

## To Study How Covid-19 Pandemic Outbreak Effected the Selected Dental Clinics in Bangalore

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### Abstract

**Introduction:** The COVID-19 pandemic has brought unprecedented challenges to the healthcare sector, including dental care services. Dental clinics have faced significant disruptions, including reduced patient flow, financial constraints, and implementation of new infection control protocols. This study aimed to investigate the impact of the COVID-19 pandemic on selected dental clinics in Bangalore.

**Aim:** Study to understand how COVID -19 Pandemic outbreak effected the selected dental clinics in Bangalore.

**Objectives:** The study has been enumerated in two objectives, and these are (1) To study dental working conditions in dental clinics. (2) To study the clinical guidelines recommended by Dental Council of India for dental professionals. (3) To study the challenges faced by dentists while resuming dental clinics.

**Methodology:** An observational and retrospective analytical approach was employed, combining both observational and questionnaire methods. Data regarding the primary and secondary sources were collected. Primary data were collected from structured questionnaires with 50 dental professionals, whereas the secondary data were derived from literature pertinent to the area of study. This research has been conducted using a Purposive and Convenient techniques over a period of 3-4 months.

**Result:** the findings indicates that covid 19 pandemic profoundly impacted dental clinics, highlighting the need for robust infection control measures, flexible operational strategies, and resilient supply chains. By adopting comprehensive guidelines, enhancing infrastructure, and ensuring clear communication, dental clinics can better navigate future health crisis and maintain patient trust and safety.

**Conclusion:** The COVID-19 pandemic has substantially impacted dental clinics in Bangalore, affecting patient appointment, storage of equipment, decrease in patient appointments, economic strain, assurance of patient safety, lack of training and education programme for staff safety. The study highlights the need for dental clinics to adapt to the new technologies prioritizing staff safety, infection control measures and assurance to the patient on safety to ensure sustained delivery of dental care services.

**Keywords:** COVID-19 pandemic; dental clinics; aerosol; patient volume; economic strain; staff safety; infection control measures

### Abbreviations

COVID: Coronavirus disease.

PPE: Personal protective Equipment.

CDC: Canters for Disease Control and Prevention.

ADA: American Dental Association.

## Introduction

In December 2019, COVID-19 disease outbreak caused by novel coronavirus called severe acute respiratory syndrome began in Wuhan, China's Hubei province which expanded across 151 countries including India. COVID-19 outbreak was declared as Pandemic in March 2020 by WHO.

According to COVID -19 statistical data in October 4, 2021, more than 235 million cases worldwide had reported. The highly contagious nature of COVID -19 includes the common symptoms such as fever, dry cough, fatigue, dyspnoea, shortness of breath, sore throat, loss of smell and taste, vomiting and diarrhoea. COVID -19 virus can transmit via respiratory droplet and aerosols, from infected person to another person through direct or indirect contact and also from contaminated surfaces.

During the routine use of handpieces and ultrasound instruments in dental clinics which resulted in easy transmission of corona viruses. Hence both dental professionals and patients were extremely at high risk because of the extreme exposure of contaminated aerosols, close and direct contact with infected person and of body fluid such as saliva, blood of infected patients. So, in this regard dental care field was more prone for transmitting several viruses rather than corona viruses.

Hence, Dental council of India with certain guidelines suggested that dental professionals to limit their interventions to emergency treatment. The impact of COVID-19 on dentistry has been felt across all aspects of the profession, from routine check-ups and cleanings to complex surgical procedures. Moreover, to reduce the risk of infection safety measures was considered. In addition, before performing any operative or surgical dental treatment dental professionals should strictly provide disinfectants such as chlorhexidine or betadine mouth rinse to the patient, proper placement of rubber dam isolation, saliva ejectors and PPE to prevent the spread of disease.

The COVID-19 pandemic had alerted dental services to the patients while resuming the dental clinic. Moreover approximately 90% of dental practitioners faced an economic crisis of over 80% during the COVID 19 Pandemic outbreak. Due to the spread of COVID-19 the treatment was limited to emergency and urgent cases during the outbreak. As a result, dental professionals have had to adjust their practices to minimize the risk of transmission.

## Objectives of the study

1. To study dental working conditions in dental clinics.
2. To study the clinical guidelines recommended by Dental Council of India for dental professionals.
3. To study the challenges faced by dentists while resuming dental clinics.

## Research Methodology

### Statement of the Study

To study how covid 19 pandemic outbreak effected the selected dental clinics in Bangalore.

### Study Design

This study is an observational and analytical study.

### Study Population

The study population involved are dental specialists and general dental practitioners.

### Sampling Techniques

Sample will be selected through convenient and purposive sampling.

### Sample Size

Sample size for the study is 50 dental professionals.

*Inclusion criteria:* The health professionals such as dental specialists and general dental practioners.

### Exclusion criteria

- The health professionals such as Nurses, technicians and patients.
- The sample those who are not willing to participate in the study are excluded.

### Data Collection

*Primary data:* Data will be collected from the study population using questionnaires and observational method.

### Duration of the Study

The study conducted for 3-4months.

