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Covid-19 pandemic and pediatric dentistry: Limitations from a student's viewpoint

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ABSTRACT

We are confronting a global health crisis that is significantly impacting community health, bringing about the death toll, spreading human misery, and overturning individual's lives. The coronavirus disease (COVID-19), which has been declared a pandemic by the World Health Organization (WHO), is striking societies at their core. This outbreak is inextricably linked to the students of the nation, as it has dramatically impeded educational sectors. With the closure of educational institutions across the world, instructional schooling has ground to a halt from the level of primary education up to the level of professional training. COVID-19 has exhibited significant psychological and actual consequences for the students. Guiding focuses or helplines/gateways should be set up to avoid any grave consequences and untoward misfortunes.

1. Introduction

An outbreak of novel corona-virus disease (COVID-19) in China has influenced every aspect of life as it has spread to almost every region of the globe. Healthcare professionals, especially dentists, are at high risk for acquiring and transmitting infection within their work environment due to close contact with patients and the instruments they use such as dental handpieces which spread droplets and aerosols of blood and saliva. Therefore, it is an unprecedented risk for both dental professionals and patients. An acute respiratory disease caused by a severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) that originated in Wuhan, Hubei Province of China, in December 2019 continues to spread rapidly across the globe causing serious concerns; since then, it has rapidly spread to 215 countries so far.[1]

India has become second in position in the world in terms of the number of total COVID cases. At present, India's total Covid-19 tally approximates 27 million cases as we deal with the second wave of Covid-19 that left health systems across the country crumbling, experts are already calling for preparations for the third wave, which they predict will hit the country later this year. As the number of people across India testing positive for the COVID-19 has increased, the number of children contacting the virus has also increased.[2]

The purpose of this manuscript is to exchange information about COVID-19 and the experience of dental students regarding the challenges faced by them during the COVID-19 pandemic.

2. Transmission of SARS-CoV2 in Children

The transmission of this infection is majorly dependent on various routes of human-to-human transmission that include direct contact with the aerial droplets released during a conversation, coughing, and sneezing by infected persons. Transmission vis respiratory droplets is considered to be the main route of viral transmission in COVID-19 infection. SARS-CoV-2 infections range from being asymptomatic to severely symptomatic. Direct person-to-person transmission occurs through close contact, mainly through respiratory droplets that are released when the infected person coughs,

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sneezes or talks. These droplets may also land on surfaces where the virus remains viable.

The most common symptoms that were diagnosed in the COVID-19 positive patients are fever, headache, cough, myalgia, sputum production, diarrhoea, dyspnoea, and pneumonia.[1,3]

Although many reports suggest that infected children may be asymptomatic and therefore not diagnosed by population screening. The median incubation period is 5.1 days (range 2 to 14 days). Although there is variably insignificant evidence, there is growing concern that children and adolescents be protected from COVID-19 as they constitute a large proportion of the population. Children account for 1-5% of diagnosed COVID-19 cases and the period of infectivity starts 2 days before the onset of symptoms and lasts up to 8 days.[3]

3. Impact on Dentistry

COVID-19 has affected every sector so is dentistry and it is difficult to predict what the future holds for dental students. In these circumstances both the education of dental students and the clinical practice of dentistry have changed in unprecedented ways that may never return to the "old normal." The functioning of the clinics and managing the patients have changed completely. Dental surgeons found the utmost difficulty in treating patients as there are high chances of getting an infection in dental aerosol-producing procedures.

Among healthcare personnel, dentists seem to be at elevated risk of exposure to COVID-19 as they often manage dental emergencies, trauma, and conduct long-term treatments. Most dentists worldwide are anxious and have chief concerns about aerosols since this profession involves aerosol-generating procedures. Dentists may be unknowingly treating infected but not diagnosed yet COVID-19 patients. This risk is even more serious in pediatric dentistry because the parent and the child both are involved in delivering dental services. Also, affected children may present as asymptomatic, or with a mild clinical viral infection. Therefore, unknowingly they may play a major role in community-based COVID-19 transmission. As per the prevailing evidence, the predominately COVID-19 virus spreads among the general population via respiratory droplets and direct contact. A lot of challenges have to be faced by the clinicians as well as the dental students. A critical test for a practicing dental specialist and an educator is to stay informed concerning changes in dentistry and now should think about how to progress from active proceeding with instruction classes or hands-on continuing education to virtual sessions.[1,2,4]

