

Patients' Views Regarding Dental Concerns and Tele dentistry during COVID-19 Pandemic

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ABSTRACT

Background: Unique challenges are posed while providing health care during disasters and pandemics. A tele dentistry visit can be organized without exposing staff to infections during such times.

Aim: The objective of the study was to assess the patient's satisfaction and perceptions regarding dental concerns and tele dentistry during COVID-19 through an online survey.

Methodology: The survey was conducted in April, 2020. An online questionnaire using Google forms was used to collect the data and was sent to 1000 people via different social media platforms.

Results: The survey accomplished 642 responses. The majority of the population who responded were in between the age group of 18 to 40 years. 70.7% of respondents were unwilling of visiting dental clinics during COVID. The majority of the population i.e., 80.5% of the participants were in favour of using tele dentistry for future purposes. Although, 76.1% of participants were aware of the fact that dentists are at high risk of infection, only 45.3% of participants agreed for a considerable hike in fees because of personal protective equipment used.

Conclusion: In this troublesome situation of the COVID-19 pandemic, tele dentistry is proving to be a beneficial approach for the population who are suffering from some or the other kind of dental ailment. Patients should be made aware of the high risk to dentists and

precautionary measures taken by the proper use of Personal protective equipment, being the reason behind the hike in fees of the dental procedures.

Keywords: COVID-19 pandemic, personal protective equipment, patients' perceptions, patients' satisfactions, questionnaire, tele dentistry.

INTRODUCTION

The 2019 novel Coronavirus (SARS-CoV-2) is a Betacoronavirus, which belongs to the lineage B or subgenus sarbecovirus, which also includes SARS-CoV. SARS-CoV-2 was originated in China and is lead to a global outbreak within a short span of time. ^[1] The first public declaration of the pandemic was made by the Health Commission of Hubei province, Wuhan city in China on 31st of December, 2019, where they had confirmed that a cluster of adults has reported to various health facilities of the city who suffered from Pneumonia of unidentified etiology. This marked the beginning of novel coronavirus, which then proceeded to spread to the other cities of the country, soon making its way to emerge as a global pandemic. The term COVID-19 was coined to describe the clinical disease caused by SARS-COV-2. ^[2]

While the virus created havoc across the world, the dental fraternity had their

own challenges to face even in providing emergency dental care to their patients. Evidences suggest that the virus can be transmitted through surface or human contact and fomites, apart from inhalations of respiratory droplets. [3] Respiratory spread occurs in inhalation of virus containing aerosols of size less than 5µm and deposition of the same in human lungs. WHO had also stated that airborne transmission can occur through aerosol-generating procedures (AGPs), [4] which include many of our routine dental procedures. It is not just the clinically evident symptoms that we have to be careful about, but also the asymptomatic carriers of COVID-19 virus who can inadvertently spread the disease. [5-7] A few strains of this virus are said to survive in saliva for as long as 29 days. [8-10] Some of these asymptomatic carriers may require emergency dental treatments at some point, [11] and as the dentists, we are obliged to serve each patient without any denial.

During this testing period, tele dentistry has proven to be a beneficial approach to deal with dental ailments. This concept deals with provision of medical (tele medicine) or dental care without getting exposed to infections. [12] This can be achieved via telephone or video consultations that ensure continued communication between the health care providers and the patients, even in the absence of physical interaction. This helps in reducing any scope of non-essential contact and the resultant psychosocial effects of fear and anxiety. [13]

Telehealth refers to a broad term which includes technologies and tactics that deliver virtual medical, health, and education services. It is also applicable to specific health care disciplines, such as dentistry. [14,15]

Tele dentistry as per the ADA's Comprehensive Policy Statement is the use of telehealth systems and methodologies in dentistry. [14,15]

Tele dentistry includes patient care and education delivery using following modalities:

- **Live video (synchronous)**

This modality involves live or two-way interaction between patient, caregiver and a provider. This caters utilization of telecommunications in the form of audio-visual technology.

- **Store-and-forward (asynchronous)**

This service allows for interaction via transmission of recorded health information (for example, photographs, radiographs, digital impressions, video and photomicrographs) by protected electronic communication system to a health-care worker. It helps to understand the patient's condition or deliver a service outside a real-time or live interaction.

