

Original Research

Outlook of Indian Population towards Dental Treatments Post-COVID-19 Pandemic - An online survey

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ABSTRACT:

Aim: The aim of the study was to evaluate the outlook of general population of India towards dental treatments post-Covid-19 pandemic. **Materials and Method:** The study sample consisted of 500 participants from various states of India, out of which 480 participants of age ranging from 18 years to above 60 years have taken up the survey. Multiple choice questions were prepared through google forms and circulated via WhatsApp. **Results:** The majority of the participants preferred to visit a dentist only if required, both before (83.5%) and after (80.5%) the COVID-19 pandemic. 56.9% participants tried to postpone their treatments, in wake of getting infected. 73.1% of participants wanted to wait for few more months till the pandemic subsides. 89.5% of participants desired to have proper social distancing, sanitization and patient personal protection gear in the patient waiting lobby. **Conclusion:** Dental health care providers have primary goal to serve patients during their times of need. However, the current pandemic makes dentistry a potent channel of community transmission of disease. Hence, current reality requires incorporation of proper guidelines in extending dental services, to the best interest of the patients and dentists as well. **Clinical significance:** Dental care providers are recognized as high risk health care worker and face the twin challenge of protecting themselves and the patients from community transmission and at the same time ensuring patients continue to have access to urgent/emergency dental care.

Key words: Post-Covid-19, Corona virus, Pandemic, Dental treatments, Aerosols, Population, Online survey

Received: 02/05/2020

Modified: 20/05/2020

Accepted: 15/06/2020

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This article may be cited as: Anantula K, Vankayala B, Annareddy A, K Swetha, Devagudi LS, Jevaji P. Outlook of Indian Population towards Dental Treatments Post-COVID-19 Pandemic – An online survey. J Adv Med Dent Scie Res 2020;8(7):44-48.

INTRODUCTION:

COVID-19 Corona virus disease, is a fast-growing infectious disease developing worldwide. This disease has the etiology of severe acute respiratory syndrome

coronavirus 2 (SARS-CoV-2), a novel corona virus which was first discovered in 2019 in Wuhan, China, ultimately spreading globally. As a result of which World Health Organization (WHO) and the Public

Health Emergency of International Concern (PHEIC) declared COVID-19 outbreak as pandemic.¹ The first case of the COVID-19 pandemic in India was reported on 30th January 2020. In order to reduce the severity of spread of the infectious disease and to flatten the curve of COVID-19 outbreak and also to reduce the death rates, the Government of India has implemented lockdown and has taken several steps which include, limitation of people moving outside their home, social distancing, the cessation of almost all working activities except emergency services and usage of protective masks and gloves all over the country, thereby minimizing the potential risk of transmission from the symptomatic or asymptomatic carriers to the healthy population. Healthcare professionals have been immediately involved in the national emergency in order to restrain the pandemic. Many pharmaceutical companies have attempted a multi-drug combination such as zinc, hydroxychloroquine, azithromycin, lopinavir-ritonavir and favipiravir in order to cure the patients affected with novel corona virus, none of them till date proved to be precisely working on the target.²

A well-known fact that the dentists are often the first line of diagnosis, as they work in close contact with patients. New York Times published an article in March 2020 titled “The Workers Who Face the Greatest Coronavirus Risk”, where a schematic figure described that dentists are the workers most exposed to the risk of being affected by COVID-19, much more than nurses and general physicians.³ The fundamental concept is that the transmission of the virus is mainly through inhalation/ingestion/direct mucous contact with saliva droplets; the dentistry holds most affected and highly risked health care sector in the present scenario.⁴ Therefore, the dentists have been given several guidelines recommending to take personal protection measures, building high-grade well-equipped sterilization techniques and avoiding or minimizing operations that can produce droplets or aerosols and also including the use of saliva ejectors with a low volume or high volume to reduce the production of droplets and aerosols etc.⁵

Taking all these factors into consideration, the dental sector will have a huge impact due to COVID-19 pandemic, although the dentist are showing immense courage and preparedness to face this pandemic and upgrade to the next level for facing the challenges in diagnosis and treatment protocols, now the main question arises how far are the patients ready to accept the current situation and show willingness towards the routine dental check-ups and treatment plans post pandemic, both mentally and financially. Hence this national survey is done to highlight the fear, anxiety and outlook of Indians towards the future dental treatments post-covid-19 pandemic.

