



TELEHEALTH IN DENTISTRY DURING THE COVID-19 PANDEMIC

Dr. Anmol Zahoor^{1*}, Dr. Humera Gohar², Dr. Ayesha Karim³, Dr. Sara Khan⁴, Dr. Rida Zulfikar Ali⁵ and Hawwa Zahoor⁶

¹Dental Surgeon Islamabad, Pakistan.

²Dental Surgeon Aziz welfare trust Hospital, Azad Kashmir, Pakistan.

³Dental Surgeon Islamabad, Pakistan.

⁴Demonstrator at Shifa College of Dentistry Islamabad, Pakistan.

⁵Demonstrator at Shifa College of Dentistry Islamabad, Pakistan.

⁶Final Year BDS Student Islamabad, Pakistan.

***Corresponding Author: Dr. Anmol Zahoor**

Dental Surgeon Islamabad, Pakistan.

DOI: <https://doi.org/10.17605/OSF.IO/FK3NW>

Article Received on 21/12/2020

Article Revised on 11/01/2021

Article Accepted on 31/01/2021

ABSTRACT

The novel coronavirus also known as SARS-CoV-2, is responsible for causing the coronavirus disease (COVID 19), which is highly contagious. The virus is transmitted mainly via droplets and airborne. There have been 2,125,336 deaths so far. In Pakistan specifically, a total of 530,818 cases have been documented. The pandemic has had a huge impact on the medical and dental field. Dentistry in particular, has been greatly affected due to the risk of increase in transmission of the coronavirus, especially due to asymptomatic carriers. Most dental procedures are considered to be Aerosol-Generating Procedures, AGP. That is, they produce a large amount of aerosol and droplets. This research was conducted to study the awareness of telemedicine in dentistry and to determine how beneficial it can be to the community. Out of 75 participants enrolled in our study, 21 (28%) were male and 54 (72%) were female. 38 (50.7%) of the candidates had suffered from a dental problem and 64 (85.3%) considered it difficult to receive dental treatment during the COVID 19 pandemic. Telehealth and online consultations are now increasingly used to due its ease of access and reduced risk of exposure to the coronavirus. The general population as well as some medical professionals are still reluctant to use such modes of consultation. However, with some improvement and advancement of the modalities, telehealth is considered to be a promising platform.

KEYWORDS: Dentistry, Pandemics, Telemedicine.

INTRODUCTION

The novel coronavirus also known as SARS-CoV-2, is responsible for causing the coronavirus disease (COVID 19), which is highly contagious. The virus is transmitted mainly via droplets and airborne. Spread through oral-fecal route has also been suggested according to some studies.^[1] This disease, which was initially identified in Wuhan, China and has involved up to 221 countries and was characterized as a pandemic in March 2020.^[2] In January 2021, almost a year after the emergence of the disease, 99,136,863 cases were recorded worldwide. There have been 2,125,336 deaths so far. In Pakistan specifically, a total of 530,818 cases have been documented.^[3]

With an incubation period of around 14 days, the severity of the coronavirus disease varies from person to person, most common symptoms being fever, cough and shortness of breath.^[4] To reduce the spread of COVID-19, the use of face masks is now encouraged worldwide

and emphasis is placed on the maintenance of hygiene by frequently washing hands along with the use of sanitizers. Avoidance of crowded areas and gathering is also a key to the reduction in the number of COVID 19 cases.

The pandemic has had a huge impact on the medical and dental field. Dentistry in particular, has been greatly affected due to the risk of increase in transmission of the coronavirus, especially due to asymptomatic carriers. Most dental procedures are considered to be Aerosol-Generating Procedures, AGP. That is, they produce a large amount of aerosol and droplets.^[5] Owing to this, dental OPDs remained closed for a long period and most of the dental procedures have been postponed and rescheduled.

Telemedicine has been a great way to overcome the obstacle caused by the pandemic in receiving medical attention. However, not everyone can easily have access

to it. Many remote areas of Pakistan are devoid of internet facilities, and if some do gain access to it, the connection and speed may not be good enough for an online consultation. A large group of the community is also not very tech-friendly, which also creates an issue regarding telemedicine.^[6]

This research was conducted to study the awareness of telemedicine in dentistry and to determine how beneficial it can be to the community.

OBJECTIVES

This research was conducted to study the awareness of telemedicine in dentistry and to determine how beneficial it can be to the community.

MATERIALS AND METHODS

Study design - A descriptive cross-sectional study was carried out.

Study duration and sample size - The study was carried out over a period of one month, in December 2020, and data was collected from 75 participants.

Study population and setting

The study was community-based, conducted in Rawalpindi and Islamabad, Pakistan.

Inclusion criteria

People of both genders, aged 12 and above were included in the study.

Exclusion criteria

People below the age of 12 and those who were not willing to be a part of the study were excluded.