- **Remote patient monitoring (RPM)**

Individual's personal health and medical data collection in one location via electronic communication technologies is transmitted through a data processing service to a provider in another location for use and related support of care.

- **Mobile health (mHealth)**

Mobile communication devices such as tablet computers, cell phones, and personal digital assistants (PDA) supports health care, public health practice and education.

There are 3 primary modes of delivering telemedicine consultation: Video, Audio, or Text (chat, messaging, email, fax etc.) Some of the advantages of the tele dentistry are access to care for underserved and undertreated population, cost effectiveness, early diagnosis, short time, aid in training dental personnel at distant site [16] and also documentation & identification serves as an integral feature of the text-based platform.

Thus, the objective of the study is to assess the patient's satisfaction and perceptions regarding dental concerns and tele dentistry during the COVID-19 pandemic through an online survey.

METHODOLOGY

The survey was conducted in April, 2020. An online questionnaire typed in English, using Google forms was used to collect the data. The same was sent to 1000 people. The questionnaire consists of a series of questions pertaining to demographic characteristics, dental problems as experienced by the patient, and the services received. The questionnaire was pretested on sample of 50 participants. All the participants were informed about the purpose of the survey and the confidentiality of their responses. Patients belonging to all age groups were included in this survey their responses were evaluated electronically.

The first part of the questionnaire consisted of demographic characteristics like age, gender, education and their employment status. Figure 1 illustrates the questions for the second part of the questionnaire.

RESULTS

The study generated 642 responses. Majority of the population who responded fell within the age group of 18 to 40 years. Fifty-five percentages of the respondents were females while 42.7% were males. Figures 2, 3, 4 and 5 show the responses from the participants. About 60.6% of the respondents did not experience any dental issues during the lockdown period while 39.4% faced problems related to dental pain. While 40.5% of the people did not seek any form of consultation from dentists, 59.5% received their dental opinion. Among them, 63% received their consultation via telephone, 27% through WhatsApp, 2% through E-mails, 6% consulted through video calls and 2% by other means. Out of this number, only 60.8% were satisfied with the services offered. Medicines were prescribed to the other 38.5% of the patients.

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| <ol style="list-style-type: none">1. Did you experience any dental pain during lock down? Yes, No2. Did you seek any consultation from the dentist? Yes, No3. In which form did you receive consultation? WhatsApp, E-mail, Telephonic conversation, Video call, Other _____4. Were you satisfied with the consultation received? Yes, No5. Were medicines prescribed for relieving the pain? Yes, No6. Through which means were medicines prescribed? WhatsApp, E-mail, Telephone, Video call, Other _____7. Were medicines enough to relieve your pain during lockdown? Yes, No8. Did you visit any dentist for emergency treatment? Yes, No9. Were you in the middle of dental treatment before lockdown? Yes, No10. Did you face any dental problems because of incomplete dental treatment? Yes, No11. Kindly select the type of problems if any, Dental pain, Gum problems, Broken denture, Braces problems, Other _____12. Are you apprehensive of visiting a dentist during COVID? Yes, No13. Will you consider using tele dentistry for future purposes? Yes, No14. Are you aware that dentists are at high risk of infection due to inevitable dental procedures? Yes, No15. Would you mind if there is considerable hike in fees in dental treatment because of personal protective equipment used by dentist? Yes, No16. Any other comments regarding dental concerns during COVID-19. _____ |
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Figure 1: Questionnaire for the second part of survey

