

Teleorthodontics in Pandemic Time

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Abstract

World is facing a widespread pandemic since 2019, still the havoc of the deadly virus persists. We all were forced to stop all activities to reduce the spread of corona virus. In these pandemic times when whole world was restricted to home and no one was able to visit outside to earn their daily wages due to the risk of deadly COVID-19 virus, getting dental care was very difficult and risky. Teledentistry played vital role during this pandemic time and helped in providing dental care to remote areas. Teleorthodontics is a newer development in orthodontic care and is very useful in this pandemic time for both patients and orthodontist. This paper describes various procedures done under teleorthodontics.

Keywords: Teleorthodontics, Covid-19, Pandemic, Teledentistry.

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I. Introduction

Coronavirus (CoVs) belonged to a large group of single stranded, enveloped RNA- virus, with capability to infect large group of animals and human beings. Although this category of virus was present from long and was main source of respiratory infection among humans, they caught world's attention in Dec- 2019 when they spread as epidemic episode in a city named Wuhan in China. Due to caused by novel CoV, it was named as 2019-nCoV.¹ Although Covid-19 virus started from a city Wuhan in china but in last two years this deadly virus had spread in all countries of world and now its mutations are matter of grave concern.

Corona Virus spread through oro-nasal route and it is highly contagious. The mutation in this virus is observed and the strain is becoming deadlier.² Vaccination is going on, in India over millions of people are vaccinated but now this virus has mutated and new strain is more virulent. We had seen two waves of Covid-19 outbreak and the third wave is knocking the door. Although vaccination is going on all over the world still SMS (Social distancing, Mask, Sanitizer) plays an important role in preventing the disease.

All sectors of health care system were affected by Covid-19 outbreak but dentistry was the most badly hit. Since the common spread route is nasal and oral people fear to visit dental practice and undergo dental procedures.

Other system like education and IT had started following 'Work from home' mantra and we orthodontist can also take benefit from same by providing orthodontic care from a touch of phone or mobile. This paper included an overview of Teleorthodontics and its application in management of orthodontic patient in this pandemic and post pandemic phase.

Definitions:

Tele is a Greek word meaning "Distance" and Mederi is latin word meaning "to heal".⁴ The World Health Organization (WHO) defines telemedicine as the use of telecommunications and virtual technologies to provide healthcare outside of traditional healthcare facilities. By providing healthcare services from a distance it lessen the need for contact between the patient and the healthcare provider. Remove geographical barriers by bridging gaps in the unequal distribution of the healthcare facilities. It provides Care for more people, especially those who live in remote areas.³

Telemedicine is being used today in academic medical centers, community hospitals, managed-care companies, rural hospitals and is also being used to link health care providers in developed countries to the hospital in developing countries.⁴

Teledentistry is the remote facilitating of dental treatment, guidance, and education via the use of information technology instead of direct face-to-face contact with patients⁴. It involves -

- Teleconsultation,
- Telediagnosis,
- Telemonitoring

Teleorthodontics generally refers to any orthodontic care delivered through information technology⁵. Teleorthodontics can manage most orthodontic emergencies, reassuring and following patients remotely and thus it prevents the risk of getting Covid-19 infection in both patients and Orthodontist. There are various means through which patients can be reached like- Google class, Whatsup video chat, Zoom chat, emails etc.

Uses of Teleorthodontics

Orthodontic treatment involves monthly visit of orthodontist for activation and check up, during this pandemic time this routine was not possible due to lockdown and restriction imposed by local government. Teleorthodontics has vast use when patient is not able to visit Orthodontist. It helped in various ways-

1. New patient diagnosis and treatment planning:

Patients can take teleconsultations, in which their malocclusions and ways of treatment can be described by Orthodontist via video conferencing and chats.

2. Interceptive Orthodontic procedures:

These procedures when taken at rite age and timing can benefit lot of patients. Due to pandemic patient cannot go to orthodontist but with the help of Teleorthodontics patients can be benefited. Patients can be guided to avoid any bad habit causing malocclusion like mouth breathing, thumb sucking etc⁵.

3. Follow up of old orthodontic patients:

Teleorthodontics play very important role during pandemic time for old patient follow up procedures. It was only means by which patient was connected to his or her orthodontist and was mentally relived that his treatment is going smoothly and in proper direction.

Procedures which can be easily described to the patient’s are-

1. Activation of palatal expanders
2. Retainer and removal appliances follow-ups
3. Functional appliances follow ups
4. Removal orthodontic appliance follow-up
5. Aligner insertion
6. Demonstration of orofacial muscle exercises
7. Proper brushing techniques
8. Video demonstrations to patients

All these procedures when properly explained via video call demonstrations, can save visits to the clinic hence it increases the treatment efficacy and patient’s reliability on the orthodontist⁶. It Reduces phobia in the patients especially kids and Inflow of money is constant during this pandemic time.

Advantage of Teleorthodontics for orthodontist and patient:

Advantages for practitioner	Advantages for patient
Reduced personal contact	Saving time in traveling and office visits
Less risk of contamination	Frequent reminders to maintain oral hygiene
Fewer missed appointments	Possible troubleshooting
More counseling Opportunities	Reduced anxiety in phobic patients, Shorter appointments
Motivation and reinforcement	More time for counseling and prevention
Less chair-side time and relative costs	

Post pandemic phase

As the lockdown is lifted by Government, dental practices cannot work from day one because in post pandemic phase risk of infection still persists. Vaccination cannot prevent from getting infection rather it can

only reduce severity of complications. So to run a Dental practice properly dental surgeon need to take various measures to avoid getting infection and to avoid spreading it from one patient to other.

Various armamentariums are required like PPE kits, specialised masks, gloves and shoe covers. All these increases the investment cost for a dentist. Following things need attention during opening clinics in post pandemic phase:

- The increase of costs of personal protective equipment that the dental practitioner will need for COVID-19 infection control.
- The reduction of the number of patients per hour that can be visited.
- Proper sanitization of dental offices.

Teleorthodontics plays a vital role in such situations as it-

- Stop infection spread till all are vaccinated.
- Reduce inventory cost
- Reduce risk contamination of dental offices.

Patients will get necessary care via teleorthodontics during this lockdown and immediate post pandemic phase. Orthodontic treatment will not suffer as routine online consultations can be done.

II. Discussion:

During pandemic times all type of medical and dental procedures were stopped. Patients suffered badly but telemedicine, teledentistry and more precisely for orthodontic patients teleorthodontics played a vital role⁷.

It is mandatory that the practitioners should properly educate and trained for legal, ethical and technical issues involved in these procedures. Another important aspect is remuneration of the health care professional.⁵ The National rural health Research and policy analysis center's recommendations will surely help for remuneration of orthodontist and teleconsultations.⁸

Teleorthodontics is newer dimension in patient orthodontic care and slowly increasing its popularity. Both patients and orthodontics can be benefited with this way of treatment.

III. Conclusion

The need to respect safety distance and the fears patients have about the risk of infection make tele-orthodontics a fundamental tool during a pandemic lockdown and in its immediate post-emergency phase. It has psychological benefit also to reassure the patients and his/her parents about the treatment. Hence teleorthodontics is the only future way to deal with changing orthodontic therapy.

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