



# INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

## Psychological impact of the COVID-19 pandemic on dental health care professionals in Maharashtra

Authors:

1. Dewendra Warghane, MDS III Year student, Department of Periodontics, Dr.H.S.R.S.M's Dental College and Hospital, Hingoli. India
2. Monica. Mahajani, Professor, Department of Periodontics, Dr.H.S.R.S.M's Dental College and Hospital, Hingoli. India
3. Manali Patil, MDS II Year student, Department of Periodontics, Dr.H.S.R.S.M's Dental College and Hospital, Hingoli. India
4. Shital Kale, MDS II Year student, Department of Periodontics, Dr.H.S.R.S.M's Dental College and Hospital, Hingoli. India
5. Dhanisha Jadhav, MDS I Year student, Department of Periodontics, Dr.H.S.R.S.M's Dental College and Hospital, Hingoli. India

### Abstract:

Background: The COVID-19 pandemic put pressure on all healthcare professionals and has affected the delivery of health care services globally. The dental profession is labeled as a high-risk profession, due to which dental care professionals were under tremendous pressure during the outbreak of the COVID-19 pandemic. Maharashtra has seen the highest number of covid19 cases in India. Therefore this study aimed to assess the psychological impact of the COVID-19 pandemic on dental health care professionals in Maharashtra

Materials and methods: A sample size of  $n = 100$  was recruited in the study. The study included dental health care professionals from all over the Maharashtra state. A randomized selection of samples was done through dental groups present on social networks. An online survey was conducted in April 2021, using the Google Form software to provide questions and collect and elaborate answers. Data were analyzed using the statistical software STATA and presented in terms of percentages.

Results: A total of 100 dental health care professionals in Maharashtra. Only a few percentages of the dental health care professionals in Maharashtra were affected by the outbreak of COVID-19 and have revealed symptoms of mental health issues. The majority of dental health care professionals had a positive attitude towards the disease. Almost 90% of dental health care professionals thought that the outbreak affected their dental practice.

Conclusion: The outbreak of the COVID-19 pandemic has affected the mental health of few percentages of the dental health care professionals, but the majority of the dental practice. The presence of stress among dental health care professionals highlights the need for special intervention and support programs to promote mental health and well-being.

**Keywords:** COVID-19; Coronavirus; Dental practice; Dentistry; Mental health

**Manuscript:**

**Introduction:**

The outbreak of the coronavirus disease (COVID-19) was first reported in Wuhan city, China, in December 2019. Since then, it has rapidly spread across the world and received huge attention globally.<sup>[1]</sup> Later, the novel coronavirus was identified and isolated by the Chinese Center for Disease Control and Prevention (CCDC) and named it as severe acute respiratory syndrome coronavirus 2 (SARSCoV- 2). The spread of infection is usually from person to person via close contact and can be transmitted through respiratory droplets of the infected person, so far this is considered the major route of transmission.<sup>[2]</sup> The virus causes upper respiratory tract infections, where the infected person presents with flu-like symptoms such as fever, dry cough, running nose, fatigue, difficulty in breathing, and shortness of breath, and in severe cases, it causes symptoms similar to acute respiratory distress syndrome (ARDS) which may eventually result in respiratory arrest and death.<sup>[2,3]</sup> Within some weeks(COVID-19) became an unprecedented situation that has affected the population globally and generated an emergency status in health systems worldwide.<sup>[4]</sup> It is quite a known fact that healthcare workers, the first-line service providers in combating COVID-19, are exposed to hazards that put them at an elevated risk of exposure to the infectious organisms. In a recent report, a patient who underwent surgery in a hospital in Wuhan infected 14 healthcare workers even before fever onset.<sup>[5]</sup> In another report, the authors reported that the School and Hospital of Stomatology, Wuhan University, that provides dental care service confirmed nine infected cases with COVID-19 among its employees.<sup>[6]</sup> The Occupational Safety and Health Administration (OSHA) places dental care professionals in the category of high exposure risk, as the dental profession jobs are at higher risk for exposure to the infectious viruses known to cause COVID-19 while performing dental procedures.<sup>[7]</sup> This could be based on the fact that the spread of infectious microorganisms in a dental setting could be through the bioaerosols that are generated during the dental procedures. The spread of infectious microorganisms could also be through other routes like contact from salivary and nasopharyngeal droplets from infected patients, direct contact with contaminated instruments or dental water supply system, and cross-contaminations from inanimate surfaces within the dental settings.<sup>[8,9]</sup> The ongoing disastrous impact of this pandemic has posed significant challenges for clinical dentistry. For instance, the fact that dentistry is associated with the elevated exposure risk for the disease places oral healthcare providers under high psychological pressure during patient care. Even though most of dental care settings have been suspended in countries experiencing COVID-19 pandemic, dental care professionals are still reported of undergoing enormous physical and psychological pressure, knowing the fact of being at a higher risk group.<sup>[10,11]</sup> Hence, the aim of this study was to assess the psychological impact of the COVID-19 pandemic on dental health care professionals in Maharashtra

