

**ORIGINAL ARTICLE****Journal Section**

Knowledge and Attitude of Private Dental Practitioners towards taking IOPA/RVG during COVID -19 Pandemic

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Abstract

The aim of this study was to evaluate the knowledge and attitudes of dentist towards taking and the indications of radiographs during covid -19 pandemic. A structured questionnaire containing 9 questions was used, each question had 2 possible answers. Registered dentists at the Dental council of India of Vidarbha region were included in the study. The minimal required sample was 100 by purposive random sampling technique. Retrieval of data was done by distributing questionnaires to respondents using Google forms via the WhatsApp application and the questionnaire was sent to 100 dentists of Vidarbha region in Maharashtra. 100 respondents filled out this questionnaire. The study came into conclusion that most of the dental practitioners were aware of the standard operating procedure and the required preventive measures taken for the dental treatment. They were also aware of the requirements and proper dental alternative treatments and also they have preferred extraoral radiographic technique to avoid the contact of saliva.

KEYWORDS

COVID 19; Pandemic; SOPs; IOPA

1 | INTRODUCTION

During late 2019 and early 2020, a new fatal disease called coronavirus disease 2019 (COVID-19) broke out in China and Southeast Asia. It has been reported that COVID-19 appeared in Wuhan, Hubei Province, Central China, and then it was found in other places of China, Southeast Asia, Europe, North America, Oceania and al-

most all over the world, affecting more than 160 countries or districts.^{1,2} According to reports by the China CDC and authoritative organizations, by April 07, 2020, 1,393,797 people had been infected by COVID-19 globally.^{2,3} The World Health Organization (WHO) announced that the COVID-19 outbreak had become a public health emergency of international concern on January 31, 2020,⁴ and

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then categorized it as a pandemic on March 11, 2020.⁵

The detection method confirmed that 2019-nCoV exists in saliva, bodily fluids, faeces, and other samples from patients with COVID-19.⁶ The virus spreads through close contact between people, especially through respiratory droplets. In addition, when people touch an object contaminated by infectious droplets and then touch their mouth, nose, or eyes, the virus can be transmitted.

Due to the nature of dental treatment, procedures typically produce aerosols and splatters, which can contain large amounts of saliva or blood from patients and thus carry the risk of large-scale transmission of the virus. Therefore, many health departments have asked dental departments to adopt strict measures.⁷ Such measures include screening patients, only providing emergency treatment, restricting aerosol operation as much as possible, using extensive protection, and performing environmental disinfection. However, researchers have reported that because some carriers have no symptoms, COVID-19 is difficult to control in the dental environment. Many patients have received COVID-19 related information through hospital propaganda and education.⁸

Before COVID-19 dental practitioners used to take intraoral radiograph where required with the treatment. However, after COVID-19 due to risk of spread of virus, practitioners has restricted the radiographic investigation intraorally and have taken intraoral periapical (IOPA) radiographs only when in emergency and using only personal protective equipment (PPE). This study was conducted to know the knowledge and attitude of dentist towards taking and the indications of radiographs.

2 | METHOD

This is a questionnaire study that was conducted from February to May 2021 through a self-administered survey sent to a random sample of dentists practicing in Nagpur, Maharashtra. Registered dentists at the Dental Council of India of Vidarbha region were included in the study. General dentists and specialists in private clinics and set up were included in the study. Exclusion criteria were non-practicing dentists. The minimal required sample was 100 by purposive random sampling technique. Retrieval of data was done by distributing questionnaires to respondents using Google forms via the WhatsApp ap-

plication and the questionnaire was sent to 100 dentists of Vidarbha region in Maharashtra.

Questionnaire

1. Was your clinic open during COVID-19 Pandemic?
 - a) Yes
 - b) No
 - c) Open only after vaccination was available.
2. Did u follow SOPs during dental procedure?
 - a) Yes
 - b) No
3. Was thermal screening and oxygen saturation recorded of each patient visiting dental clinic?
 - a) Yes
 - b) No
4. Did you take IOPA OR RVG patient with its indication before treatment?
 - a) Yes
 - b) No
5. Extraoral radiograph was preferred over intraoral radiographs?
 - a) Yes
 - b) No
6. Were you using PPE equipment just to take an IOPA?
 - a) Yes
 - b) No
7. Were you following disinfection protocol after taking the radiograph?
 - a) Yes
 - b) No
8. Were you taking radiographs and giving treatment to the patient who were known seropositive for coronavirus?
 - a) Yes
 - b) No
9. Did you follow decision making flow chart before taking radiograph published by American Association of Oral and Maxillofacial Radiology?
 - a) Yes
 - b) No
 - c) Don't know the flow chart

3 | RESULTS

A total of 100 respondents filled out this questionnaire, the majority of respondents work in Nagpur. Most

of the respondents worked in hospitals and private dental clinic. A series of questions related to Awareness, Knowledge Attitude towards taking IOPA/RVG during COVID-19 pandemic.

