

COVID-19 – The New Normal and Dentistry

Dr. Shaili Pradhan

The coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), first detected in Wuhan, Hubei province of China, has emerged rapidly as a health crisis that has challenged health systems and health professionals all over the world.¹ Globally, by the end of the 3rd week of June 2020, there have been nearly nine million confirmed cases with 463,533 deaths due to COVID-19.² In Nepal, 8,605 cases have been detected, the first of which was reported on 24th January 2020.³

The severity of COVID-19 can vary from an asymptomatic infection to being fatal and the standard laboratory test to detect current SARS-CoV-2 infection is the real-time reverse-transcription polymerase chain reaction (rRT-PCR) test. There is no documented antiviral therapy against this viral infection, leading to only symptomatic treatment that aims to manage the symptoms and prevent the complications of COVID-19. Many countries have implemented different public health measures to control the spread of SARS-CoV-2. Traditional measures such as quarantine of suspected cases, isolation and treatment of confirmed cases, social distancing, and community containment in the form of lockdowns and restricted travel are being implemented in various degrees around the world. After the World Health Organization (WHO) declared it as a pandemic, the emphasis has been on early testing, prevention by meticulous sanitisation, social distancing, cough hygiene, and lockdown for flattening the disease curve, and the WHO has warned that the defiance of these primary but effective measures will result in worsening of the pandemic.^{4,5}

Dental staff and dental practitioners are considered to be at the highest risk of acquiring SARS-CoV-2 infection because of their prolonged face to face exposure to patients and exposure to respiratory secretions and aerosols produced during procedures like ultrasonic scaling and cavity/access preparation using a high-speed air rotor with water jet cooling systems. Transmission of SARS-CoV-2 occurs

through droplet infection, person to person contact, and indirectly via fomite.^{5,6} Dental procedures causing splatters, fomites, and aerosols can propel a high viral load in the procedure room, thereby increasing the risk of cross-infection between dental practitioners, patients, in-between consecutive patients as well as dental auxiliary staffs. Though dentistry is familiar with the principle of standard precautions to prevent cross-infections, but in the present times, it is difficult to ascertain if the patient has disease transmission potential or not. As such, COVID-19 has posed a significant challenge to the dental fraternity. Although the pandemic has warranted a suspension of routine dental treatment procedures, there is an important need for organised emergency dental services to be provided by dental professionals equipped with proper personal protective equipment (PPE). However, dentists should avoid or minimise aerosol-producing operative procedures. In dental practice, use of saliva ejectors with a low volume or high volume may reduce production of droplets and aerosols.^{7,8}

In Nepal, during the early days of declaration of pandemic by WHO, Nepal Medical Council (NMC) and the Nepal Dental Association instructed dentists not to perform any procedures other than emergency procedures. However, with passage of time and the pandemic not showing any significant signs of control, and patients having dental problems, it became essential to perform dental treatment.

After reviewing the literature, some of the measures which need to be followed, to have a 'new normal' dental practice, are mentioned below. Before any appointment is given to the patient, dental office institutes a pre-appointment screening telephonically regarding health, which includes eliciting any current symptoms and risk factors for COVID-19 or any travel history. On arrival at the dental office, outside the dental operatory, patient is advised to perform hand sanitisation and is provided with the mouth mask and head cap. The patient has to undergo a body temperature check using an infra-red thermometer to rule out fever. The oxygen saturation level of the patient needs to be checked to rule out any respiratory distress.⁶ A screening form is filled up by the office assistant to rule out any changes since the pre-appointment phone call. When the patient presents with a negative history and fever <37.3°C, then only should be allowed to enter the dental operatory with shoe covers. In the operatory, the patient may undergo treatment as decided by the dentist with all the personal protective gears. It is mandatory that the patient's accompanying person

Correspondence:

Dr. Shaili Pradhan, Professor and Head
Department of Dental Surgery
Bir Hospital, NAMS, Kathmandu, Nepal.
email: shaili_p@yahoo.com

Citation

Pradhan S. COVID-19-The New Normal and Dentistry. J Nepal Soc Perio Oral Implantol. 2020;4(7):1-2.

is not entertained in the dental office. Patients should be discouraged to bring anyone along. In the waiting room, it is recommended to have hand sanitiser, cleaning wipes, and provision for the proper disposal of the same. Chairs should be placed at adequate distance to maintain social distancing. Waiting room along with the operatory should be cleaned regularly. No reading materials should be placed. Appointments should be spaced out to reduce waiting time and/or reduce the number of people in the waiting room at any given time. Cleaning with broom should be avoided, wet mopping with detergent and disinfectant (1% sodium hypochlorite) is preferable. Surface should be cleaned with 70% ethanol every hour including door handles.