**Materials and methods:**

A sample size of  $n = 100$  was recruited in the study. A randomized selection of samples was done through dental groups present on social networks. An online survey was conducted in April 2021, using the Google Form software to provide questions and collect and elaborate answers. Survey link was sent to the dental health care professionals in Maharashtra and they were asked to fill the form. Data were analyzed using the statistical software STATA and presented in terms of percentages.

**Questionnaire:**

Google forms was used to create the link for the questionnaire (Figure 1) that was distributed to the targeted population electronically via social networks all groups of dentists, including general practitioners, specialists, and consultants, throughout Maharashtra.

1. Select your age group
  - <35 years
  - 35–45 years
  - 46–55 years
  - 56 years and above
2. How many years of experience you have in dentistry?
  - 0–5 years
  - 6–10 years
  - 11–15 years
  - 16 years or more
3. Do you believe that there was higher risk of contracting COVID-19 in dentistry than the general population?
  - Yes
  - No
  - Maybe
4. Did you feel overstressed going to dental clinic after the outbreak of COVID-19?
  - Yes
  - No
  - Maybe
5. Were you afraid people would avoid your family because of your work?
  - Yes
  - No
  - Maybe
6. Did you think that there were less chances of survival on getting infected with COVID-19?
  - Yes
  - No
  - Maybe
7. Did you think about taking leave from work till the outbreak was over?
  - Yes
  - No
  - Maybe
8. Did you treat all patients as potentially COVID-19 positive after the outbreak of COVID-19?
  - Yes
  - No
  - Maybe
9. Did the outbreak of COVID-19 affect your clinical practice?
  - Yes
  - No
  - Maybe
10. Would you be willing to treat positive COVID-19 patients in case of dental emergency?
  - Yes
  - No
  - Maybe

Figure 1: Questionnaire

**Results:**

After getting 100 responses from the dental health care professionals the link was closed for the further acceptance of the responses. Sixty-one percent of dental health care professionals who participated in this study were below 35years of age. In Addition, 18% were in the range of 35 to 45 years, 11% were in the range of 46 to 55 years, and the remaining 12% were above 56 years. (Figure 2)

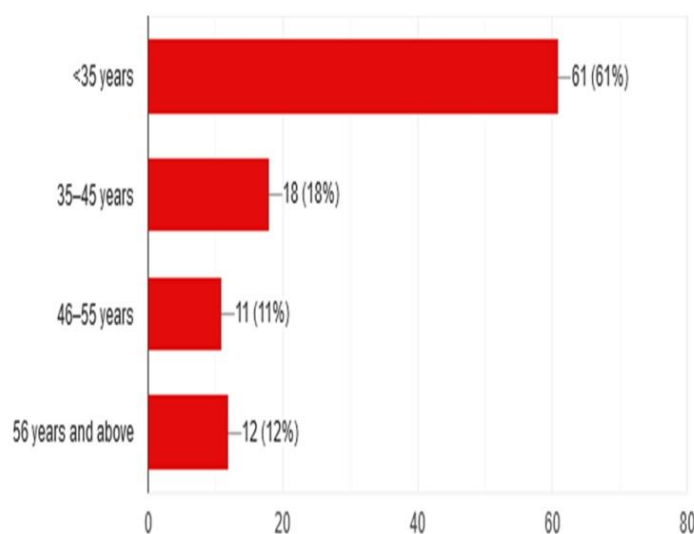


Figure 2: Age range of dental health care professionals

Figure 3A describes that 27% of dental health care professionals had the experience of 0 to 5 years and 43% of dental health care professionals had experience 6 to 10 years, 18% dental health care professionals had the experience of 11 to 15 years whereas 12% dental health care professionals had experience equal to or above 16 years

