



IMPACT OF COVID-19 ON PATIENTS' ATTITUDE TOWARDS THEIR DENTAL NEEDS

Dental Science

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ABSTRACT

The Covid-19 has changed the life of the entire world and its wave has affected all fields of medicine and dentistry. The concern about coronavirus transmission and dental practice has been widely recognized around the world. The purpose of this survey was to investigate the influence of coronavirus disease on patients' views with regards to their dental treatment requirements. **Materials and methods:** It is a cross-sectional survey conducted over 430 patients seeking dental treatment in Ramaiah dental college and hospital Bangalore, Karnataka, India. This survey has been conducted through electronic communication applications such as WhatsApp and Gmail, for three months. A structured and validated questionnaire was administered to the study subjects. Collected data were analyzed by using descriptive statistics.

Results: A total of 1000 patients were selected for the survey, in this only 43% of subjects completed the survey. Out of 430 responses, 50.1% of the subjects had dental problems. 38.3% of subjects expressed the unavailability of dental clinics and hospitals during Covid-19, 31.4% unavailability of the dentist. Of the 42.9% of patients who visited the dental clinic during the covid-19 pandemic, 38% of subjects observed the increase in treatment cost, only 30.5% of subjects were provided with emergency treatment. The majority of subjects (75.7%) expressed that dentists are practicing good precautionary measures such as wearing PPE kits, mouth masks etc. **Conclusion:** During the coronavirus pandemic, the patients demonstrated good knowledge and an optimistic attitude towards the precautionary modifications in regard to minimize the spread of COVID-19 in the dental setting.

KEYWORDS

COVID-19, Dental practice, Pandemic, survey.

INTRODUCTION:

Coronavirus disease 2019 is a respiratory tract disease that is caused by a novel coronavirus. It was detected and diagnosed initially in China, 2019 [1]. Within a short period, it has spread rapidly throughout the world. Globally its impact has been shown on all aspects of human life. World health organizations and all the national governments of respective countries took necessary steps to control the spread of covid-19 infection, unfortunately, the virus has affected all the communities regardless of nationalities, geographical

locations, and environmental conditions [2, 3].

Healthcare personnel of medical sciences and dental sciences are at the frontline with a high risk of infection. Personnel from the dentistry profession, providing their services to the patients in close proximity, results in the spread of various infections and diseases including covid-19 between consultant and patients. Appropriate protective measures need to be taken during the procedures.

Table 1: Representing the Covid-19 Preventive Measures

Before entering a dental office	At the dental office	During dental treatment
1) Patient triage 2) Identification of possible suspects 3) Delay of non-urgent dental care 4) Management of dental appointments 5) Active screening of dental staff are among the protective protocols that should be considered prior to the patient entering the dental office	1) Active screening of patients 2) Management of social distancing in the dental office 3) Offering sanitation measures to the patients 4) Use of facemasks by everyone entering the dental office 5) Patient education, use of PPE by the dental team, and management of dental operator room are among the procedures required to be carried out dental offices.	1) Maintaining hand hygiene 2) Offering a preoperative antimicrobial mouth rinse to patients 3) Using rubber dams, high-volume saliva ejectors, and extraoral dental radiographs, using 4-handed dentistry, avoiding aerosol-generating procedures, one-visit treatment, and environmental cleaning and disinfection procedures should be implemented during dental procedures

According to the recommended guidelines during COVID-19, the protective measures categorized into three phases:

There was a re-organization in the dental set up based on the guidelines mentioned above. It is imperative to assess the impact of a sudden change in dental setup and dental treatment limited to emergency treatment only. The absence of regular dental practice and the delay in dental treatment experienced by patients and their impact on psychological wellbeing needs to be addressed.

The data of this survey also shows the awareness of patients about the new guidelines and observed it to be followed in the modified dental clinic set up. Therefore, it is important to conduct a survey and to investigate the influence of COVID-19 on patients' views with regards

to their dental treatment requirements.

METHODOLOGY:

The present study was across-sectional survey, conducted for three months. A prefixed sample size of 430 patients who represented different districts of Karnataka state were included as study subjects. A sample size calculation was performed with a margin of error of 5% and a confidence level of 95%, and an observational sampling technique was used. Subjects with an age of 18 years and above were included in the study.

