



COVID-19: Its impact on dentistry

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Abstract

The COVID-19 pandemic has resulted in significant burdens globally. Health-care workers have continued to provide care for patients despite exhaustion, personal risk of infection, fear of transmission to family members. Dentists are exposed to the highest risk of occupational respiratory and droplet infections by working face-to-face with patients. There has been a significant increase in stress levels due to the uncertainty of the working conditions among Dentists during the COVID-19 pandemic period. Hence an evolutionary phase is required in Dentistry with better working protocols, better mental health support, and a focus on strategies to face future such emergencies is required.

Keywords: COVID-19, dentistry, stress, mental health, psychology

Introduction

A novel coronavirus or 'COVID-19' is in charge of the current outbreak of pneumonia that began at the beginning of December 2019 near in Wuhan City, Hubei Province, China. COVID-19 is a pathogenic virus with Chinese bats being the origin and pangolins as a probable intermediate host. This strain is similar to the SARS-CoV and Middle East respiratory syndrome coronavirus (MERS-CoV). Following this single animal-to-human transmission, the COVID-19 has been spread by human-to-human contact.

The interpersonal contact occurs via respiratory droplets resulting from coughing and sneezing. Both symptomatic and asymptomatic patients spread the disease, but the latter may act as super spreaders, as they do not have symptoms and remain active in the community. The incubation period of COVID-19 is reported to be about 5–6 days on average. Current evidence of this to be as long as 14 days have been reported and this is widely used as cut off days for medical observation and quarantine.

Globally, as of 30 September 2021, there have been 233,136,147 confirmed cases of COVID-19, including 4,771,408 deaths reported to WHO ^[1]. Due to the inherent characteristics of dental settings and aerosol involvement, the risk of cross-infection could be high between dental practitioners and patients. Meng *et al.* found that despite the use of protective measures such as masks and gloves, several dental staff members in Wuhan were found infected with Covid-19. Dental Surgeons are losing lives to the virus across the world. Many Dentists in India have lost their lives due to COVID-19 ^[2].

Various guidelines have been laid down by the governing bodies like Dental Council of India and Indian Dental Association to ensure the safety of Dentist and Patient. According to the

guidelines every patient should be considered as Potential Carrier of COVID-19. Dental treatments are categorized according to the urgency of required treatment. These guidelines emphasized the use of the appropriate precautions including wearing personal protective equipment (PPE) during dental procedures. In addition, the use of antibacterial mouth washes, rubber dam, and high-volume suction during treatment procedures with frequent cleaning and disinfecting of surfaces of chairs, door handles and floors was highly recommended. Providing a secure environment is of paramount importance for dentists and dental staff to conduct dental work in a safe working environment. Though these guidelines are sufficient to safeguard the dentist and the patient, complete implementation is a question that leads to fear and anxiety among Dentist and Patients.

In times of first and second wave of COVID-19 most of the Dental Clinics were closed and only dental emergencies were addressed. Even the patients visiting the dental clinics were reduced adding to the financial and psychological burden on Dentists. The majority of oral diseases are not receiving treatment, which is adding to the burden of oral diseases, especially oral cancer during the epidemic. Even the patients are willing to compromise their oral health over general health, which shall subsequently have an impact on their oral health-related quality of life. All these factors are either directly or indirectly contributing to the financial and psychological burden on dental practitioners ^[3, 4, 5].

Mijiritsky *et al.* conducted a cross-sectional study to explore the relationship between psychological distress and subjective overload among dental staff from various countries where they found that the positive association between subjective overload

and psychological distress was different among countries, suggesting a higher association in Italy in comparison to China, India, and Israel. Subjective overload, a psychological term which in the case of dentists, may relate to their perceptions and understanding of their given circumstances, is not limited to their dental practice but rather involves other aspects of their everyday lives. It also relates to their coping mechanisms, and it may determine their level of job stress. The association between subjective overload and psychological distress is highly correlated with certain COVID-19-related factors like fear of contracting COVID-19 from patients, fear of one's family contracting COVID-19 and receiving enough professional knowledge regarding COVID-19^[11].

