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Are there any Changes in Indian Dental Practice Dueto COVID-19? An Exploratory Study

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Abstract

This study focuses to explore the COVID-19 led changes in the practice patterns among the dentists in India. For this purpose, 87 dentists were selected in a survey where they responded to a questionnaire enquiring about the different aspects of their present practice patterns. The questionnaire devised to fulfill the objectives, was psychometrically validated. Based on the responses made by the dentists, it was found that personal fear of getting the infection and further infecting their respective family members was prevalent. The use of N-95 masks have been largely been increased in present times. There has been proper sanitization of self and the chamber.They also reported the use of plasma air purifiers in their chambers. As a preventive method, the dentists are vigilant about the possible symptoms of COVID among the patients. The number of patients consulted has been reduced in the recent times. They also reported the willingness of starting online consultation of patients. The other findings have been discussed.

Keywords: Dentist, Dental practice,COVID-19

In 2019, a pathogen, responsible for a major pneumonia outbreak whose etiology was largely unknown, surfaced in Wuhan, China. The pathogen was named as 2019-nCov (Ge et al., 2020). The global pandemic is due to the highly infectious nature of the pathogen (Huang et al., 2020). As of 21 June 2021, 177 million global cases have been recorded (WHO, 2021). In India, on March 2020, the Prime Minister made a public address about COVID-19, marking the beginning of the very first lockdown from the 22nd of that month, which was later extended (Rai, 2020). Even in 2021, the lockdown in India is being continued at different phases across the states and is tentatively scheduled to continue until the total cases decline. The worldwide vaccination drive is in operation since the beginning of 2021, however, there are alarms of the upcoming third wave of the pandemic. In a few countries, the third wave has already begun.

Dentists and other healthcare personnel have been diagnosed with COVID-19 ever since the pandemic started (Khader et al., 2020). Since there is close contact with patients, providing dental treatment can prove to be risky for the dentists and other associated professionals (Zemoiuri et al., 2017). There have been significant changes in the patterns of clinical practice of the dentists.Though dental treatments are not commonly administered to a COVID infected person, dental emergencies can occur anytime and that poses a major threat to the safety of the dentists (Khader et al., 2020). A big change is that a lot of guidelines have surfaced around the world, which forces the dentists to adapt to some novel activities and responsibilities to ensure safety against the disease. Some guidelines that the dentists around the world are following during the pandemic are: ensuring that the patients rinse their mouth with 1% H_2O_2 before starting the consultation, patients' temperature screening, frequently sanitizing contact areas, assessing travel history etc. (Ather et al., 2020). Recent studies point to the importance of air purifiers in ensuring the indoor safety of dentists on duty. Air purifiers with F6 class filters are found to remove significantly the virus-carrying aerosols.

The H12 class filters are even better efficient in removing even more aerosols in closed spaces (Zhao et al., 2021). Also, the use of proper masks were also deemed necessary to contain the spread of the virus.

Amidst all these, studied have also indicated cases where dentists were not aware of the COVID guidelines (Ahmed et al., 2020). This generates the need to assess what changes in the pattern of practice are observed in the dental practice in India. Hence, this study shall assess the different novel activities in their practice. The volume of patients consulted, and the mode of the consultation shall be also be assessed in this study.

Objectives

To determine the changes in the practice patterns of the dentists in India, due to COVID-19.

Method

Participants

87 dentists were selected from different states of the north east region of India. Among them, there were 43 males and 44 females. All of them were between 35 to 60 years of age and had atleast five years of experience in professional practice. They have been working either in private or public sector hospitals, and their places of practice were located at various urban, semi-urban, rural and capital cities. Owing to the pandemic or other reasons, the participants who were not continuing with their practice during the data collection phase, were not included.

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Materials Used

A general information schedule consisting of the different demographic questions was administered to the doctors. It also included the information regarding place of practice, change in the rate of patients they are attending to, and their current mode of appointments with patients. A test material was constructed to assess the pandemic fear, anxiety and changes in the practice patterns of doctors and was administered. It consisted of 20 items, enquiring about the aforesaid areas. The responses made to the test are nominal in nature, where the participants choose between three options: "Yes", "No" and "Unaware". The higher the number of Yes response indicates more changes in the practice patterns. The test was found to have satisfactory reliability and structural validity.

Procedure

Firstly, the items were written down carefully. Prior consent and appointments of the doctors were taken while starting the data collection process. Further ethical declarations are given in the 'Statement of Ethics' section at the end of the article. All data were collected digitally, using e-forms. The data was derived and was properly tabulated. The "Yes", "No" and "Unaware" responses were coded as 1, 2 and 3 respectively for further analyses. The psychometric properties of the test were determined. Finally, the participants' responses to each question were. The frequencies and percentages of the responses of the participants to the test items were found out, based on which the interpretation and discussion were drawn. All statistical procedures and visualizations were done using IBM SPSS v25 and R-Studio v1.4.1106.

Results and Discussions

As shown in Table 1, most of the dentists in this study reported to be afraid of getting infected with COVID-19 in the clinical setting. There are increasing cases of Indian doctors being continuously scared of their personal safety and harassment from public and the authority (Iyengar et al., 2020).The present study indicatedthe dentists' prevalent apprehension about a coughing patient or a patient having the other symptoms of COVID-19, as a result of which most of them were nervous about being too close to the patients.WongLaura et al. (2020) found the fear of contagion among doctors. Majority of the participants also agreed to be afraid of infecting their family members, because of their practice.This finding concurs to a recent study based on Indian anesthesiologists (Jain et al., 2020). However, when it comes to quarantine, half of the dentists reported a fear, most probably owing to the apprehension of being confined to containment institutions. A recent study in India confirmed the possibility of fear of quarantine confinement, if the governmental interventions fail to prevent the spread of the infection (Krishnakumar&Rana, 2020).