A structured questionnaire was developed, included 15 questions as follows:

Questionnaire			
1.	Did you experience any dental issues or problems during the COVID-19 lockdown?	Yes	No
2.	If yes, please specify	Pain Swelling Fracture of front tooth Broken filling Other issues	
3.	Did you face any difficulty in resolving your dental issue?	Yes	No
4.	If yes, what difficulties did you face?	Unavailability of dental clinic/hospital Unavailability of dentist Rejection of treatment Sent back with medication	
5.	If not, how did you manage the dental issue?	Over the counter medicines Dentist paid a home visit Resolved on its own	
6.	Were you apprehensive of visiting a dental clinic/hospital?	Yes	No
7.	If Yes, what were your fears of visiting the clinic?	Transmission of infection while traveling Transmission of infection in crowded waiting halls Transmission of infection from the dental professionals Others, specify	
8.	If you visited, what precautions did you take during the visit?	Hand sanitizer Face mask Gloves Face shield All of the above None of the above	
9.	What was your experience at the reception area in the dental clinic/hospital?	Compulsory mask Hand sanitization Temperature check Pulse oximeter check All of the above None of the above	
10.	What changes did you encounter in the treatment aspect?	Provision of emergency care only Delayed appointment Increased treatment cost compared to the previous visit None Other	
11.	Have you observed any alterations in the clinical set up post Covid compared to previous visit?	Yes No Not aware	
12.	If yes, What was the modification observed/done?	Air purifiers installed UV sanitation of chambers Dentist dressed in PPE KIT with face shield, double mouth mask and gloves Pre treatment mouth rinse with Povidine Iodine Any others, please specify	
13.	What is your opinion regarding the infection control measures in the dental clinic/hospital in the current scenario?	Satisfied Completely satisfied Dissatisfied	
14.	What is your opinion regarding the current status of dental care provided?	Satisfied Completely satisfied Dissatisfied	
15.	If not satisfied, what are your expectations from the dental office?		

Validation of questionnaire: The questionnaire was given to 3 experts at every stage - viz. Initial English version; Kannada translated version and version that is back-translated to English. They were asked

to score every question on relevance and clarity every answer list on comprehensiveness and completeness. The scores were from 0 to 4 where '0' is the least and '4' is the best score the item could receive. The scores were tabulated in Microsoft Excel 2010 and the validity index was calculated for every question at every stage of translation. The score of equal to or above 3 was considered valid. The measure of central tendency was the mode. Inter-rater agreement was calculated based on percent agreement for multiple raters.

The questionnaire was developed in to Google forms and distributed to the subjects through electronic communication applications such as Gmail and WhatsApp. Confidentiality of the collected data was strictly maintained. Data were analyzed by using descriptive statistics such as mean, SD, and percentiles.

RESULTS:

In our study, 430 subjects were considered as study participants. The mean age of the study subjects was 42 years. Gender distribution with respect to dental problems didn't show much difference between male patients (49.1%) and female patients (50.9%). During the pandemic, almost 50.9% (230n) of the subjects encountered dental problems. Out of 230, the majority (45.2%) of the subjects had a toothache, followed by swelling (23.9%), broken filling (20.9%), and fracture of the front tooth (12.6%). Subjects had faced various difficulties in resolving dental issues during a pandemic, such as unavailability of the dental clinic (38.3%), unavailability of the dentist (31.4%), treatment rejection (14.3%), and sent back with medication (16%). About the management of dental issues during the pandemic, the majority of the subjects were walked into dental clinics (42.9%) followed by 31.6% were resolved without any treatment, 22.1% of subjects consumed over the counter medication, and a very minimal number of subjects (3.4%) invited dentists for a home visit. Besides, subjects were asked about their fears in visiting clinics during the pandemic. Almost 68.7% of subjects accepted that they had fears in visiting the clinic (table no. 01). 66.4% of subjects observed alterations in the clinical setup post-Covid-19 compared to the previous visit, followed by 12.1%

not observed, and 21.5% were not aware of alterations.

When we asked about their opinion regarding the infection control measures in the dental clinic/hospital in the current scenario, 20.2% were completely satisfied, followed by 71.3% were satisfied, and only 8.5% were dissatisfied. Besides, 21.6% of patients were completely satisfied with the current status of dental care provided by the Ramaiah Dental Hospital, followed by 70% were satisfied.

Table no.01 Distribution of subjects according to their views in the following:

Fears of visiting the clinic	n	%
Transmission of infection while traveling	60	23.3
Transmission of infection in crowded waiting halls	98	38
Transmission of infection from the dental professionals	85	32.9
Others	15	5.8
Precautions taken by the patient during their visit to clinic during pandemic		
Hand sanitizer	157	55.2%
Face mask	79	27.6%
Gloves		
Face shield		
All of the above		
None of the above	20	7.3%
Patients experience at reception area in the dental clinic/hospital		
Compulsory mask	26	9.3%
Hand sanitization		
Temperature check		
Pulse oximeter check		
All of the above	173	61.9%
None of the above	28	10%
What changes did you encounter in the treatment aspect?		
Provision of emergency care only	85	30.5%
Delayed appointment	80	28.7%
Increased treatment cost compared to the previous visit	106	38.5%
None	67	24%
Other	14	5%
Patients observations about the modifications in clinical set up in post covid-19		