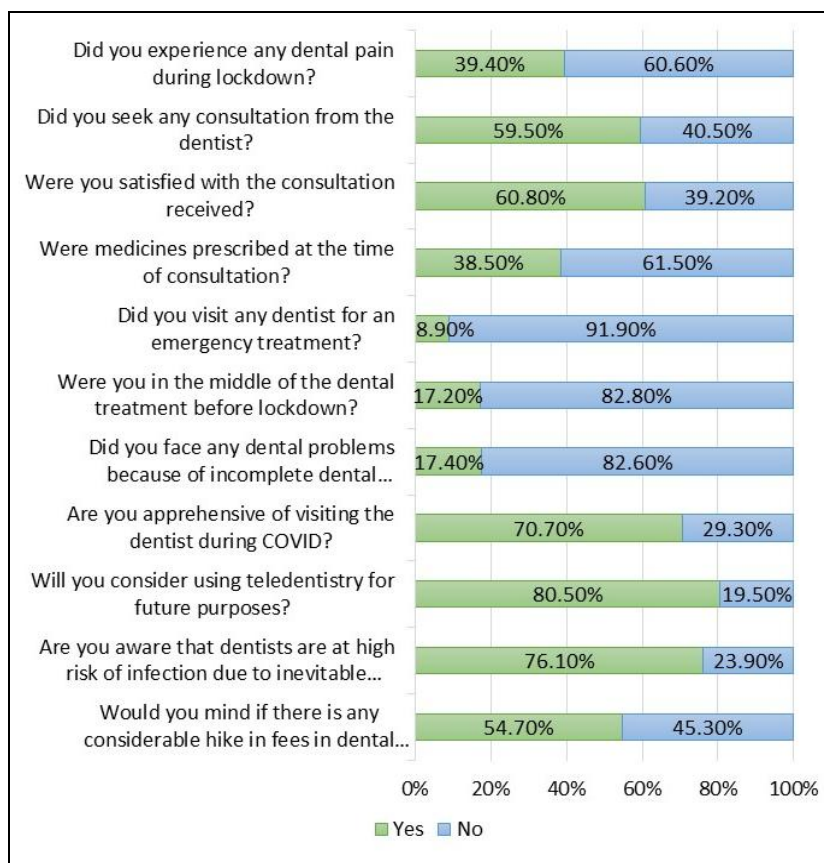


Figure 2: Results of the survey

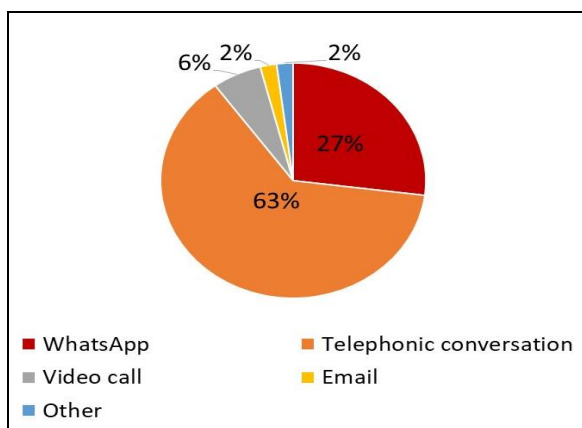


Figure 3: Form of consultation

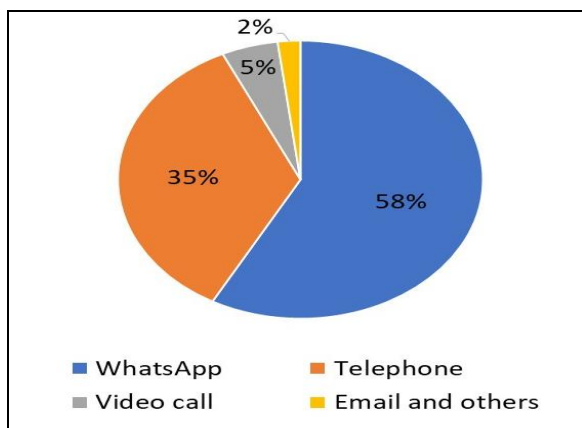


Figure 4: Means of prescription

Fifty-eight percentage of them received their prescription via WhatsApp, 35% through telephone, 5% through video call, 2% via E-mail and by other means. Among them, 8.9% had visited the dental clinic for emergency treatment and about 17.2% of them were amidst ongoing dental treatment before the lockdown. Incomplete dental treatment had affected about 17.4% of the patients. Over 52.8% of these patients experienced dental pain, while 22.6% reported of gum problems. Eight percentages of them came with broken denture, 5% dealt with orthodontic issues like teeth alignment problems or broken retainers and 11.6% had complained of problems because of already placed sutures and other miscellaneous dental issues. Almost 70.7% of the respondents were unwilling to visit dental clinics during the outbreak of COVID and 80.5% of the participants were in favour of tele dentistry to resolve their dental problems. Another 76.1% of the population considered dentists under high risk of spreading the disease.