The more up-to-date technique for attending to patients virtually prompted a different perspective of discovering the way in this pandemic. The clinicians currently taking up teledentistry and virtual patient management more effectively. Albeit the idea of teledentistry is age-old, its utilization and scope are expanding during these COVID times. It provides oral health services as well as eliminates discrepancies amongst the rural and urban populations for oral health care. It is the least expensive and quickest method of delivering specialized healthcare services to patients during the lockdown strategy of the public authority. The consideration of teledentistry in the dental training educational program will likewise give a desire to enhance conventional teaching strategies in the dental schooling framework and new opportunities for dental students and dentists. The emergency screening and procedures of dental patients are still challenging and another concern for dentists to work with.[5]

4. Challenges Faced by the Dental Students

Dental associations throughout the world have fostered the frameworks for dental education systems to guarantee the best scholarly practice for undergraduate education.[6] In an endeavour to balance the safe conduct of students, faculty, and patients while monitoring the changing national policies, universities had to take different measures to guarantee the congruity of education. Worldwide, Dental institutes have been facing the overwhelming effects of prevailing pandemic. Due to the lockdowns everywhere, the students are not able to comprehend the pre-clinical and the clinical knowledge which is by far the most important part of the dental curriculum.

The Association of Dental Education, Asia Pacific (ADEAP), co-organized three online symposiums with the Chinese Taipei Association for Dental Sciences regarding the innovation of dental education during the COVID-19 pandemic.[7] The results showed that the impact of the pandemic of COVID-19 affects dental education a lot. Intelligent technology has a certain benefit for the learning process of dental education during the pandemic but clinical training courses and the research work have abstained in most of the countries.

In a recent survey focusing on the European management of the COVID-19 crisis, 90% of dental schools reported using online pedagogical software tools, 72% used live or streamed videos, 48% provided links to further online materials, 65% participated in organizing virtual meetings and, less frequently, small-scale working groups, social media groups or journal clubs.[8] E-learning has been appreciated by students and professors, also in terms of teacher-student interaction however this can't be the lone method of deciding the student's knowledge and clinical abilities.

The major concern is the interruption of education on laboratory, preclinical, and clinical activities for the inconsistent amount of time that we are not aware of. The students have not developed patient's clinical management and hence, lack the confidence in treating the cases. Clinical

training cannot be justified and effective by remote teaching entirely; therefore, the setting must be modified to allow a safe working place.

Yet another challenge is to keep up the emotional well students as they are dealing with the different modes of education for the first time amid this upsetting COVID circumstance During the COVID-19 crisis, students may suffer from depression and be negatively affected by the fear of being infected with the virus. According to the recent study done on dental students, it was found that Dentistry students are subjected to stress resulting from a conflict between the perceived risk of returning to clinical classes and contact with patients due to SARS-CoV-2, and disruptions in the course of clinical education, which they perceived negatively.[9] The leading stressors were exams, failing assessments, workload, lack of time to complete clinical requirements, inconsistency in feedback, and preparation for higher examinations, etc.

Stress management should be instructed as a component of the dental education curriculum and ought to incorporate information about coping strategies, as well as maladaptive perfectionism and how to address this. Likewise, students have fear and apprehension about their prospects and career opportunities. Also, as many students are away from their hometowns, they dread their families and their protection from this deadly infection.

The students have the fear of giving examinations during this COVID period as there is a constant fear of losing grades and not able to perform well.

5. Conclusion

Dental students are in an unrivalled circumstance, not the same as that of other health professions and non-medical students. Re-enactment, distant and involved guidance need to work consistently to give a virtual however individualized experience that will be a positive main thrust and driving force in dentistry. Adherence to the new severe disease control protocols and intermittent orientation of students to these protocols are the ways to guarantee a safe environment for both patients and students. There is a critical need to reconstitute our dental education in a manner to make it more essential for interprofessional health education. Future dental specialists should be furnished enough with the abilities, information, and flexibility, fundamental to be remembered for the cutting edge in any pandemic. Since the COVID-19 circumstance keeps on advancing step by step, pediatric dental specialists should keep a significant degree of attention to help patients, limiting the danger and forestalling viral spread.

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7. Conflict of Interest

The authors declare that there is no conflict of interest.

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