Figure 3B demonstrates that 85% of dental health care professionals had believed that there was a higher risk of contracting COVID-19 in dentistry than the general population and 6% dental health care professionals didn't believe so whereas 9% of dental health care professionals were confused about this.

Figure 3C shows that 36% of dental health care professionals were overstressed going to the dental clinic after the outbreak of COVID-19 and 48% of dental health care professionals were not overstressed whereas 17% of dental health care professionals thought that they might be overstressed going to the dental clinic after the outbreak of COVID-19.

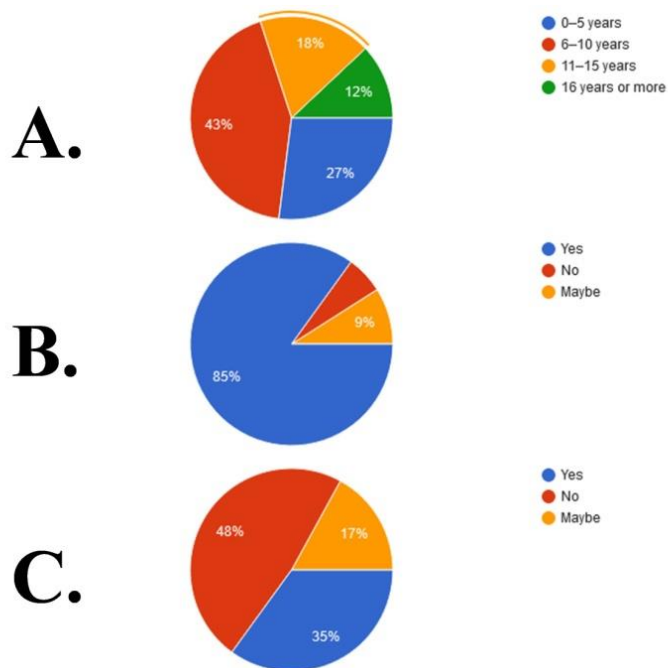


Figure 3 A: experience of dental health care professionals in dentistry; B: Percentage of dental health care professionals believed that there was higher risk of contracting COVID-19 in dentistry than the general population; C: Percentage of dental health care professionals felt overstressed going to dental clinic after the outbreak of COVID-19

Figure 4A states that 27.6% of dental health care professionals were afraid people would avoid their family because of their work and 51% of dental health care professionals were not. Whereas 21.4% of dental healthcare professionals were not sure. Figure 4B describes that 14% of dental health care professionals thought that there were fewer chances of survival on getting infected with COVID-19 and 73% of dental health care professionals didn't think so. Whereas 13% of dental healthcare professionals were not sure. Figure 4C demonstrates that 23% of dental health care professionals thought about taking leave from work till the outbreak was over and 61% of dental health care professionals didn't think so. Whereas 16% of dental healthcare professionals were not sure.