MATERIALS AND METHOD:

The study sample was calculated using survey monkey software at 95% confidence level and 5% confidence interval. The sample consisted of 500 participants from various states of India, out of which 480 participants with age ranging from 18 years to above 60 years have taken up the survey. Multiple choice questions were prepared through google forms and circulated via WhatsApp to all the known acquaintance randomly without taking any personal details of the participants, therefore, ethical concerns of personal data being taken does not arise. The participants have voluntarily participated in the survey. The questionnaire included the state where they stay in India, age group, gender, their previous dental treatment experiences and future dental treatment needs owing to COVID-19 fear. The questionnaire assessed the outlook of the participants towards dental procedures post-Covid-19 pandemic and accordingly help the dental professionals and patients to adapt to the changes. The completed questionnaires were then analyzed statistically on SPSS software to obtain the results through tables, graphs of frequency distribution and percentages were used to describe the categorical data.

RESULTS:

The online survey was answered by 480 participants (244 –Females, 228 –Males and 8- did not prefer to say the gender) with a response rate of about 96% (480 participants out of 500 requested). Their age ranged between 18 years to above 60 years with maximum 56.6% participation from 25 – 40 years age group, 18.6% between 18 – 25 years, 16.5% between 40 – 60 years and 8.3% above 60 years of age. (Table 1)

The majority of the participants preferred to visit a dentist only if required, both before (83.5%) and after (80.5%) the COVID-19 pandemic. 56.9% participants tried to postpone their treatments, in wake of getting infected. (Table 2)

The physical way of consultation by visiting a dental office is still most preferred (56.2%) over tele-consultation (43.8%), almost 73.1% of participants wanted to wait for few more months till the pandemic subsides and preferred mostly emergency treatments if required (67%). (Table 3)

It was found that more than half of the participants are cautious towards spending money on dental treatments (55.4%), 68.2% of them are ready to spend extra on the safety protocols adopted and 78.9% are ready to get tested if cost effective rapid testing kits are available at front office. As high as 89.5% of them desired to have proper social distancing, sanitization and patient personal protection gear in the patient waiting lobby. (Table 4)

Table 1: Baseline demographic characteristics of the participants who have taken the survey

Gender	n	%
Male	244	50.8
Female	228	47.5
Prefer not to say	08	1.7
Total	480	
Age group	n	%
18 - 25	89	18.6
25 -40	272	56.6
40 - 60	79	16.5
above 60	40	8.3
Total	480	

Table 2: Data showing participants frequency of visits to a dental clinic

Before COVID-19 pandemic, how often you used to visit a dental clinic for regular checkup?	n	%
Every 6 months	32	6.6
Every 12 months	48	9.9
Only if required	400	83.5
Total	480	
After COVID-19 pandemic how often would you prefer to visit dental clinic for regular checkup?	n	%
Every 6 months	38	7.9
Every 12 months	56	11.6
Only if required	386	80.5
Total	480	
If already you are on dental treatment before COVID-19, would you like to get the treatment completed immediately in-spite of COVID-19 fear?	n	%
Yes	194	40.4
No	273	56.9
Not answered	13	2.7
Total	480	

Table 3: Participants outlook during and after COVID

What kind of out-patient consultation do you prefer during and after COVID-19 pandemic?	n	%
Tele- Consultation	210	43.8
Physical consultation	270	56.2
Total	480	
When would you prefer getting the dental procedures done?	n	%
Soon after lockdown	129	26.9
Wait for few more months till the pandemic subsides	351	73.1
Total	480	
Which type of treatments you would prefer in next few months after lock-down?	n	%
Extraction of tooth	19	4
Cosmetic treatments	10	2.1
Dentures	06	1.2
Restoration/fillings	49	10.3
Cleaning and polishing of teeth	74	15.4
Only emergency treatments if required	322	67
Total	480	

