

Periodontal Practice, Aerosol Production, and COVID Transmission: A Challenge or An Opportunity?

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Since the global outbreak of severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) in December 2019, dental clinics around the globe has been either completely shut down or limited their services to emergency dental care. In Nepal, almost 90 percent of the dental services were either stopped or reduced to significant volume during the first wave of corona pandemic.¹ Direct or indirect physical contact with infected personnel and droplet (aerosol) inhalation has been recognised as main causative factor for transmission of SARS-CoV-2.²

High viral load in the active corona virus disease 2019 (COVID-19) infected patient, nasopharynx being the residing zone of SARS-CoV-2 virus, dental aerosols from infected individuals makes a plausible source of infective particles.³ Many a times, asymptomatic dental or periodontal patient can be a carrier for COVID-19 transmission, as they can be tested positive. Limiting dental or periodontal practice only to emergency services may not be the solution for current situation as no one can predict the course and duration of current pandemic. Epidemiologists around the globe are predicting the alternative series of waves of disease exacerbation, and remission.

Periodontal practice without ultrasonic device is almost incomplete. Ultrasonic scaling procedure generates lots of aerosols and spatter, which is unavoidable in our practice. As aerosols, during scaling procedure is directly produced from oral cavity, It is a mixture of salivary droplets and air

from ultrasonic device, circulating in operatory area for longer period, periodontal practitioners are at a greater risk of acquiring SARS-Cov-2 virus during their practice. Although aerosol production is inevitable in periodontal practice, it can be limited by using patient shields, high power aerosol suction device, using decontamination sprays, cross ventilation in the operatory area with negative pressure and work surface decontamination with sodium hypochlorite, hydrogen peroxide or alcohol with the proper use of personal protective equipment (PPE).⁴ More than the volume of the aerosol, the viral load in the aerosol is important in the transmission of any infectious disease. We clinicians may not be able to avoid the aerosols but can reduce the viral load in the aerosol by pre-procedural mouth rinse with povidone iodine or chlorhexidine gluconate.⁵

So, to resuscitate and reboot dental or periodontal practice, a standard guideline should be published and implicated in every dental and periodontal setup.⁶ Current restrictions on aerosol generating procedures provide an opportunity to reorient dental and periodontal care towards less invasive and more preventive approach, one in which dental practitioners can work in collaboration to tackle the shared risk for oral diseases and other non-communicable diseases. This focussed preventive practice can stop or limit the delivery of unnecessary or ineffective and expensive treatments. A perfect example of preventive periodontics is routine provision of tooth scaling and polishing with utmost standard prevention protocol. Inclusion of periodic oral prophylaxis under the coverage of government health insurance package and assurance of access to dental and oral care to all the people of the country must be assured. Radical reform of oral health care system will require concrete, bold, and brave decision from all the stakeholders of this profession. COVID-19 pandemic can be an opportunity for this most needed and long-awaited reform.

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