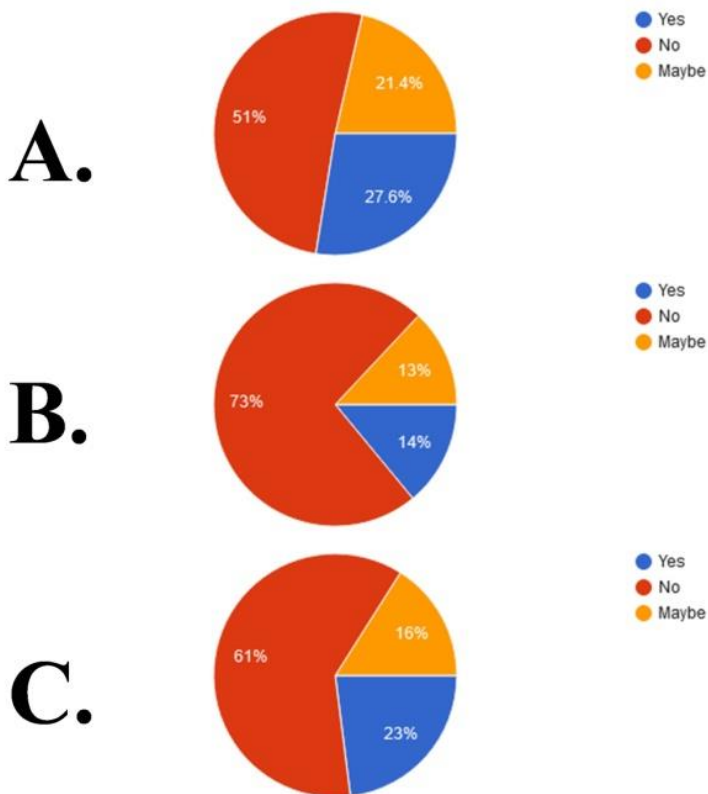


Figure 4 A: Percentage of dental health care professionals afraid people would avoid their family because of their work; B: Percentage of dental health care professionals believed that there were less chances of survival on getting infected with COVID-19; C: Percentage of dental health care professionals felt thought about taking leave from work till the outbreak was over

Figure 5A describes that 81% of dental health care professionals treated all patients as potentially COVID-19 positive after the outbreak of COVID-19 and 13% of dental health care professionals didn't. Whereas 6% of dental healthcare professionals were not sure. Figure 5B shows that 89% of dental health care professionals thought that the outbreak of COVID-19 affected their clinical practice and 5% of dental health care professionals didn't think so. Whereas 6% of dental healthcare professionals were not sure. Figure 5C states that 77% of dental health care professionals were willing to treat positive COVID-19 patients in case of dental emergency and 7% of dental health care professionals were not. Whereas 16% of dental healthcare professionals were not sure.

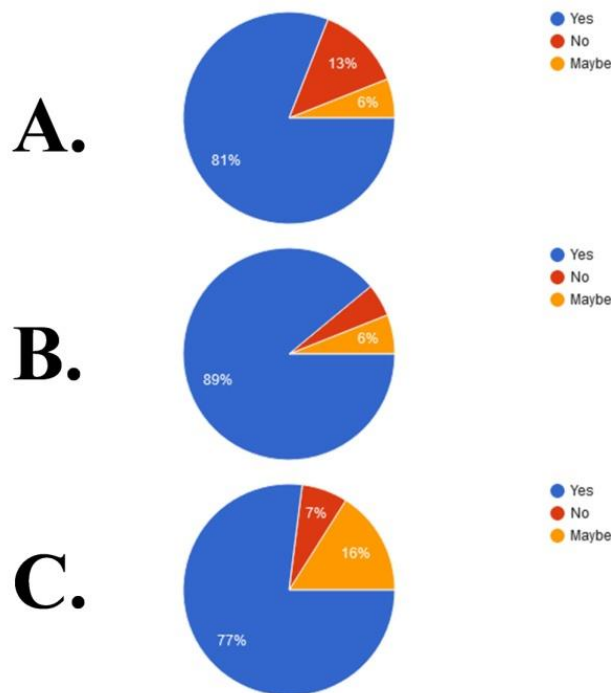


Figure 5 A: Percentage of dental health care professionals treated all patients as potentially COVID-19 positive after the outbreak of COVID-19; B: Percentage of dental health care professionals believed that the outbreak of COVID-19 affect their clinical practice; C: Percentage of dental health care professionals willing to treat positive COVID-19 patients in case of dental emergency

### Discussion:

This study aimed to assess the psychological impact of the COVID-19 pandemic on dental health care professionals in Maharashtra. The participants reported experiencing varying levels of psychologic symptoms during the outbreak of COVID-19. A study assessing the mental health status of dental care providers during the outbreak of COVID-19 has demonstrated that dentists are under increased pressure and have reported high levels of fear and psychological distress during this outbreak.<sup>[11]</sup> Another study also studied the mental health status of dentists during the COVID-19 outbreak and observed different levels of fear and anxiety among dentists from 30 countries.<sup>[10]</sup> These studies have reported high proportion of participants experiencing depression, anxiety, and stress. This could be attributed to the fact that the ongoing pandemic is transmissible between humans and is also potentially fatal. This might be a reason for this self-reported behavior. Dental care providers are at a high risk of being exposed to the infectious disease, which might intensify the perception of personal danger. The fear of being exposed at work during their clinical hours has affected the mental health of dental health care professionals.

