



# INTERNATIONAL JOURNAL OF RESEARCH IN PHARMACEUTICAL SCIENCES

Published by JK Welfare &amp; Pharmascope Foundation

Journal Home Page: [www.pharmascope.org/ijrps](http://www.pharmascope.org/ijrps)

## Assessment of fear psychosis and practice modification in dental fraternity to fight against COVID-19- A Survey in central India population

Tanvi Rajesh Balwani\*, Surekha Godbole Dubey, Seema Sathe, Aditi Chandak, Sheetal Khubchandani  
Department of Prosthodontics and Crown & Bridge, Sharad Pawar Dental College & Hospital,  
DMIMS, Sawangi, Maharashtra, India

### Article History:

Received on: 11 Oct 2020  
Revised on: 11 Nov 2020  
Accepted on: 16 Nov 2020

### Keywords:

Covid-19,  
Fear Psychosis,  
Practice modifications,  
Dentists

### ABSTRACT

An outburst of coronavirus has tremendously affected the life of every individual. However, indeed, it has drastically been a setback for everyone around the world, but Healthcare professionals are the ones who are suffering as well as serving the most. Specifically, it has affected dental professionals who are at a maximum higher exposure to this coronavirus disease. So this study article aims to assess fear psychosis and practice modifications in dental fraternity to fight against COVID-19. This pandemic has changed the lifestyles of people as well their perspective towards life. Moreover keeping in mind, the current scenario it's vital to assess the knowledge and modifications which Dentist are adopting in their daily practice considering the pandemic situation. A cross-sectional study was conducted using an online survey form from 24<sup>th</sup> to 31<sup>st</sup> August 2020. A questionnaire was formulated and uploaded online and circulated amongst dental professionals in central India population. One thousand participants were included from various parts of Central India More than two-thirds of the general dental practitioners (78%) from various regions Were having anxiety about the anxious and scared by the distressing effects of Coronavirus disease. There was awareness seen in almost 85% of dentists about changes in the treatment protocols. Nevertheless, carrying out of the recent protocol for treatment was estimated to be around 60%. The majority of the dentists (66%) were working in the hospital setting, 20% were from government settings. Despite having a high standard of knowledge and practice, dental practitioners around the globe are in a state of anxiety and fear while working in their respective fields due to the COVID-19 pandemic impact on humanity. It has been evaluated that a vast number of population has just shut down their practices for an uncertain period or have restarted the practices with new protocols.



### \*Corresponding Author

Name: Tanvi Rajesh Balwani  
Phone: +91- 7020874423  
Email: tbalwani16@gmail.com

ISSN: 0975-7538

DOI: <https://doi.org/10.26452/ijrps.v11iSPL1.3634>

Production and Hosted by

Pharmascope.org

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### INTRODUCTION

An outburst of novel COVID-19, which is reported to have emerged from the Wuhan city of china, has drastically affected the people (Gralinski and Menachery, 2020). It was observed that in the time frame of just a few months, this pandemic was spreading uncontrollably. Eventually on 11<sup>th</sup> March 2020, WHO declared this pandemic as a Global Health Emergency. (Neher et al., 2020). The latest strain of coronavirus is believed to have originated in a seafood market in Wuhan, China. On 11th February 2020, WHO used the term COVID-

19 to describe the latest strain of coronavirus (Zu *et al.*, 2020). Structurally, COVID-19 is an ss-RNA, enveloped virus with a size of ~350 kilobase-pair (kbp) (Chen, 2020).

Coronavirus disease can cause respiratory tract infections amongst the infected people has the potential to cause severe acute respiratory tract infection among infected humans. The source of contamination of this disease is known to be by droplets, hands or surface contact of the infected individual.

(Khurshid *et al.*, 2020). The estimated incubation time frame accounts to be around 4 to 14 days. (Backer *et al.*, 2020). The people who are infected with this virus presents with RTI and reports with the chief complaints of Low- grade fever, dry cough and difficulty in breathing. (Guan *et al.*, 2020). A mandatory quarantine period is required of the suspected individual to contain the spread of novel coronavirus. To investigate a suspected person, the real-time polymerase chain reaction (RT-PCR), as well as chest X-ray, is recommended. (Corman *et al.*, 2020). Due to time being changes seen in the strains of this coronavirus, there have been difficulties seen with making its vaccine. Although on 16th March 2020 the first clinical trial was initiated by the National Health Institute (NHI), USA has been started. As a result, the patient is relying on supportive therapy such as multivitamin tablets, Chloroquine, and general precautionary measures until body develops immunity against this virus and can exterminate the infection (Zhang and Liu, 2020).

