



Covid-19 and its financial effects on the dental fraternity and health-care workers: A literature review

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ABSTRACT

In the wake of the current outbreak of novel Covid-19, which is now declared as a 'pandemic' by the WHO, people around the globe have been dealing with a lot of difficulties. This virus had come into light in December 2019 and since then has only grown exponentially. Amongst the most affected are the ones who have been working extremely hard to eradicate it, which includes the hospitals, dental fraternity and the health-care workers. These people are financially burdened due to limited practise. In the case of dentistry, to avoid the spread of the virus, only emergency treatments are being approved, and the rest of the standard procedures have been put on hold. In some cases, as the number of covid cases is rising, many countries are even trying to eliminate the emergency dental procedures to divert the finances towards the treatment of covid suffering patients. What we need to realise is that this is probably not the last time that we are facing such a situation. Instead of going down, we should set up guidelines with appropriate precautionary measures together with the use of standardised PPEs. The government should also establish specific policies to support dental practices and other health-care providers. Together, we can fight this pandemic and come out stronger.

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INTRODUCTION

A few months back in December 2019, the novel 'COVID-19' was brought under light and had been declared as a 'pandemic' (Cucinotta and Vanelli, 2020). Several human illnesses varying from a com-

mon cold to severe respiratory conditions like respiratory distress with pneumonia are said to be caused by this virus (Casella *et al.*, 2020). On 11 March 2020, covid 19 outbreak was declared as a pandemic by the World Health Organisation (Alharbi *et al.*, 2020). The very first COVID-19 case was reported in Wuhan city, China on 31 December 2019 while in India on 30 January 2020 in Kerala. The cause for this deadly pandemic is a severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infections. SARS-CoV-2 is spreading from animals and also from humans to the humans hence labelled as a zoonotic virus, and it is quite similar to SARS-CoV and MERS-CoV (Middle East Respiratory Syndrome). Here, the most probable origin is Chinese horseshoe *Rhinolophus sinicus* (bats) and *Manis javanica* (pangolin) considered as an intermediate host (Chen *et al.*, 2020). The estimated period for incubation of the virus ranges from 2 to 12 days;

however, some studies even reported an incubation period of up to 24 days (Alharbi *et al.*, 2020). Fever, dry cough, shortness of breath and tiredness are the most common symptoms of the coronavirus disease (Alharbi *et al.*, 2020). Regrettably, till date, no definitive treatment is available and only symptomatic treatment along with oxygen supplement is the treatment of choice (Casadevall and Pirofski, 2020). Oxygen supplementation in hypoxic conditions can be given by non-invasive means not requiring intubation or using invasive methods by use of conventional ventilators (Kumar *et al.*, 2019). Research is still going on for vaccine, that's why it is considered as a challenging disease for health care professionals and other people too.

Dentistry and covid-19

Dentistry is considered to be a type of profession wherein the dentist has to work in the mouth of the patient, and also a majority of procedures require the use of air rotor, high-speed handpiece which generates aerosol, a mixture of water that comes from a dental instrument and the blood or saliva of the patient (Ofori-Attah, 2017). Due to the generation of these aerosols, the risk of transmission of the coronavirus increases by multiple folds. Hence, there should be specific protocols that should be mandatorily followed the clinicians for the patient's as well as their safety. WHO recommended provisional guidance on infection control and its prevention during health care provision (Meng *et al.*, 2020). As we know that the health-care workers are regularly exposed to potentially infected blood, and other secretions, the use of gowns, gloves, masks, goggles or face shields along with Personal protective equipment (PPE) is strictly advised to prevent any transmission of the virus. What is believed to be the primary route of transmission of the virus are 'respiratory droplets', hence the use of particulate respirators like standard N-95 masks are strongly suggested (Bocchetti *et al.*, 2020). The most important technique which can be used to prevent or control the transmission of microorganisms is 'hand hygiene' (Bocchetti *et al.*, 2020). SARS-CoV-2 can survive on surfaces ranging from a few hours to several days, and this entirely depends on what the surface type is or even on the environment's humidity or temperature conditions (Cucinotta and Vanelli, 2020). Due to this, it is essential to carry out thorough disinfection in all the clinics. Since there is the involvement of surfaces we touch constantly, 'hand hygiene' is extremely crucial to avoid the unnecessary spread of the infection. What is a must is that all the surfaces must be considered "potentially infected" and must be thoroughly disinfected since prevention is better than cure in such a

critical situation (Bocchetti *et al.*, 2020). Also, there should be a provision of masks and disinfectants to patients in the waiting rooms.