Sampling technique and data collection

Consecutive sampling technique was used and data was collected from 75 participants over the period of 1 month. Consent was taken from each enrolled subject. All data was collected on a structured questionnaire and statistical calculations were then performed using SPSS version 25 (Statistical Package for the Social Sciences, SPSS Inc. USA).

RESULTS

Out of 75 participants enrolled in our study, 21 (28%) were male and 54 (72%) were female. The age ranged from 14-60 years, with a mean of 28.12 years (SD 7.569). Majority of the participants 53 (70.7%) were graduates. 38 (50.7%) of the candidates had suffered from a dental problem and 64 (85.3%) considered it difficult to receive dental treatment during the COVID 19 pandemic.

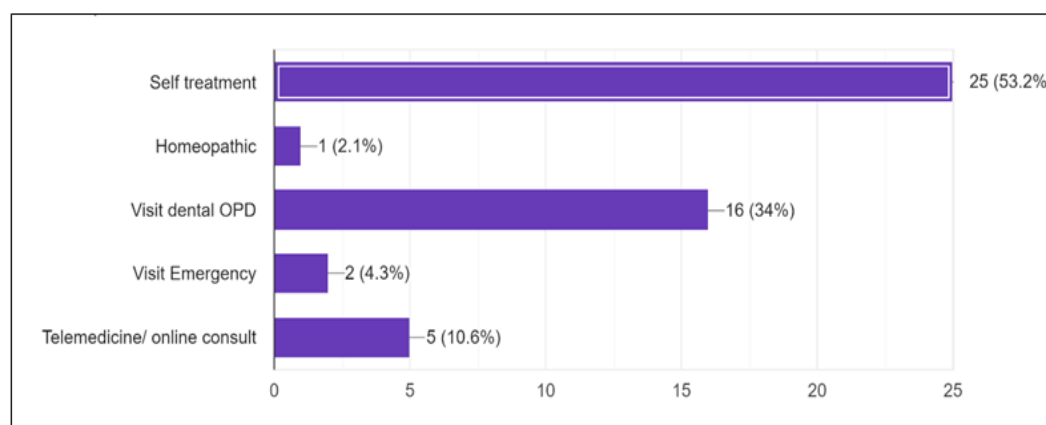
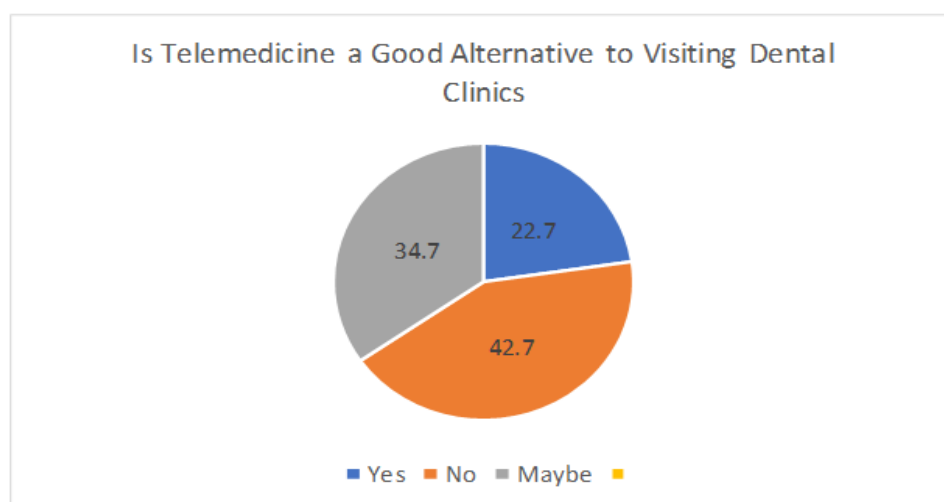
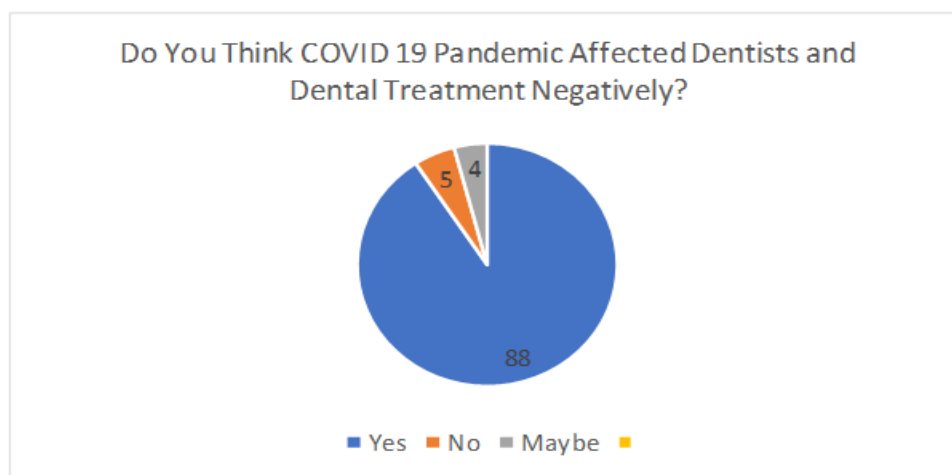


Figure I: Action taken by the participants suffering from dental problem.





