social distancing, a public health initiative that includes restricting crowd sizes to less than 50 and working from home. Other initiatives include keeping physical social distances of 6 feet or more, not touching one's face (proximity of source or aerosolized droplets), avoiding handshakes and standard handwashing protocols.

Dental Health Care Personnel (DHCP) may be at significant risk because they work in proximity to the site of aerosolized materials (oral cavity). These personnel include dentists, dental hygienists, dental assistants, dental laboratory technicians, students, trainees, administrative staff, clerical, volunteer and even housekeeping and maintenance personnel.

Dental encounters may include patients with COVID requiring urgent dental treatment in or Person Under Investigation (PUI). In such cases, the dental providers would and should work together with medical providers since dental practices may not be designed and equipped to carry out all transmission-based precautions recommended by the hospital and ambulatory settings. These may include provision of care in private rooms with negative air flow pressures, the proper technique and sequence of donning and doffing off Personal Protective Equipment (PPE) that include gowns, N-95 masks, goggles and gloves and hand washing of greater than 15 seconds before and after potential areas of contacts [8].

In the scenario of patients with acute respiratory illnesses or symptoms, patients should be provided with disposable face masks, promptly isolated in a single patient room with the door closed to limit contacts and insistence of patients wearing

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masks outside their rooms [9].

Patients who are asymptomatic and unrecognizable carriers pose the greatest risk to DHCP. It is the reason why standard precautions should always be adapted and enforced with all patients at all times. These should include handwashing with soap and water lasting for at least 20 seconds, use of alcohol based sanitizers with at least 60-95% alcohol contents.

Often measures to minimize risk and spread will include postponing non-emergency and elective procedures until the spread is halted and advice provided by Health Care agencies. Non-face-to-face visit should be encouraged in those patients not needing urgent or acute care.

In summary, the need for standard precautions cannot be overstressed during the pandemic of COVID-19. Social distancing will prevent health care systems from being overwhelmed while the infection spreads. The overall financial losses to all including the health care and dental care workforce are yet to be felt and determined, but we must protect ourselves and our patients first. We should plan for the worst and hope for the best.

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