Dental operatory should be well ventilated with open windows and adequate air flow should be maintained. During procedure, the dentist should provide required treatment in the minimum number of appointments to reduce the spread of the contagion. N95 mask, face shield or goggles, and water repellent PPE is mandatory for the dentist and the assistant to perform any dental procedure with aerosol generation, which should be 'donned' and 'duffed' in dedicated rooms and disposed with care. The use of high-power aspirator is indispensable. The use of air water spray must be minimised. After every dental procedure, careful disinfection of the surface with 1% sodium hypochlorite or 70% ethyl alcohol, and 5% sodium hypochlorite for the disinfection of visible biological fluid stains should be performed. Tubing of saliva aspirator and spittoon should be flushed first with water, then with 0.1% sodium hypochlorite after each patient. Not more

than 0.01% NaOCl is advisable in dental waterline as higher concentration may corrode and cause smell.⁷

Mouth rinse before dental procedure is mandatory to reduce the salivary load of oral microbes. Use of pre-procedural mouth rinse containing oxidative agents such as 1% hydrogen peroxide or 0.2% povidone iodine for one minute, should be mandatory as SARS-CoV-2 is vulnerable to these oxidising agents. Reinforcing good hand hygiene, the dentists should wash hands before patient examination, before dental procedures, after touching the patient, after touching the surroundings and equipment without disinfection, and after touching the oral mucosa, damaged skin or wound, blood, body fluid and secretion. Dental office staff also should be screened every day at entry for symptoms and risk factors of COVID-19 and should not be allowed in the office if they present with any of the symptoms.

In conclusion, clear guidelines for prevention and control of SARS-CoV-2 infection in dental practice should be available until a vaccine or a drug becomes available. It is a fact that things are unlikely to get back to the 'old' normal soon, if ever. This may lead to the resumption of dental practices at the 'new' normal level, accompanied by changes in products, technologies, and treatment patterns. Dentists have to be patient and they may need to acquire new skills to combat this pandemic situation.

REFERENCES

1. Tan WJ, Zhao X, Ma XJ, Wang W, Niu P, Xu W. A novel coronavirus genome identified in a cluster of pneumonia cases Wuhan, China 2019-2020. *China CDC Wkly.* 2020;2:61-2
2. World Health Organization. Report of the WHO - China Joint Mission on Coronavirus Disease 2019 (COVID-19). 2020. Available at <https://www.who.int/docs/default-source/coronavirus/who-china-joint-mission-on-covid-19-final-report.pdf>
3. Bastola A, Sah R, Rodríguez-Morales AJ, Lal BK, Jha R, Ojha HC et al. The first 2019 novel coronavirus case in Nepal. *Lancet Infect Dis.* 2020 Mar;20(3):279-80.
4. WHO. Statement on the second meeting of the International Health Regulations (2005) Emergency Committee regarding the outbreak of novel coronavirus (2019-nCoV). 2020. [https://www.who.int/news-room/detail/30-01-2020-statement-on-the-second-meeting-of-the-international-healthregulations-\(2005\)-emergency-committee-regarding-the-outbreak-of-novel-coronavirus-\(2019-ncov\)](https://www.who.int/news-room/detail/30-01-2020-statement-on-the-second-meeting-of-the-international-healthregulations-(2005)-emergency-committee-regarding-the-outbreak-of-novel-coronavirus-(2019-ncov))
5. Meng L, Hua F, Bian Z. Coronavirus disease 2019 (COVID-19): emerging and future challenges for dental and oral medicine. *J Dent Res.* 2020 May;99(5):481-7.
6. Peng X, Xu X, Li Y, Cheng L, Zhou X, Ren B. Transmission routes of 2019-nCoV and controls in dental practice. *Int J Oral Sci.* 2020 Mar 3;12(1):1-6.
7. Pandemic Influenza Preparedness and Response Guidance for Healthcare Workers and Healthcare Employers. Available from :https://www.osha.gov/Publications/OSHA_pandemic_health.pdf
8. Centers for Disease Control and Prevention. Interim infection prevention and control recommendations for patients with suspected or confirmed coronavirus disease 2019 (COVID-19) in healthcare settings. *Coronavirus Disease 2019 (COVID-19).* 2020 Mar 19.