As seen with the data pertaining to this virus there has been reports that elderly patients with chronic debilitating diseases are vulnerable of getting infected as compared to a young individual with strong immunity (Wu *et al.*, 2020). Till now, 5.02 million cases have been reported, and the increase in the count still goes on, and around 82 thousand deaths have been reported in India. (WHO, 2020).

Even though the mortality rate associated with this virus, the mortality associated with COVID-19 is low, it has a high spreading potential (Moorthy *et al.*, 2020).

Since the COVID-19 outburst is so rapid and disastrous, worldwide people have adopted a new everyday life adopting precautionary measures.

Although this virus has indeed affected everyone's life, the fact cannot be neglected that daily wage workers are affected the most by this pandemic. Now In India scenario is such that hospitals have exceeded the capacity to treat the mild cases, so

home quarantine is given recommended in such cases. Nevertheless, strict quarantine needs to be followed by mild cases as well so that they can limit the spread of this virus. On the other hand, health-care professionals are working effortlessly to fight this pandemic which is the need of the hour. Dental professionals are also facing a lot many issues to cope up with the situation. So it is imperative to know the anxiety issue from which they are suffering as well as its equally important to know about the knowledge they perceive about the practice modification which needs to be practised in this period of the pandemic. So this online survey will play a very important role in knowing the knowledge of the dental practitioners about the practice modifications. As well as how many are following the protocol can be known. By this, the people not following the protocols can be educated about the same so that in this hour of need everyone contributes to serving humanity.

Mainly, the Dentist is doing treatment of patients for which they have to be in close contact with them. Then they get exposed to Aerosol generating droplets from the oral cavity of the patient. (Meng *et al.*, 2020). As a result, dental professionals are at higher risk of getting exposed to coronavirus. And this leads to exposure to their families as well. So in such situation its quite familiar for dentists to have fear and anxiety about getting exposed to Covid-19. So fear and anxiety are naturally going to affect the minds of dentists. Mild anxiety is very common and brings up behaviour to protect oneself. (Fazel *et al.*, 2014). In this current situation, people suffering from anxiety usually panic and make irrational choices which are bound to happen in these challenging times. Due to this current pandemic situation dentist are suffering from severe anxiety which is very natural and bound to happen. (Kangqi *et al.*, 2020). Because of the current rapidly spreading of this virus, the American Dental Association (ADA) emphasized vital steps be followed by dental professionals along with the standard universal precautions those are as follows (Ather *et al.*, 2020).

1. Recording patients recent travel history
2. Evaluating the signs and symptoms of RTI
3. Recording patients' body temperature
4. Mouth rinsing with 1% hydrogen peroxide before the start of any procedure.
5. Use of rubber dam and high volume suction while performing a dental treatment.

6. Public contact areas those includes door handles, chairs and, washrooms should be cleaned and disinfected.

Even though the American Dental Association have published prevention guidelines, the majority of dentists are still keen and have a feeling of fear in treating patients in this pandemic situation (Source ADA-COVID-19 Resources for Dentists).

Majority of dental professionals are not aware of the recent guidelines. As a result, this study was conducted a questionnaire-based study to evaluate dentist response in Central India population.

### Methodology

A cross-sectional study was conducted using an online survey form from 24<sup>th</sup> to 31<sup>st</sup> August 2020. A questionnaire was formulated and uploaded online and circulated amongst dental professionals in central India population. One thousand participants were included from various parts of Central India. The online survey link was circulated amongst as many dental professionals as possible through the help of emails, and social media.

The questionnaire had 22 closed-ended questions, which were in two parts. First part had a focus on to evaluate fear amongst dental professional to combat against coronavirus and second part dealt with gathering information regarding practice modifications which have been adopted by the dental professional to fight covid-19 was comprised of a total of 22 closed-ended questions, which were divided into two sections. A total of 1000 participants were included from central India population, excluding the forms which were not completed.

This study aims for the assessment of anxiety and fear of getting exposed to this virus among dental professionals while working in this current situation. Also, knowledge of dentists about various practice modifications to fight against the novel Coronavirus has been evaluated.

### RESULTS

A total number of 1000 dental professionals from various parts of central India population were included in this study. According to the demographic data, there were around 1000 participants who completed the forms in which 56% were females and 44% males. Data revealed that 47% population was from the urban sector, 19% from the rural sector and 33% from the semi-rural sector.