Table 4: Participants expectations from a dental clinic

Currently, would you like to spend money on dental treatments like you did before COVID-19?	<i>n</i>	%
Yes	214	44.6
No	266	55.4
Total	480	
Are you scared of getting affected with COVID-19 in dental clinic in-spite of protocols being followed?	<i>n</i>	%
Yes	313	65.3
No	167	34.7
Total	480	
Would you prefer to pay, if the dentist charges some extra amount for providing patient personal protection and also for following the safety protocols before every treatment?	<i>n</i>	%
Yes	327	68.2
No	153	31.8
Total	480	
Would you prefer to get tested for COVID-19, if cost-effective rapid testing kits are available at the front office of dental clinic before any procedure is being started?	<i>n</i>	%
Yes	379	78.9
No	101	21.1
Total	480	
What are your expectations from a dental clinic waiting lobby (triage) post COVID-19 pandemic?	<i>n</i>	%
Social distancing	24	5
Sanitization at every step	18	3.8
Patient personal protection gear	08	1.7
All of the above	430	89.5
Total	480	

DISCUSSION:

This survey helped us to understand the participants’ requirements and their perspectives towards dental treatments during and post-Covid-19 pandemic. This is the first of its kind study done where the opinion of general population was taken into the consideration. The recent published literatures are more concentrating on the ways and means to control the spread of infection and cross-contamination in the dental clinic,¹ which is very important but at the same time most of the patients are preferring to visit the dental clinics only if required and only for emergency procedures during and for few months after the pandemic in the present survey.

India has a population of almost 130 crores, out of which middle class comprises of 40%, lower class 59% and upper rich class 1%. This clearly shows why generally, Indian population most of the time visit the dental clinics only if required in emergencies such as tooth pain or loss of tooth etc, and later comes the other treatments like esthetic corrections etc. As shown in this survey, the majority of the participants preferred to visit a dentist only if required, both before (83.5%) and after (80.5%) the COVID-19 pandemic.

The studies have also shown that the dental procedures where the aerosol production is more are potential

places for cross-contamination and spread of the disease and the patients are also getting scared of contracting the disease when visiting these places.⁶ This fear and anxiety in the patients who were already undergoing dental treatments before pandemic was clearly displayed in this survey as 56.9% participants tried to postpone their treatments, in wake of getting infected and 40.4% showed their willingness to get their treatments completed in-spite of the ongoing pandemic. In view of this, dentists have started tele-consultation for the out-patient services to allay the fears associated with COVID and at the same time helping them in streamlining the appointment schedules.⁷ This survey showed that, the physical way of consultation by visiting a dental office is mostly preferred (56.2%) even though given an option for tele-consultation (43.8%). As the dental procedures employing the use of intraoral handpieces, ultrasonic scalers or air/water syringes, result in the generation of aerosols which leads to cross-contamination, the general population do understands these restrains hence as shown in this survey, 73.1% of participants wanted to wait for few more months till the pandemic subsides and preferred only emergency treatments if required (67%). As there is a financial crisis going around the country during this pandemic situation, people are living in a stressful and confused

state taking precautions for preservation of resources for current and future needs, hence as shown in this survey most of the participants are cautious towards spending money on dental treatments (55.4%).

In this present scenario, the dentist should be aware of the needs of the patients and prepare accordingly. The dental clinic set ups have seen a lot of changes in these few months, the clinics are now getting equipped to prevent the spread of COVID infections by following the guidelines and advisories that are published by the health officials from time to time. Patients are expecting proper execution of safety protocols both in the triage area and in the operatory. Most of the participants (68.2%) are also ready to spend on the safety protocols that have been followed for infection control. Majority of them (89.5%) are preferring for social distancing, hand sanitization and patient personal protection gears such as a head cap, mouth mask, cover all, gloves and shoe covers when in the waiting lobby so that they are not potent infection carriers. 78.9% of the participants are also willing to get tested for COVID 19, if cost-effective rapid test kits are available at the front office desk, which would in turn minimize the fear of spreading the infection, and give some mental relief from risk of being asymptomatic carriers. Taking the patients' aspects into consideration, the dentists must have an insight and preparedness in following the protocols regarding the pandemic spread and incorporating the necessary equipment such as foggers/fumigators, HEPA air purifiers, Negative ion generators, extraoral suction, Ultraviolet germicidal irradiations etc into the dental practice.⁸