Air purifiers installed	61	26.5%
UV sanitation of chambers	63	27.4%
Dentist dressed in PPE KIT with face shield, double mouth mask and gloves	174	75.7%
Pre-treatment mouth rinse with Povidine Iodine	98	42.6%
Others	13	5.7

DISCUSSION:

The covid-19 pandemic has changed the complete lifestyle of human beings. Globally its impact negatively affected and increases the socioeconomic burden and healthcare costs. Its symptoms are ranging from the common cold to severe respiratory tract infections such as pneumonia. Under developing country like our India, which is a very populous country, rate of Covid-19 spread is very high. And the personnel from medical, dental, and nursing sciences, who are working in close proximity with patients, are at higher risk of developing the covid-19 disease.

All the dental procedures produces aerosols and droplets can be contaminated results easy spread of covid-19 infection. It involves close proximity of inspection, clinical examinations, and therapeutic interventions of the naso-oro-pharyngeal region [10]. Even though standard protective measures are taken care of in our routine clinical work, those are not effective enough in preventing the spread of disease, especially during the time of incubation period [4,5]. To overcome this transmission of infection, various health regulatory bodies suggested that, dental practitioners perform only emergency dental procedures [5].

Oral hygiene and preventive practices have played a major role in the better health of the human being. During the pandemic, practices of good oral hygiene are in critical condition. The higher level of oral hygiene prevents unnecessary visits to dental clinics and significantly helps the individuals in removing the virus from the body in the early contamination phase in day to day life [6].

In the present study, the survey was conducted on over 430 patients who have attended the Ramaiah dental hospital, Bengaluru. All these subjects were representing almost all the districts of Karnataka state. In our observation, there is no much difference was identified with respect to gender-wise distribution. Almost, males and females are equally distributed.

Our survey has revealed that almost 51% of subjects encountered dental problems during the Covid-19 pandemic. And also our survey has revealed that, out of 230, almost 45.2% of the subjects had developed tooth ache and a very minimal number of subjects with fracture of the front tooth (12.6%).

During the pandemic, the public has various fears in attending dental clinics and hospitals. In the selected sample, 60% of patients expressed their fears. In this, 32.9% of subjects were afraid that covid-19 infection might get transferred from the dental professionals to patients. It is due to a lack of awareness of patients on preventive measures taken by healthcare professionals. 38% of subjects expressed that, crowded waiting halls of hospitals spread more infection, 23.3% of subjects were scared to attend the clinic, due to infection spread during traveling. These fears show a higher impact on the business of dentistry.

Precaution is better than cure. It is very important to take precautionary measures, to overcome the covid-19 infection [07]. In our study, subjects were also assessed about their precautionary measures. Almost 55% of visiting patients were carrying hand sanitizers followed by face masks (27.6%). Due to regular advertisement regarding the control of Covid-19 by the government of India telephone caller tunes and television shows, it has brought bigger changes in the public perspectives.

Besides, dental clinics and hospital setups have made mandatory practices for all patients, doctors, nurses, and other staff. With respect to the same, subjects were asked about their experience at the reception of clinics and hospitals. 61.7% of subjects observed good practices of management, such as compulsory masks, temperature checks, pulse reading. Besides this, subjects were also questioned about the changes that they encountered with respect to treatment aspects. 38.5% of subjects were expressed that treatment cost was increased during a pandemic, followed by 30.5% of subjects who encountered emergency

treatment only. It is because of the reason to avoid unnecessary exposure to infectious patients and to minimize spread rate.

The majority of the subjects observed the modifications in clinical setup during covid-19. Almost 75% of patients observed that their dentists were in PPE kit with all the precautions. Preoperative antimicrobial mouth rinse could reduce the number of microbes in the oral cavity [8,9].

Almost 71.3% of patients were satisfied with the infection control measures as well as modification in Ramaiah dental hospitals. In contrast, another study has suggested that Covid-19 pandemic has shown a significant impact on the inclination of dental appointments [3].

By observing the current trend of Covid-19 spread, it can be said that the pandemic may not end at anytime soon. Even World health organization highlighted that this virus would never go away from our communities [11]. During this pandemic tele-dentistry played an effective role and provide innovative solutions for continuing dental practices [12]. It is beneficial for individual dental practices, and provides services to the public of remote geographical locations.

CONCLUSION:

Although all the patients and healthcare professionals were concerned about corona virus disease-2019, the majority of the patients would not opt to visit dental clinics and hospitals even if they had severe dental issues. And they thought that the dental environment can increase the risk of covid-19 infection than other environments. So all the dentists should pay attention to bring awareness in public regarding safety measures practicing as per WHO guidelines at dental hospitals to avoid the spread of Covid-19 infection and to explain the procedure of handling emergency cases with lower risk.

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