### DISCUSSION

A cross-sectional study was conducted to evaluate the anxiety and fear of getting infected amongst dental professionals while treating patients during this pandemic. In this study closed-ended questionnaire was used to collect information about fears of Dentist as well as the assessment of various practice modifications recommended by ADA to fight the novel coronavirus disease. Questionnaire-based studies have proved to gather information about preferences, attitudes, opinions, and experiences of participants. On the other hand, proper collection and interpretation of data are required (Lydeard, 1991).

Psychologically this pandemic is affecting each and everyone's lives. Significantly when the rate of spread of infection is increasing at an alarming speed. Various Studies on past outbreaks of comparable infectious diseases SARS confirmed numerous factors which lead to psychological trauma in healthcare workers which includes fear of getting exposed to novel coronavirus disease. (McAlonan et al., 2007). The consequences of rapidly spreading of this pandemic which is affecting people worldwide are the mental trauma of getting isolated and getting quarantined for 14 days and staying away from their families to stop the spread of this virus has ultimately resulted in psychological stress and fear, as with the prolonged incubation period, its practically impossible to assess an individual's exposure to the virus (Lai et al., 2019). So far, there is no vaccine or recommended treatment options for this coronavirus disease, which eventually enhanced thought of getting infected.

Its taking psychological toll specifically on dental professionals as the primary route of transmission of this virus is through droplets and aerosol. (Guo et al., 2020), this enhances the likelihood of dentists and dental healthcare workers of getting infected and further spreading the virus.

In this study, it was observed that 84% of people were scared to get COVID-19 infection from a patient and co-worker. The current study found that a large number of dentists fear getting infected by their patients or co-workers. Table 1 It was concluded that around 88.4% get scared when they provide treatment to a patient who is coughing or sneezing or is suspect of the novel coronavirus. Data suggested that 57.1% of dentists felt the need to close their clinics until and unless the Covid-19 cases declined. Around 75% of dentists were anxious when they were in close vicinity of suspected patients.

Most importantly nowadays, the fear of getting the

**Table 1: Depicts the fear and anxiety levels of dental professionals to combat against covid-19**

Questions	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Q.1) Are you scared to get COVID-19 infection from a patient and co-worker?	56.3%	27.7%	12.5%	3.5%	-
Q.2) Do you get scared while you provide treatment to patient who is coughing or sneezing or is suspect of novel coronavirus?	52.7%	35.7%	8.9%	1.7%	1%
Q.3) Do you want to close your dental practice until number of COVID-19 cases decline?	33.9%	23.2%	21.4%	12.5%	8.9%
Q.4) Do you feel nervous while talking to a patient in close vicinity?	55%	20%	16.2%	7.2%	1.6%
Q.5) Are you anxious to carry the virus to your closed ones in family?	49.5%	44.1%	4%	2%	0.4%
Q.6) Are you afraid of getting quarantine if get infected?	75%	20%	2%	2%	1%
Q.7) Are you anxious about the cost of treatment If you get infected?	85%	5%	6%	2.5%	1.5%
Q.8) Do you feel afraid, when you hear people are dying because of COVID-19?	62.3%	22.5%	13.4%	1%	0.8%
Q.9) Are you aware of the mode of transmission of COVID-19?	97.3%	2.7%	-	-	-

infection to their families is a primary concern of health care professionals which accounted for around 93.6% and also to get quarantined (93.6%). The cost of treatment is also affecting minds of around 95% dentists. The death rate of coronavirus disease is affecting 84.5% of Dentist. The good part was 95% of dental professionals were well versed with the mode of transmission of this virus which has affected people worldwide. In this study Information Regarding Practice Modifications Which Have Been Adopted by Dental Professionals to Fight Covid-19 were assessed. Table 2 The data suggested that dentists currently asking every patient's travel history before starting dental treatment(91.85%) , currently taking Body Temperature before starting dental treatment(84.5%) , denying dental treatment of patients showing COVID-19 symptoms(66.4%), Dentist thinking surgical mask is enough to prevent infection from COVID-19(84.7%), thinking N95 mask should be regularly used by dental practitioners due to this pandemic (91.9%), Dentist using N95 mask while treating a patient in your practice(51.4%), dentists asking every patient to use anti-bacterial mouth wash before treatment (64.9%), Dentists washing their hands with Soap / Sanitizer before And after treatment(97.3%), Dentists were acquainted with which authority to contact if you come across a patient

with suspected COVID-19 infection(82%), Number of Dentist thought that increase in cost borne by Dentist, the increased cost should be levied on the patient(49.5%), High cost of hi-tech equipment is holding them back from its usage(78.2%), Dentist thinking that Government should provide Covid-19 financial aid(interest free loan to add up additional inventory) to all dental practitioners(85.5%), And lastly Dentist thinking that aerosol generating procedures PPE kits with N-95 Masks, Head cap, Face-shield and Gloves to be made mandatory for dentists as well as assistants(98.2%). As the data suggested, it was very much clear that majority of the Dentist was scared and has anxiety issues while catering treatment to patients reporting with suspected symptoms.

