

**Knowledge and perception towards teledentistry among dental practioners in Ghaziabad City- A survey of knowledge and skill requirement**

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**Abstract**

**Background** With the rise of COVID-19 pandemic and the advancements in communication and technology, teledentistry has emerged as a supportive tool for dentists and patients. Teledentistry connects dentists and patients for real time consultations by live streaming or video conferencing.

**Aim** The objective of this study was to assess the knowledge and perception regarding teledentistry among dental practioners in Ghaziabad.

**Materials and Methods:** A cross-sectional and descriptive study was carried out among 150 dental practioners of Ghaziabad, by using a close-ended, survey questionnaire, comprising 12 questions that were distributed electronically via e-mail, WhatsApp, and Facebook.

**Results:** it was seen that 60.5% of dentists did not have any knowledge about teledentistry before the onset of COVID-19. 62.4% of dentists considered the practice of teledentistry in future even in nonpandemic situations. About 82.6% showed interest in teledentistry training.

**Conclusion:** In this study, it was seen that prior to Covid 19 pandemic there was limited use and knowledge about teledentistry, but in the present scenario the awareness and perception regarding teledentistry is satisfactory among the dental professionals in Ghaziabad. More and more education should be given to dentists, for safe dental practice during times of pandemic and even after.

**Keywords:** Covid 19, Teledentistry, Supportive Tool.

**Introduction**

The alarming rapid spread of COVID-19 caused an unprecedented public health crisis worldwide and changed the landscape of the health system.<sup>[1,2]</sup> In order

to combat COVID-19 pandemic, several countries established social isolation and quarantine protocols to limit the proliferation of the virus and possible mass contagion.<sup>[3,4]</sup> Since dental procedures can potentially create particle and aerosol inhalation from infected patients, they are at a high risk for being exposed to COVID-19, and hence the use of teledentistry is expected to reduce the risk.<sup>[5,6]</sup> Teledentistry uses electronic health records, digital imaging, and Internet to link health care providers with remote communities to enhance communication, exchange health information, and provide access to care for underserved patients, including socially disadvantaged people.<sup>[7,8]</sup> Cook in 1997 defined teledentistry as “The practice of using video-conferencing technology to diagnose and provide advice about treatment over a distance.” Teledentistry approach holds the potential to address many of the problems related to access, cost, efficiency, and quality of medical care and to eliminate the disparities in oral healthcare between rural and urban communities.<sup>[9]</sup> Teledentistry in the current scenario of COVID-19 focuses on “dental triage,” and providing relief from pain and infection, provision of dental care by remote consultation, planning, and scheduling of definitive dental treatment.<sup>[10]</sup>

**Aim:** this study was carried out to assess the knowledge, and perception of dental practitioners of Ghaziabad towards teledentistry.

**Materials and methods:** The study was conducted over a period of 4 months, from September 2019 to December 2019. Data was collected using google forms and a self structured close ended questionnaire comprising 12 questions (yes/no response) was distributed to the participants by email, WhatsApp, Facebook, and Instagram.

## Questionnaire

- Q.1. Had you come across the term teledentistry before COVID-19?
- Q.2. Do you know what teledentistry means?
- Q.3. Do you know teledentistry requires a good knowledge of smartphones and computers.
- Q.4. Do you think teledentistry can help us to monitor the oral health of patients and avoid frequent dental visits?
- Q.5. Do you think teledentistry can help facilitate the access of oral healthcare during a pandemic situation?
- Q.6. Should the practice of teledentistry in nonpandemic situations be considered?
- Q.7. Can teledentistry increase accessibility of the specialists to underserved communities and rural areas for their dental needs?
- Q.8. Do you think teledentistry can prove to be a beneficial tool for giving oral hygiene instructions?
- Q.9. Will you recommend to the government to take an initiative whereby patients can obtain advice on treatment need from a central facility connected through teledentistry?
- Q.10. Do you plan to practice Teledentistry in future?
- Q.11. Do you think all dental students and dentists should be made familiar with teledentistry through CDE programs and workshops?
- Q.12. Are you interested for teledentistry training in future?

## Results

The results showed that 60.5% of the dentists were not aware about teledentistry before the pandemic, but today 75% are aware about teledentistry. 90% of dentists believe T during COVID-19 teledentistry offers a reliable way for consultation and treatment, 65% of dentists were willing to practice teledentistry in a nonpandemic situation as well. About 84.% of the dentists would

recommend the government to take the initiative whereby patients could obtain treatment needs from a central facility connected via teledentistry. In this study, most dentists 82.6% showed interest in the teledentistry training program. About 70.5% dentists agreed teledentistry is a supportive tool for patient treatment and oral hygiene training.

### Discussion

Teledentistry has allowed long-distance communication and avoided person-to-person contact, helped observe social distancing, permitted exchange of clinical information and images, and facilitated remote dental care and guidance which is recommended by healthcare authorities across the world. Advanced internet technologies, such as telecommunications, video conferencing, and e-data, have led to substantial improvements in health-care services. This study revealed that 75% of the participants agreed that they had heard about teledentistry, which is in line with a surveys conducted in the US, and Rwanda, where awareness about teledentistry among dental professionals was very high.<sup>[11-13]</sup> In the present study it was found that 70.5% dentists agreed teledentistry is a powerful tool in oral hygiene instructions which is in accordance with other studies by Aboalshamat<sup>[14]</sup> Pradhan et al.<sup>[15]</sup> Singh et al.<sup>[16]</sup> Sen et al.<sup>[17]</sup> In our study 95.4% of practitioners were aware of use of telecommunication, internet and smart phones for teledentistry. This finding is similar to the study reported by Pradhan et al. in 2019 where 96.2 % dentists agreed to it.

### Conclusion

Overall knowledge and awareness was fair among dental practitioners regarding teledentistry. It has strengthened healthcare during covid 19 and provided a cost effective, accessible treatment option to the patients. However it is

required to train dental professionals in teledentistry through workshops, conferences and inclusion in the dental curriculum.

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