DISCUSSION

Telehealth in dentistry, or teledentistry, facilitates dental care and treatment through an online technological platform, and therefore decreases the face-to-face contact with patients.^[7] This has therefore been useful during the COVID 19 pandemic as it reduces the risk of exposure, spread and transmission of the coronavirus. However, as dentistry is a field which included a lot of procedures, many cons have been noted regarding teledentistry as well.

To begin with, the accuracy in diagnosing dental conditions has been compromised due to clinical examination becoming impossible. In order to overcome this obstacle, different methods and tactics have been developed. Mobile Mouth Screening Anywhere (MeMoSA®) was developed by Haron et al, which helps in the early detection of oral malignancy.^[8] Another tablet-based mobile microscope (CellScope device) was evaluated by Skandarajah et al. which also helps in the screening of mouth cancer.^[9]

Follow up visits which are frequent in number are also quite troublesome and this may be overcome by online consultations and follow ups.^[10] Dentists however, still show their reluctance regarding teledentistry. Fear of improper diagnosis along with technical issues makes it slightly less acceptable to them.^[11]

Patients, on the other hand, are having a harder time accepting telemedicine. This is mainly due to their concern of not adequately getting their complaints through. Without a thorough physical examination, the level of satisfaction of patients remains low. Gradually however, patients as well as medical professionals are beginning to accept and adapt this new platform.^[12]

CONCLUSION

Telehealth and online consultations are now increasingly used to due its ease of access and reduced risk of exposure to the coronavirus. The general population as well as some medical professionals are still reluctant to use such modes of consultation. However, with some

improvement and advancement of the modalities, telehealth is considered to be a promising platform.

ACKNOWLEDGMENTS

None to declare

REFERENCES

1. Zahoor A, Fatima T, Khan AZ, Mumtaz H, Shafiq H, et al. Awareness of Telemedicine During COVID 19. J Comm Med Pub Health Rep, 2020; 1(3). <https://doi.org/10.38207/jcmphr2020233>
2. Sandesh R, Shahid W, Dev K, et al. Impact of COVID-19 on the Mental Health of Healthcare Professionals in Pakistan. Cureus, 2020; 12(7): 8974. doi:10.7759/cureus.8974
3. Worldometers. Coronavirus (LIVE) [Online] [cited 2021 January 24]. Available from: URL: <http://www.worldometers.info>.
4. Omer S, Ali S, Babar ZUD. Preventive measures and management of COVID-19 in pregnancy. Drugs Ther Perspect, 2020; 9: 1-4. doi: 10.1007/s40267-020-00725-x. Epub ahead of print. PMID: 32292265; PMCID: PMC7143201
5. Naqvi K, Mubeen SM, Shah SMA. Challenges in providing oral and dental health services in COVID-19 pandemic. Journal Of Pakistan Medical Association, 2020; 70(5). <https://doi.org/10.5455/JPMA.26>
6. Majeed MM, Durrani MS, Bashir MB, Ahmed M. COVID-19 and Dental Education in Pakistan. J Coll Physicians Surg Pak, 2020; 30(Sup2): 115-117.
7. Khan S.A., Omar H. Teledentistry in practice: literature review. Telemed J e Health, 2013; 19: 565-567. doi: 10.1089/tmj.2012.0200.
8. Haron N., Zain R.B., Ramanathan A., Abraham M.T., Liew C.S., Ng K.G. m-Health for early detection of oral cancer in low- and middle-income countries. Telemed J e Health, 2020; 26: 278-285. doi: 10.1089/tmj.2018.0285
9. Skandarajah A., Sunny S.P., Gurpur P., Reber C.D., D'Ambrosio M.V., Raghavan N. Mobile microscopy as a screening tool for oral cancer in India: a pilot study. PloS One, 2017; 12. doi: 10.1371/journal.pone.0188440

10. Mariño R., Ghanim A. Teledentistry: a systematic review of the literature. *J Telemed Telecare*, 2013; 19: 179–183. doi: 10.1177/1357633x13479704.
11. Ghai S. Teledentistry during COVID-19 pandemic. *Diabetes Metab Syndr*, 2020; 14(5): 933-935. doi:10.1016/j.dsx.2020.06.029
12. Estai M., Kanagasisingam Y., Xiao D., Vignarajan J., Bunt S., Kruger E. End-user acceptance of a cloud-based teledentistry system and Android phone app for remote screening for oral diseases. *J Telemed Telecare*, 2017; 23: 44–52. doi: 10.1177/1357633X15621847