Although vaccines for Covid-19 such as Novavax vaccine, Inovio vaccine, Pfizer and BioNtech vaccine, Sinovac vaccine and RNA based vaccines are at the edge of breakthrough but still are under experimenting stages, it may still take time in release of a potent vaccine against the pandemic,⁹ meanwhile the people of the country should gain courage to fight this pandemic keeping in mind the restraints caused to the dentist and support them and the dental practitioners also must follow the guidelines such as use of PPE, N95 masks, face shields, sanitization of complete operating field including air and water lines etc in the best interest of the patients treatment outcome.¹⁰

CONCLUSION:

Within the limitations of the study, it can be concluded that considering COVID-19 was recently identified in the saliva of the infected patients, its outbreak is a reminder that dental/oral and other health care professionals must always be diligent in protecting against the spread of infectious disease, and it provides a chance to determine if non-invasive saliva diagnostic for COVID-19 could assist in detecting such viruses and reducing the spread. The dental patients all over the

country are under tremendous mental stress and financial crisis, so do the dental practitioners. Hence the dentists must rebound the monetary and psychological constraints and achieve the milestone, considering patients' needs and following protocols, in the best interest of dental field and well-being of the patients. Maintaining balance between professional and familial integrity is the need of the hour.

CLINICAL SIGNIFICANCE:

Dental care providers are recognized as high risk health care worker and face the twin challenge of protecting themselves and the patients from community transmission and at the same time ensuring patients continue to have access to urgent/emergency dental care.

REFERENCES:

1. Gianrico Spagnuolo, Danila De Vito et al. COVID-19 Outbreak: An Overview on Dentistry. *Int J Environ Res Public Health* 2020; 17: 2094-6.
2. Md Insiat Islam Rabby. Current drugs with potential for treatment of Covid-19: A literature review. *J Pharm Pharm Sci* 2020; 23(1):58-64.
3. Gamio, L. The Workers Who Face the Greatest Coronavirus Risk. Available online: <https://www.nytimes.com/interactive/2020/03/15/business/economy/coronavirus-worker-risk.html?action=click&module=Top+Stories&pgtype=Homepage>
4. Amber Ather, Biraj Patel, Nikita B. Ruparel, ET AL. Coronavirus Disease 19 (COVID-19): Implications for Clinical Dental Care. *J Endod* 2020; 46(5): 584-95.
5. Peng X, Xu X, Li Y, Cheng L, Zhou X, Ren B. Transmission routes of 2019-nCoV and controls in dental practice. *Int J Oral Sci.* 2020; 12(1): 9.
6. Meng L, Hua F, Bian Z. Coronavirus Disease 2019 (COVID-19): Emerging and Future Challenges for Dental and Oral Medicine. *J Dent Res* 2020; 99: 33-6.
7. Wheeler SQ, Greenberg ME, Mahlmeister L, Wolfe N. Safety of clinical and nonclinical decision makers in telephone triage: a narrative review. *J Telemed Telecare.* 2015; 21(6):305-22.
8. Guidance for dental settings: Interim Infection Prevention and Control Guidance for Dental Settings during the COVID-19 Response. [updated 2020 May 19]. Available from <https://www.cdc.gov/coronavirus/2019-ncov/hcp/dental-settings.html>
9. Tung Thanh Le, Zacharias Andreadakis, et al. The COVID-19 vaccine development landscape. *Nat Rev Drug Discov* 2020; 19: 305-6.
10. Ali Alharbi, Saad Alharbi and Shahad Alqaidi. Guidelines for dental care provision during the COVID-19 pandemic. *Saudi Dent J.* 2020; 32(4): 181-86.