

Teledentistry and COVID-19: Today and Tomorrow

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ABSTRACT

The use of technology to facilitate communication and care between patients and dental health care providers at different locations is referred as tele dentistry. It utilises different electronic modalities thus increasing the efficacy of dental clinics by converting traditional paper patient's records to Electronic Health Records (EHR). These EHR can help in increasing inter-professional communication between clinicians and multidisciplinary management of complex cases. Tele dentistry is a unique way to overcome the geographical barriers by delivering long distance treatment, providing Continuing Education (CE) and training opportunities for dental and non-dental providers. It also has the potential to reduce or eliminate oral health care disparities between different communities. During current COVID-19 pandemic tele dentistry is an effective way to triage high risk patients needing urgent or emergency care thus mitigating the risk of the spread of the Coronavirus. Tele dentistry is yet to become integral part of Pakistan dental health care service but it is imperative that dental health care providers actively promote and support the use of tele dentistry.

KEYWORDS: Teledentistry, Oral health, Dental, Coronavirus, COVID-19.

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INTRODUCTION

The American Dental Association (ADA) describes tele dentistry as "the use of telehealth systems and methodologies in dentistry," which includes "a broad variety of technologies and tactics to deliver virtual medical, health and education services."^{1,2}

There are different (but not limited) key modalities of tele dentistry as described by ADA^{1,2}. These include the following:

- 1) *Synchronous*: Live video, two-way interaction

between the patient and the tele dentist by utilising audio-visual telecommunication.

- 2) *Asynchronous*: Recorded medical and dental information such as clinical photographs, radiographs and videos are sent by secure telecommunication to the clinician for evaluation and advice.
- 3) *Remote patient monitoring (RPM)*: Personal medical and dental data collected from an individual in one location is transmitted to the provider by secure telecommunication in a different location.
- 4) *Mobile Health (mHealth)*: Use of mobile communication devices for public healthcare, education and practice.

It has been reported that COVID-19 transmission occurs primarily through from person to person.³ During this ongoing global COVID-19 pandemic, tele dentistry is a viable care option in efforts to help 'flatten the curve'. It is the dental health professional's ethical and professional obligation to limit that risk and prevent the spread

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of COVID-19 in vulnerable patients and act in accordance with regulatory requirements. It is therefore imperative for dental practitioners to understand that tele dentistry is the practice of online dentistry and that they have a duty of care to the patient.⁴ More recently a study utilizing tele dentistry has shown that this allowed monitoring of all patients with reduction in cost and limiting human contact.⁵ One of the most significant advantages of tele dentistry or telemedicine include real-time consultations and assessments, storage of data, a reduction in travel for patients and clinicians saving time and cost, faster access to dental and specialist care, collaborative and educational tool by giving an opportunity to discuss with family members or fellow clinicians (after patients consent) and improved access of care to rural community who are unable to travel to larger cities (1, 2, 6), while disadvantages can include the exchange of sensitive information, the commitment to confidentiality, the commitment to security and access to a large volume of data stored.⁶

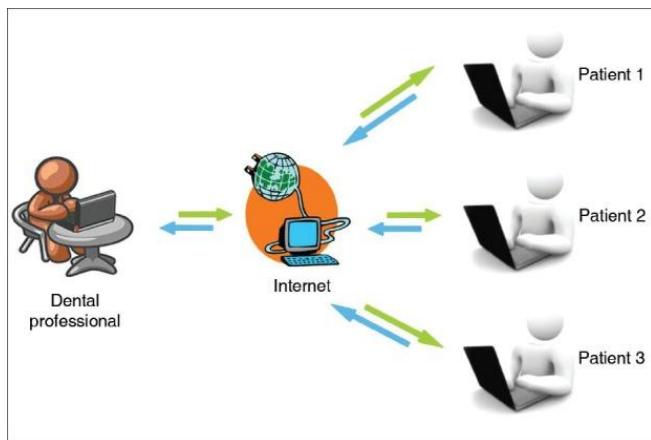


Fig: 1 - Tele dentistry model as devised by Jampani et al.⁷

Tele dentistry may be necessary and appropriate option to triage vulnerable patients with 'acute' dental problems as a substitute to face-to-face consultations. Vulnerable patients include those who are under quarantine or cannot attend clinic due to COVID-19 illness or are suspected of COVID-19 disease. Those individuals who are more than over 70 years old that are immunocompromised or are being treated for chronic health conditions are also advised online

tele dentistry sessions. Tele dentistry can be of an appropriate advantage for pregnant women these days as well.²

Tele dental consultations can be carried out either by telephone or by utilising various secured private video conferencing platforms such as Face time, Skype, Microsoft Teams, WhatsApp, Facebook messenger, Zoom, Go to Meetings or any other commercial communication product agreed by the patient. Clinicians providing tele dentistry does not necessarily need to be in the dental clinic, but they need to ensure that chosen telecommunication method satisfies privacy laws and meets clinical requirements. Patients should be able to identify the clinician and they should be made aware of the limitations of tele dentistry and that best possible advice is being provided in the absence of face to face consultation. This should be documented.⁴

Tele dentists should make a detailed clinical record of the consultations including confirmation of identity, informed consent, medical history and medications, clinical symptoms, recommended treatment, prescriptions and consultation fee.² Focus should be on 3As ; Advice, Analgesia and Antimicrobials (where clinically appropriate) and if required tele dentists can either refer to specialist or designated local urgent dental care centres or liaise with local pharmacy regarding electronic prescriptions (email, fax, photograph).⁸ Patients should be advised on why medications are being prescribed and verbal instructions should be delivered regarding dose, frequency, adverse reactions and any possible drug interactions. Tele dentists can follow up so patients don't feel abandoned and patients should be advised to contact back if symptoms don't subside within 48-72 hours.⁸

A detailed questionnaire devised by Oral Health Unit of Canterbury District Health Board could be a useful tool that can serve as guidance for tele dentists while screening patients for COVID-19.

CONCLUSION

Tele dentistry is a great innovation and demands forward thinking, though it would not substitute in-person clinical dental care but it can provide some advantage. Dental health practitioners in Pakistan should utilize embracing tele dentistry in order to make dentistry more accessible and affordable.

CONFLICT OF INTEREST

None to declare.

FINANCIAL DISCLOSURE

None to disclose.

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Author's Contribution

MIKN: Compilation and analysis of data, drafting of manuscript, Final approval of the manuscript.

SG: Conception of study, Intellectual input through critical analysis, Final approval of the manuscript.

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