TABLE 1 Participants response

Questions	Response (%)	
	Yes	No
1	72	28
2	98	2
3	97	3
4	55	45
5	80	20
6	95	5
7	98	2
8	2	98
9	5	95

world's economy. It has put immense strain on social stability and the global health systems, particularly challenging the health care workers including the Dental care professionals (DCP). It is therefore, crucial that prudent information should be relayed to health care professionals in the time of this global emergency.⁷ Considering this, the current study investigated the knowledge and attitude of dental faculty towards the COVID-19 disease. To date, only limited studies are reported that explored dentist' awareness and attitude towards COVID-19 contagion.⁸

This questionnaire study performed was about the knowledge and attitude of the practitioners towards dental radiograph during COVID-19. There were total 9 questions that were answered by the private practitioners. These questions were of closed ended type. The self-designed e-survey were administered to 100 practitioners which were answered using social networking applications like Email and WhatsApp. Most of the participants exhibited sufficient knowledge about questions related to Standard operating protocol and PPE usage, screening and O2 levels, radiographic investigations- both intraoral and extraoral, etc. The answers of practitioners differed according to the situation of the pandemic and the COVID-19. The practitioners took maximum precautions during the COVID-19 and performed the essential procedures too, during those times. According to the questions answered by the practitioners regarding the standard operating protocols and usage of PPE for radiographic investigations, it was found that maximum practitioners i.e. approximately 98% of the practitioners followed the standard operating procedures (SOP). 95% of the practitioners used PPE kits during any of the procedure and radiographic investigations.

The practitioners followed disinfection protocol after taking radiographs were of about 98%. Almost 80% of the practitioners preferred extraoral radiographs over intraoral and 55% practitioners indicated IOPAs before performing any treatment. No radiographic investigations (intraoral and extraoral) and treatment procedures were done for any of the positive patients for COVID-19 virus. decision-making flow chart published by American Association of Oral and Maxillofacial radiology [AOMR] (Figure.1) was followed by 5% of the dental practitioners in-

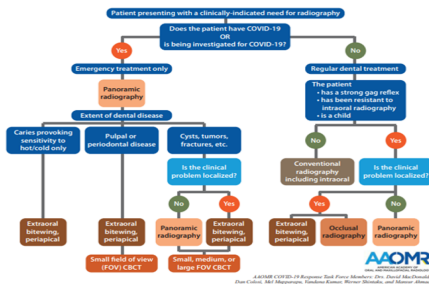


FIGURE 1 American Association of Oral and Maxillofacial radiology [AOMR] decision-making flow chart for Radiograph. (Source: MacDonald DS, Colosi DC, Mupparapu M, Kumar V, Shintaku WH, Ahmad M. Guidelines for oral and maxillofacial imaging: COVID-19 considerations. Oral Surg Oral Med Oral Pathol Oral Radiol. 2021 Jan;131(1):99-110.)

4 | DISCUSSION

Pandemic of COVID-19 has led to global crisis. The rapid surge of COVID-19 disease has not only raised widespread public health concerns but has collapsed

volved in the e-survey.

The most negative answered question was about the radiograph taken for seropositive patients during this pandemic which was reported to be about 2%. The other negative answered question was the last one that was about the decision making flowchart that was published by American Association of Oral and Maxillofacial radiology which was about 5% that may be because of the unawareness of the flowchart.

Hence, from this study we came to a conclusion that most of the dental practitioners were aware of the SOP's and the required preventive measures taken for the dental treatment. Dentist were aware of the requirements and alternative dental treatments. Further, dentist have preferred extraoral radiographic technique to avoid the contact of saliva of the patient, especially COVID-19 positive patients.

5 | CONCLUSION

Although all practitioners were concerned and aware about COVID- 19, and most of them had followed the SOPs and required measures during and after taking radiograph. As our study has done with 100 sample number, to optimize the adequate result one must take larger number of samples in specific area. More effort should be directed toward informing the public that some measures can be taken to avoid contamination in dental offices and that urgent cases can be treated with lower risk.

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Conflict of interest

The authors have no conflicts of interest to declare

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