The scores from this study were comparatively less, when compared to the results of studies reported in the literature. Our results showed that dental health care professionals experienced less psychological symptoms compared to the results of a study conducted on dental students in Saudi Arabia, which revealed that 55.9%, 66.8%, and 54.7% of the study participants experienced depression, anxiety, and stress, respectively,<sup>[12]</sup> and also with the results of a study conducted in Mecca region of Saudi Arabia that reported the elevated levels of DASS scores among students.<sup>[13]</sup> Another study conducted in Kuantan, Malaysia, also reported a higher prevalence of depression, anxiety, and stress among study participants.<sup>[14]</sup> Another study conducted among dental students in Selangor, Malaysia, also reported high levels of depression, anxiety, and stress scores among study participants.<sup>[15]</sup>

## Conclusion:

The present study found that a few percentages of the dental health care professionals in Maharashtra were affected by the outbreak of COVID-19 and have revealed symptoms of mental health issues. This could be because of the contagious nature of this respiratory disease. Majority of dental health care professionals had positive attitude towards the disease. Being aware of the fact that dentists are at a higher risk could have had an impact on the mental health status of participants. Dental health care professionals facing mental health issues should be provided with professional counseling. Moreover, special intervention programs should be developed to promote mental health and well-being among these young dental professionals.

## References

1. Zhu N, Zhang D, Wang W, et al. A novel coronavirus from patients with pneumonia in china, 2019. *N Engl J Med* 2020(8).
2. Huang C, Wang Y, Li X, et al. Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. *Lancet* 2020;395(10223): 497–506.
3. Wang D, Hu B, Hu C, et al. Clinical characteristics of 138 hospitalized patients with 2019 novel coronavirus-infected pneumonia in Wuhan, China. *JAMA* 2020;323(11):1061–1069.
4. World Health Organization Coronavirus disease (COVID-2019) situation report - 112 <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports>.
5. Chang D, Xu H, Rebaza A, et al. Protecting health-care workers from subclinical coronavirus infection the lancet respiratory medicine. *Lancet Respir Med* 2020;8(3):e13.
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(1):1–7. .
7. Guidance on Preparing Workplaces for COVID-19. <https://www.osha.gov/Publications/OSHA3990.pdf> Accessed on 11 May 2020.
8. Peng X, Xu X, Li Y, et al. Transmission routes of 2019-nCoV and controls in dental practice. *Int J Oral Sci* 2020;12(1):9.
9. Geiger UA,. Dental infection control. [Updated 2020 Feb 17]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2020.
10. Ahmed MA, Jouhar R, Ahmed N, et al. Fear and practice modifications among dentists to combat novel coronavirus disease (COVID-19) outbreak. *Int J Environ Res Public Health* 2020;17(8):2821
11. Shacham M, Hamama-Raz Y, Kolerman R, et al. COVID-19 factors and psychological factors associated with elevated psychological distress among dentists and dental hygienists in Israel. *Int J Environ Res Public Health* 2020;17(8):2900.
12. Basudan S, Binanzan N, Alhassan A. Depression, anxiety and stress in dental students. *Int J Med Educ* 2017;8:179–186.
13. Aboalshamat K, Hou X-Y, Strodl E. Psychological wellbeing status among medical and dental students in Makkah, Saudi Arabia: a cross-sectional study. *Med Teach*. 2015;37(S1):S75–S81.
14. Yaacob M, Harun NA, Ramli F, et al. Depression, anxiety and stress among dental undergraduate students: prevalence, stressors and relieving factors. *IMJM* 17(Special Issue No 2):123–130.
15. Radeef AS, Faisal GG. Stressors and their association with symptoms of depression, anxiety and stress in dental students. *Makara J Health Res* 2018;22(2):58–62.