



## COVID 19 AND INDIAN DENTISTRY – A NARRATIVE REVIEW

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**ABSTRACT** The COVID 19 epidemic has grown to be a serious public health issue. Dental care practitioners were at high risk despite the fact that everyone was at risk because of the nature of their work, which necessitates closeness to the patient's oropharyngeal region and the use of aerosol-generating techniques. COVID-19 has become a major issue for both patients and dentists professionally. Standard Operating Protocols and guidelines to be followed during COVID 19 were issued by international agencies like World Health Organisation and Indian government. A modification in dentistry is now necessary to avoid cross-infection. COVID 19 has left serious repercussions on dentists, dental students and also on patients. This review focuses on the impact of COVID 19 on dentistry and changes developed post COVID 19.

**KEYWORDS :** COVID 19, Dental students, Dental practise during COVID-19 Lockdown, Safety measures in Dental setup.

**INTRODUCTION:**

The SARS-CoV-2 virus is the infectious disease known as coronavirus disease (COVID-19). SARS-CoV-2 can spread mostly through contact, droplets, airborne, and fomites.<sup>[1]</sup> Another feature of Covid-19 is the constant evolution and resistance of microbes toward antibacterial agents, making them a continuous and recurring threat.<sup>[2]</sup> During COVID 19 lockdown, the dental services were restricted to urgent emergency procedure with suspension of routine dental care.<sup>[3]</sup> To handle the difficulty of a significant outbreak, worldwide lockdown was imposed. The isolation of sick individuals was made mandatory to prevent the spread of disease to healthy or unwell individuals. The prolonged lockdown proved to be beneficial in controlling the spread of virus, however, the stress of this epidemic and the abrupt change in lifestyle had an impact on one's physical and mental health.<sup>[4]</sup>

Owing to this terrible circumstance, the majority of clinics have changed their practises to focus exclusively on emergency situations or shut down completely until things are under control. It created a huge confusion among the dental patients who were affected due to incomplete treatment and perpetual oral ailments. Some missed their regular check up or neglected their oral conditions in the fear of transmission of virus.<sup>[5]</sup> Even if the dentists were to perform dental procedures, they were at the risk of getting the infection. In addition, this sudden lockdown affected the clinical education of the dental students. Hence, this review analyses the impact of COVID 19 on dental profession in India.

**COVID 19 AND DENTAL EDUCATION**

The unique difficulties the epidemic provides for instructing dental students are acknowledged by dental educators. The epidemic specifically interfered with clinical experiences for students who had not yet passed regional board exams or finished clinical requirements for graduation.<sup>[6]</sup> Owing to complete lockdown, Indian dental colleges instructional activities were moved to an online learning platform like Google Classroom, with pre-recorded theoretical lectures, case presentations, and electronic learning tutorials predominating.<sup>[6]</sup>

Students were prohibited from having direct contact with patients, despite the fact that dental institutions quickly adopted online lecturing and faculty successfully adjusted to distance instruction. Their capacity to apply new knowledge, practise critical thinking in a clinical situation, and gain experience were all impacted by this. Without a doubt, the transition to online learning and the dearth of practical training during the semester could prevent students from feeling sufficiently confident to carry out dental treatments.<sup>[6]</sup> For students who hadn't finished the clinical prerequisites for graduation or tests, the pandemic interfered with their clinical experiences. Courses and exams are now being given online due to changes in classroom instruction. Prolonged online classes created increased stress levels for the students in studying clinical procedures and in gaining self-confidence on treating patients. Based on the risks involved in a given educational activity, the CDC published criteria for reopening higher education facilities.<sup>[5]</sup>

**COVID 19 AND DENTAL PRACTICE**

During these uncertainties, health care providers were in the frontline

bearing the stress to serve the victims of COVID-19. The cost of dental care increased as a result of high quality technology in the commercial sector and less opportunities for dentists in the public sector.<sup>[7]</sup> The pandemic had a high impact on health care professionals, highly risk for dentist due to aerosol generating procedures, which is the prime source of cross Infection.<sup>[8]</sup> A number of dental offices have either altered their services in accordance with the suggested standards for emergency treatments or have entirely shut down for an unsure amount of time. The widespread use of dental turbines, micro-motor or rotary handpieces, ultrasonic scalers, and air-water syringes in dentistry presents a challenge to dental students and educators. Aerosol-generating procedures on known or suspected COVID-19 patients are to be performed or observed as a very high-risk activity because they can produce aerosolized droplets and the transmission of SARS-COV-2. These tools spray droplets of water, saliva, blood, microorganisms, and other body fluids, particulates, and debris.<sup>[9]</sup> Therefore, central government instructed dentists to stop elective procedures and only treat emergency cases.<sup>[10]</sup>