Another thing which dentists frequently ignore and that requires sanitation is the air conditioning systems since they can also prove to be a mode of spread of this virus in clinics (Bocchetti *et al.*, 2020). Dental emergencies can occur at any time, and they aggravate in short periods and hence need urgent attention many times. To minimise aerosol generation or spatter during dental procedure face shields, goggles, rubber dams, high-volume saliva ejectors and high or low-speed drilling with water spray are essential (Samaranayake *et al.*, 1989). Thus by using proper protective equipment and following all sanitation protocols, we can safely carry out the emergency dental procedures during this pandemic.

Financial issues being faced by dentists

As stated in an article published in the Washington Post by T. C. Frankel and T. Romm "Even as the pandemic draws attention and resources to the doctors and hospitals, the health-care industry is suffering a historic collapse in business that is emerging as one of the most potent forces hurting the U.S. economy and a threat to a potential recovery. The widespread economic shutdown deployed to reduce transmission of the novel coronavirus hit hospitals and health-care providers with particular force as they prepared to face the pandemic (Frankel and Tony, 2020).

As stated by The New York Times, the ones who are most prone to acquiring and transmitting the virus are the dental surgeons. In India, due to the announcement of the lockdown in the country, most of the dental clinics have not been operating for more than two months now. Maximum people are hesitating to open their dental clinics because of awareness of the cons of the pandemic, other reasons for not opening clinic may be the uncertainty of disease course and treatment, phobia developed through media and no defined clear cut idea for prevention of diseases ultimately all leading to zero earnings as well as a very shaky future for the staff at the clinic. Even if, "Ministry of health and dental council of India (DCI) lift restrictions on elective procedures in future, the availability of PPE for dentists could be a major constraining factor in the re-opening of dental offices." The use of PPE would require a lot of investment financially as well as rigorous training of staff will also be needed. Protocols gathered from various webinars and outlined by associations are very scary, going by that if 100% compliance is practised 99.99% clinics can't be started. It's like buying a moon for nearly 99% of

practitioners. Suddenly prices of disinfection materials and equipment have stepped up many folds. The other consumables like masks, gloves and other disposables have become exorbitant. Despite all this, the advisory only permits emergency procedures amidst this time which further adds to the financial burden due to lack of regular patients (Rao, 2020). However, to maintain a healthy environment for the patients and the dental team some modification to dental treatment should be done considering aerosol generation during routine dentistry and transmissibility of disease (Alharbi et al., 2020). The solution to this problem does not lie in allowing regular dental procedures now as it would prove to be a big failure in controlling the spread of the virus. The current scenario has led to a downfall in the financial situations of most of the individuals. In the case of India, another major issue is the lack of awareness of people towards their dental problems. Even though the situation is improving but still the dental fraternity has a long way to go. Due to this, even after the lockdown is lifted, people would again hesitate to go for dental treatments because of their economic conditions as no company in India provides dental insurance despite the constant plea by the dentists in the last decade (Rao, 2020). Therefore, the lack of awareness and poor economic conditions would prove to be a financial burden for the dentists in the long run. Currently, no official statistics are describing the impact of this pandemic on dentistry in India yet but if we take into consideration a poll which was conducted by the American Dental Association (ADA) which said that as many as 46 per cent of the dentists in the USA would likely need to sell their practice or file for bankruptcy if the current situation continued anywhere beyond August 2020, for our country the scenario would be the same or even worse (Rao, 2020). In some of the developed countries like Canada, United Kingdom, Ireland etc. the government has started taking initiatives to secure the dental professionals financially by providing large sums of money for business purposes, and the dentists are also eligible to approach for help. However, in developing or underdeveloped countries, the ignorance towards dentistry is leading to an increased financial burden on the dentists. Also, as the numbers of covid cases are rising, many countries are even trying to eliminate the emergency dental procedures to divert the finances towards the treatment of the covid affected patients. If this continues, we will have to see a sharp downfall in the field of dentistry, and that will take us way back. All the countries must take this issue seriously and address it immediately. As it is the dental community in most of the developing countries is a slow-

growing one. If they are not provided support during this time, they will find it very difficult to recover from these financial losses.

CONCLUSIONS

Of what the situation seems like now, it is going to take a long time to recover. But what we should learn from this situation is that this is not going to be the last time that we are facing such a situation. Therefore, what needs to be done is that we bring about changes in the way we look at dentistry and as a community, all the dentists should come together to establish a few guidelines. Following these guidelines with proper precautionary measures as discussed above, including the use of standardised PPEs, we can fight this pandemic and come out stronger. Also, the government should take some permanent steps like establishing dental insurances which make people less hesitant towards dental treatments and thus dentists can work without any financial burden not only during this pandemic but in the coming years as well.

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