### limitation of the study

- The study will be conducted only in dental clinics.
- The study population included only dental professionals.

## Results and Discussion

The discussion and interpretation of study can be broadly classified into 4 parts.

**Part I:** Questionnaires on Demographic Domain.

**Part II:** Questionnaire on Dental Working Conditions During Covid 19 in Dental Clinic.

**Part III:** Response Recorded on The Clinical Guidelines Recommended by Dental Council of India (DCI).

**Part IV:** Response Recorded on The Challenges Faced by Dentists While Resuming Dental Clinics During COVID 19.

### Part I: Questionnaires on Demographic Domain

1) Characteristics	Male	Female
	56%	44%

### Result

*Gender Distribution:* The clinics experienced a slight male majority of 56% among dental professionals, compared to females 44.

2) Age				
	23-33	34-44	45-55	>55 years
	21	58	21	0

### Result

*Age Distribution:* The majority of dentists were aged 34-44 years. Dentist aged 23-33 years and 45-55 years each made up 21%. There were no dentists older than 55 years.

3) Designation	a) Bachelors of dental surgeon	b) Masters of dental surgeon
	44	56

### Result

- No. of dental professionals are more MDS postgraduates.
- No. of other dental professionals falls under BDS graduates.

### Part II: Questionnaire on Dental Working Conditions During Covid 19 in Dental Clinic

Sl No	Questionnaires	Yes	No
1	Initially were all the staff members provided with all the time adequate PPE (masks, gloves & face shield) during the pandemic?	35%	65%
2	Did your clinic face any shortage of equipment supplies (eg: dental equipment's, digital infra-red thermometer etc) during the pandemic	81%	19%
3	Did your clinic reduce the number of daily patient appointments to maintain social distancing	93%	7%
4	Initially were patients screened for covid 19 symptoms prior to these appointments all the time	40%	60%
5	Did any staff members at your clinic test positive for covid 19 during the pandemic	63%	37%
6	During the pandemic initially, where mandatory temperature check conducted every time for all patients & staff upon entering the clinic	68%	32%
7	Initially did the clinic provide any specific training or resources on covid 19 safety measures for its staff	45%	55%

It illustrates on the basis of Dental working conditions during Covid 19 in Dental Clinics that overall, there were significant gaps in PPE provision, screening, and training, alongside equipment shortages, despite widespread efforts to reduce patient appointments and implement safety check.

### Part III: Response Recorded on The Clinical Guidelines Recommended by Dental Council of India (DCI)

Sl No	Questionnaire	Yes	No
1	Do you screen patients for covid 19 symptoms before their appointment	68	32
2	Have you modified any clinical procedures to reduce aerosol generation	62	38
3	Do you have protocols in place for the health monitoring of your staff.	25	75

The table represents the clinical guidelines recommended by Dental Council of India (DCI)

- Patient Screening which reflects a proactive effort to mitigate potential virus spread.
- Modification of Procedures indicating a significant adaptation to lower the risk of airborne transmission.
- Health Monitoring Protocols highlights a gap in continuous health surveillance and support for staff wellbeing.

**Part IV: Response Recorded on The Challenges Faced by Dentists While Resuming Dental Clinics During COVID 19**

<b>Sl No</b>	<b>Questionnaire</b>	<b>Yes</b>	<b>No</b>
1	Were you able to procure adequate PPE for yourself & your staff	38	62
2	Did you find challenging to implement new infection control protocols due to covid 19	81	19
3	Did you face financial difficulties due to the reduced number of patients during the pandemic	81	19
4	Did any of your staff members contact covid 19 after you resumed clinic	69	31
5	Was it difficult to reassure patients about the safety measures taken at your clinic	62	38
6	Did you have to change or reduce your working hours to accommodate patients and limit the practice only to urgent and emergency cases.	62	38
7	Did you experience a shortage of dental supplies during the pandemic after resuming the dental clinics	45	54
8	Did the additional safety measures lead to increased operational costs for your clinic	87	13
9	Did you experience a decrease in patient visits when you resumed your dental clinic during the COVID 19 pandemic	81	19

The table illustrates by Indicating significant supply chain issues, reflecting the complexity and resource demands of adapting to COVID-19, highlighting the economic impact of the pandemic on clinics, suggesting ongoing risks even with safety measures, pointing to challenges in patient communication and trust, reflecting operational adjustments during the pandemic, indicating continued supply chain disruptions, showing the financial strain of enhanced protocols, underscoring the lasting impact of the pandemic on clinic operations.

**Conclusion**

The COVID-19 pandemic necessitated major adjustments in dental clinic operations, guided by stringent protocols from the DCI to ensure safety. While these measures were crucial in preventing virus transmission, they also posted significant operational and financial challenges for dental professionals. The resilience and adaptability demonstrated by the dental community were key to navigating this unprecedented crisis, highlighting the need for ongoing support and resources to sustain dental healthcare services in the face of future public health challenges. Continued innovation, support, and education will be crucial in ensuring that dental clinics can maintain high standards of care while safeguarding the health and well-being of both patients and practitioners.

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**Conflict of interest**

There is no conflict of interest.

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