The COVID-19 pandemic has created significant distress for the public and placed pressure on health care professionals, including dentists, dental hygienists and dental assistants, as they work to provide services and contain the disease. Adapting to different workspaces and schedules, getting used to the new personal protective equipment needed to perform dental care and facing uncertainty about the future are some factors contributing to work-related stress among dental professionals during the COVID-19 pandemic. Managing a dental practice or providing dental care during the pandemic can lead to stress, anxiety, fear and other strong emotions. How dental professionals cope with these emotions can affect their well-being, the care they give to patients on the job and the well-being of the people they care about outside of work.

Innovation and invention is the demand of the hour. The use of telephonic consultations can not only reduce the risk of disease transmission but also ensure that dentists do not lose their bread and butter. Countries, namely Italy, Northern Ireland, UK, are making efficient use of telephonic triage^[6, 7]. Online lectures, case studies, and problem-based learning tutorials should be adopted to avoid unnecessary aggregation of people and associated risk of infection at the same time ensuring the continuation of work for the teaching dental staffs. Deployment to new roles and volunteering has become the method of choice for dentists and dental nurses in hospital practice, dental foundation trainees, and core trainees during the crisis.

In Singapore, National Dental Centre Singapore (NDCS) deployed dental clinicians as well as volunteers from research laboratories to screen for suspected cases, provide consultations as well as conduct swabbing operations⁸. Dentists can assist their medical counterparts in the inpatient setting. Such duties include patient triage, monitoring vital signs, administering oxygen and injectables, and writing prescriptions. Should emergency procedures need to be performed, dentists are capable of administering local anesthesia and suturing. In addition, oral surgeons and dentist anesthesiologists are competent in performing intubation, deep sedation and general anesthesia services. Digitalized healthcare services can be implemented with a qualified team of dentists being available online to provide reliable oral healthcare solutions in an accessible, affordable and appropriate manner and allay patients' dental concerns during the lockdown period. Oral healthcare professionals can also engage in voluntary service for residents in community housing to promote good oral health. The Dentists can help pre-screening to perform an initial triage for COVID-19 symptoms and ensure that individuals exhibiting symptoms of the disease have access to the

correct support resources^[9, 10].

At hospitals, Dentist can record detailed case history of patients reporting flu symptoms, including possible exposure source, travel, and COVID-19 contact history. A thorough analysis of demographic and socioeconomic factors from the patients could help identifying vulnerable age groups, i.e., those at high risk of the disease.

A Dentist can assist in clinical casework by recording vital signs, testing for COVID-19, performing triage, treating emergencies (including local anaesthesia), suturing wounds, administering oxygen and drugs in injectable form, vaccinating and writing prescriptions. A brief training before starting the fieldwork would enhance their skills and boost up confidence^[11].

A Dentist can be trained in surveillance and Subsequently, tracing contacts, consulting contacts, and monitoring the community is crucial. Contact tracing and patient follow-up are the main strategies to prevent the further spread of COVID-19. If patients and contacts are not isolated from others before the incubation period, it causes a deadly outbreak in the community that would require the implementation of a strict prevention strategy for virus control^[12].

A Dentist can manage the administrative management of healthcare facilities, quarantine centres, and isolation wards. The administrative skills also include appropriate allocation of manpower, material management record maintenance, budget allocation, and judicious expenditure for essentials and clinical record management. All these efforts shall indirectly add to the psychological well-being of dental professionals^[13].

The Government of India on June 25, 2020, granted MSME status to dental practice activities. This shall not only create employment but also lead to the opening of double the number of dental clinics. It shall help India grow as an independent body in research and technology related to dentistry. This effort of the government shall help in covering the financial lacunae and thereby shall have a positive impact on the psychology of dentists in India^[14].

Conclusion

The emergence of COVID-19, with its rapid spread, has exacerbated anxiety in populations globally, leading to mental health disorders in individuals. History has shown that the mental health impact of disasters outlasts the physical impact, suggesting today's elevated mental health need will continue well beyond the coronavirus outbreak itself. The COVID-19 pandemic has had a major effect on mental health of Dentists. COVID-19 impacts on clinical practice, dental education, dental research, and ultimately the psychology of the dental professionals. Dentists must support each other in professional family to stay mentally during this critical time of COVID-19.

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