A good point which was evident from the data of the study depicted that majority of dental professionals were quite well versed with the modes and route of transmission of the virus. As a part of infection control measures its mandatory for dentists to have knowledge about various universal precautions to be followed, to reduce the spread of infection amongst Dentist it is important to adopt the new guidelines issued by Centre for disease control (CDC). Aerosol generating procedures should be reduced and handled only at emergency level.

**Table 2: Data depicts the information regarding practice modifications which have been adopted by dental professional to fight covid-19**

Questions	Yes	No	Don't know
Q.10) Are you currently asking every patient's travel history before starting dental treatment?	91.85	6.4%	1.75%
Q.11) Are you currently taking Body Temperature before starting dental treatment?	84.5%	14.5%	1%
Q.12) Are you denying dental treatment of patients showing COVID-19 symptoms?	66.4%	15.5%	18.2%
Q.13) Do you think surgical mask is enough to prevent infection from COVID-19?	84.7%	9%	6.3%
Q.14) Do you think N95 mask should be regularly used by dental practitioners due to this pandemic?	91.9%	8.1%	-
Q.15) Have you ever used N95 mask while treating a patient in your practice?	51.4%	44.1%	4.5%
Q.16) Do you ask every patient to use anti bacterial mouth wash before treatment?	64.9%	29.7%	5.4%
(Q.17) Do you wash your hands with Soap / Sanitizer before And after treatment?	97.3%	2.7%	-
Q.18) Are you aware of which authority to contact if you come across a patient with suspected COVID-19 infection?	82%	13.5%	4.5%
Q.19) With increase in cost borne by dentist, the increased cost should be levied on the patient?	49.5%	24.8%	25.7%
Q.20) High cost of hi-tech equipment is holding us back from its usage?	78.2%	11.8%	10%
Q.21) Government should provide Covid-19 financial aid(interest free loan to add up additional inventory) to all dental practitioners?	85.5%	11.8%	2.7%
Q.22) For aerosol generating procedures PPE kits with N-95 Masks, Head cap, Face-shield and Gloves to be made mandatory for dentists as well as assistants?	98.2%	1.8%	-

It is AS data depicted it was very motivating to note that vast number of dentists were aware and following the guidelines issued by the Centres for Disease Control (CDC) and WHO for cross-infection control. (Eggers *et al.*, 2018).

The microbial load could be significantly reduced by asking the patients to rinse with antimicrobial mouthwashes. (Kitamura *et al.*, 2007). This practice is recommended in the current pandemic; however, the majority of dentists reported ignoring it.

It is very evident from various studies that Proper hand hygiene is a useful measure in preventing the rapid spread of this virus. Also, the importance of hand hygiene is emphasized due to this pandemic. (Fung and Cairncross, 2006).

It is critical in the face of the fear and anxiety shown by the dental community towards COVID-19 that psychologically dealing with mechanisms and policies are practised to remain calm and function

efficiently. (Regmi *et al.*, 2019) The fear that dentists have regarding getting infected from COVID 19 could be significantly curtailed if dentists and dental healthcare workers meticulously follow the relevant recommendations issued by the regulatory authorities. These include the universal cross-infection control protocols along with some additional precautions in cases where patients present with any suspicious symptoms. (Peng *et al.*, 2020)

## CONCLUSIONS

The novel coronavirus has affected people worldwide. Despite having tremendous knowledge and technologies, many developed countries also have failed to combat this condition. Despite having a lot of information and a high standard of practices, dental professionals around the globe are facing anxiety issues regarding this pandemic. So it is very important to understand their concerns and to know about the practice modifications they are adopting in this

hour of need. So that those not known to the practice modifications can be made aware of it, this pandemic has a massive impact on humanity. It's the responsibility of health care professionals to fight their fears and anxiety to combat against the novel coronavirus disease.

#### Conflict of interest

The authors declare that they have no conflict of interest for this study.

#### Funding support

The authors declare that they have no funding support for this study.

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