Among the patients who visited dentists 54.7% raised objections regarding the hike in the fees collected for dental procedure on ground of Personal protective equipment (PPE) kits.

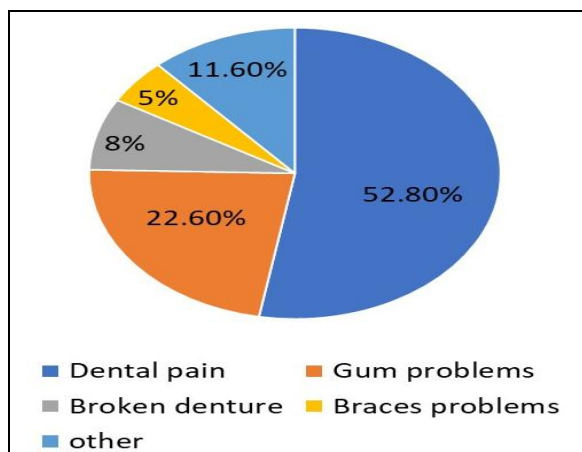


Figure 5: Types of dental problems

DISCUSSION

In the present situation, screening and triage questions such as relevant symptoms, travel history, or contact with known COVID-19 patients can be assessed through TD.^[17,18] It is particularly beneficial for patients who get identified as high risk patients. Tele dentistry enables them to gain access to dental health care services, at least the emergency procedures, without transmitting the infection.^[19] American Dental Association advises to follow the CDC's Phone Advice Line Tool for Possible COVID-19 Tool for tele-triaging.^[20] It can support and supplement the existing health care professionals working in the emergency department of hospitals and primary health centres to provide emergency care to patients who have reported dental concerns without unwanted exposure to others.^[21] In addition to its necessary role in providing dental screening in distant, rural, and other inaccessible areas, the method of tele dentistry has proved to be a great alternative in children afraid of dentists, facilitating easier consultations especially for those with special health care needs reducing their fear and anxiety and providing a stress-free environment for examination.^[21,22] Tele

dentistry can be of an appropriate advantage for pregnant women these days as well.^[15] At this point of time, it is necessary to counsel the population about preventive measures and how to take care of their oral health. It is also associated with certain disadvantages like an exchange of sensitive information, the commitment to confidentiality, the commitment to security and access to a large volume of data stored.^[23]

Patient acceptance is crucial for the success of any module. The challenges related to tele dentistry will take time to overcome as it is a newer platform for health care workers as well as patients. Till date, only one study has been done to evaluate patients' perceptions on tele dentistry.^[19] and the current study demonstrated patients' viewpoint regarding tele dentistry. Tele dentistry will broaden with the acceptability of telemedicine in general, which in turn is increasing day by day. Many surveys have found that tele dentistry is gradually gaining acceptance by patients as well as healthcare providers.^[24,25] With all the above mentioned advantages tele dentistry is proving to be a reliable method for dental consultations in these inconvenient situations.

A detailed clinical record of the consultations should be made by the tele dentists including confirmation of identity, informed consent, medical history and medications, clinical symptoms, recommended treatment, prescriptions and consultation fee. It is mandatory to obtain consent for teleconsultation. Medicines should be prescribed as per the Indian Medical Council and the same should be recorded for judiciary purposes. Tele dentists should follow guidelines for a virtual appointment via telecommunication given by ADA. The 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).^[26] A sample format should be maintained for e-prescription. Patients should be made aware of the high risk to dentists and to remunerate for the costs of the PPE kits and all precautionary measures taken by dentists. They should also be informed about the considerable hike in fees.

CONCLUSION

Alliance of tele dentistry with dental practice offers a plethora of applications which includes triaging of the patients according to the dental care as of greatest importance in such situations. The majority of the survey participants were affirmative towards tele dentistry. Taking social distancing into consideration dental practitioners should adapt to alternative ways of tele dentistry as a method of consultation.

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