Standard protective measures in normal clinical practise are ineffective to stop the spread of COVID-19 because of the special characteristics of dental treatments. Particularly when individuals are in the latent stage of COVID-19 disease and either do not know they are infected or hide it. Therefore, it is considered more important to adhere to the rules and health guidelines when providing dental treatments during the corona outbreak.<sup>[11]</sup> The cancellation of dental services during the pandemic, such as elective tooth extraction under general anaesthesia, as well as the suspension of community health services like health visits, school nurse activities, and the community oral health improvement programme, put people's oral health in particular danger.<sup>[12]</sup> It was established that one of the main routes of transmission of COVID-19 from one person to another was in a dental setup, through the aerosols used in different Dental procedures.<sup>[13]</sup> Paediatric dentists may consider utilising telemedicine for remote consultation, triage, and dental care delivery when feasible and suitable. By utilising telemedicine, paediatric dentists can meet a range of oral care needs without having direct contact with their young patients by having dental appointments virtually. Different types of healthcare workers, including dentists, were deemed the most vulnerable groups as they had the Maximum probability of contacting and spreading the Disease.<sup>[10]</sup>

**PROTOCOLS AND GUIDELINES FOLLOWED DURING COVID 19**

Patients should be asked to complete the screening form for COVID-19 Infection in order to provide a full history.<sup>[9]</sup> Clinic assistants should have the necessary training to perform sterilisation, storage, and quality testing in accordance with manufacturer's instructions and the regulatory authorities recommended standards.<sup>[11]</sup> Adopting these precautions is crucial in order to protect themselves, as well as children and their parents, and to stop the spread of viruses.<sup>[14]</sup> Under this pandemic scenario, wearing personal protective equipment (PPE) has been deemed the most important safety precaution in dentistry practise. To reduce the danger of patient contact and transmission, the dentist must wear PPE in the dental operator. Through regular and simple window openings and the use of exhaust blowers to release the

interior air into the atmosphere, enough air circulation with natural air must be maintained. To improve a safe and virus-free environment, fumigation systems must be used in a timely and cost-effective manner. Using evacuators and high-volume suction will lower the transfer rate. To remove treatment debris that could potentially serve as a source of transmission, anti-retraction valves should be installed in the water supply pipes connected to dental chair units.<sup>[15,16]</sup>

In dental clinics with appropriate protocols and PPE in place, emergency dental patients can be evaluated if they do not exhibit symptoms of COVID-19 infection. Nonetheless, the patient should be directed for emergency care where the proper transmission-based measures are available if they exhibit signs and symptoms of a respiratory disease.<sup>[17]</sup> Even the control of behaviour is crucial in preventing cross-infection. Compared to calm youngsters, children who are agitated or weeping disperse more aerosols. The extensive instructions included in the guidelines released by the AAPD, ADA, CDC, and NZMOH all emphasise the significance of minimising cross-infection, ensuring the safety of dental healthcare personnel, safeguarding paediatric patients and their guardians, and using PPE properly. To help dental practitioners prioritise cases seen in clinics, interact with patients for triaging via phone and telehealth conferencing, and recommend self-administered actions in instances that can wait to be seen, various dental and medical organisations released guidelines.<sup>[18]</sup>

### POST-COVID 19 – A NEW ERA

National guidelines with various safety protocols were included to treat people with safety measures and lower the risk of spreading virus. The new era also mainly focused on improving paediatric dentistry to create awareness among parents regarding oral conditions and need to prevent and treat them. Urgent emergency care centres were established to treat emergency cases with abiding to non-aerosol generating procedures and telephonic dentistry. Minimally invasive treatments were done.<sup>[9]</sup> The Indian Government started the vaccination drive for the citizens of the country in Stages. It also further substantiated the fact that unless the people follow the guidelines laid down by the different authorities, national and international associations, organizations, and this pandemic will continue to be a public health concern.<sup>[10]</sup>

Reforming dental contracts was an essential recommendation for the future that tied all the problems together and overlapped them. It was thought that creating a contract that met the needs of both patients and the profession would improve access, quality, and health outcomes.<sup>[12]</sup> Nearly two-thirds of dental students preferred to be informally monitored after graduation, and one-third of students were unsure of the skills they had learned before graduation. They still had some qualms about autonomous dentistry practice and regarded mentoring as being quite crucial. Every person has been driven by the epidemic to adopt new habits and lifestyles in order to increase their chances of surviving this devastating virus. Dental professionals who treat children must practise good cleanliness to stop the spread of infection. The task of the paediatric dentist is to instil in the young patient a sense of security, comfort, and confidence regarding the course of treatment.<sup>[15]</sup>

### CONCLUSION

Dental healthcare professionals need to be aware of the potential repercussions of (SARS)-CoV-2Virus transmission in a clinical setting. As a result, they must keep abreast of any new information about this disease. Communication and the delivery of care via teledentistry take more time and consideration to ensure proper advice to children and parents. In times of pandemics, teledentistry may be a practical solution for treating children's dental issues. Dental education is currently facing significant obstacles, some of which have never been encountered before, as a result of the COVID-19 epidemic.

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