Also, the dentists did not show much worry regarding the cost of treatment post infections. Majority of the dentists reported fear due to the death cases during the pandemic. Almost all of the dentists reported to have proper knowledge of COVID-19 and were also updated with the latest updates and guidelines regarding the pandemic. The study byAmin (2020) confirms the presence of financial woes among the healthcare workers.

Most of the participants in this study admitted to enquire about the travel history of the patients. The dentists are reportedly taking universal precautions for infection control and are also deferring patients who show COVID-19 symptoms. Majority of them also believes than the surgical mask is not adequate to control the transmission of the virus. They believe that the N-95 pose an efficient control and they are actively wearing them ever since the pandemic started. Amin et al. (2020) found that doctors marked N-95 masks an "essential" item during their practice hours. It is well-known that this was not a familiar scenario before the pandemic began. Most dentists, at the same time, have reported wearing the mask in the present condition (Humagain et al., 2020). Also, almost every healthcare workers, be it doctor or not, are frequently using alcohol-based hand sanitizers(Aseefa et al., 2021; Chatterjee et al., 2020).As a precautionary measure, most of the dentists in this study admitted to be sanitizing the equipments every time a patient has been treated. Concurring with the present findings, researchers Morikane et al. (2020) and Sahiledengle et al. (2020) have indicated in their study that many doctors are routinely engaging into disinfecting procedures after each patient leaves.

The present study indicates a significant time gap given by the dentists between the arrivalsof every two patients. However, majority of them did not reportedly use the plasma air purifier as a sanitization process. In a recent study, the importance of air disinfection strategies was emphasized for the safety of dental staffs and dental offices (Tysiąc-Miśta et al., 2021). The reason behind the lack of air disinfection procedures can be due to the lack of proper guidelines for the usage of air purifiers (Shi et al., 2020). The dentists in this study were reportedly aware of the significant authorities to contact to, if there is a patient with suspected COVID-19 symptoms.Chavez et al. (2020) have

stated that physicians have been regularly in touch with the local public health authoritiesto ensure safety against the infection.The responses to each item are illustrated in Fig. 1.

Additionally, information on the nature of online appointments and number of patients the dentists are attending to during the pandemic, was also availed.

The dentists report a change in the number of consultations they are making since the pandemic began. A sharp reduction in the patient count has been observed. However, only 12 (13.79%) of the dentists report no change in the patient count. Some have stopped treating patients due to the pandemic and very few have reported an increase in the patient count. Different studies have noted the reduction in the number of patient consultation by the dentists (Cagetti, 2021; Ayub, 2020). A recent study in India also confirmed the same (Ghai, 2020).

Also, when the participants were asked about the status of their online consultations, few of them agreed to be consulting patients online and they have a positive feedback about it (32.18%). The majority of them (48.28%) stated that they are not yet into online consultations, however, are looking forward it. Also, 17.24% of the dentists were against online consultations.However, studies show that in the present conditions, consulting patients through online modes can prove to be a good decision among doctors and dentists (Yang et al., 2021; Satriawan, 2020).

Table 1: Showing the frequencies of the responses for the items

Items	Responses		
	Yes	**No**	**Unaware**
1. Are you afraid of getting infected with COVID-19 from a patient and co-worker?	63	21	3
2. Are you anxious when providing treatment to a patient who is coughing or suspected of being infected with COVID-19?	67	14	6
3. Do you want to close your practice until the number of COVID-19 cases starts declining?	31	47	9
4. Do you feel nervous when talking to patients in close vicinity?	49	32	6
5. Do you have fear that you could carry the infection from your practice back to your family?	81	4	2
6. Are you afraid of getting quarantined if get infected?	43	42	2
7. Are you anxious about the cost of treatment if you get infected?	39	44	4
8. Do you feel afraid when you hear that people are dying because of COVID-19?	61	23	3
9. Are you aware of the mode of transmission of COVID-19?	84	2	1
10. Are you updated with the current CDC or WHO guidelines for cross-infection control regarding COVID-19?	79	3	5
11. Are you currently asking every patient's travel history before performing dental treatment?	81	3	3
12. Are you deferring dental treatment of patients showing suspicious symptoms?	74	8	5
13. Do you think surgical mask is enough to prevent cross-infection of COVID-19?	4	76	7
14. Do you think N-95 mask should be routinely worn in your practice due to the current outbreak?	76	6	5
15. Have you ever worn an N-95 mask while treating a patient?	79	6	2
16. Do you routinely follow universal precautions of infection control for every patient?	66	11	10
17. Have you incorporated plasma air purifier in your practice?	13	66	8
18. Do you change/disinfect personal protective equipment after every patient?	58	21	8
19. Do you provide recommended time gap between every patient for disinfecting the clinic?	65	13	9
20. Are you aware of which authority to contact if you come across a patient with suspected COVID-19 infection?	76	3	8
Total	**1189**	**445**	**106**

Conclusion

The important changes in the practice patterns of the Indian dentists have been determined. Due to the COVID-19 pandemic, a fear or worry of getting the infection was prevalent in dentistry practice. This fear extended further to the scenario where the family members get infected through the dentists. The dentists were found to

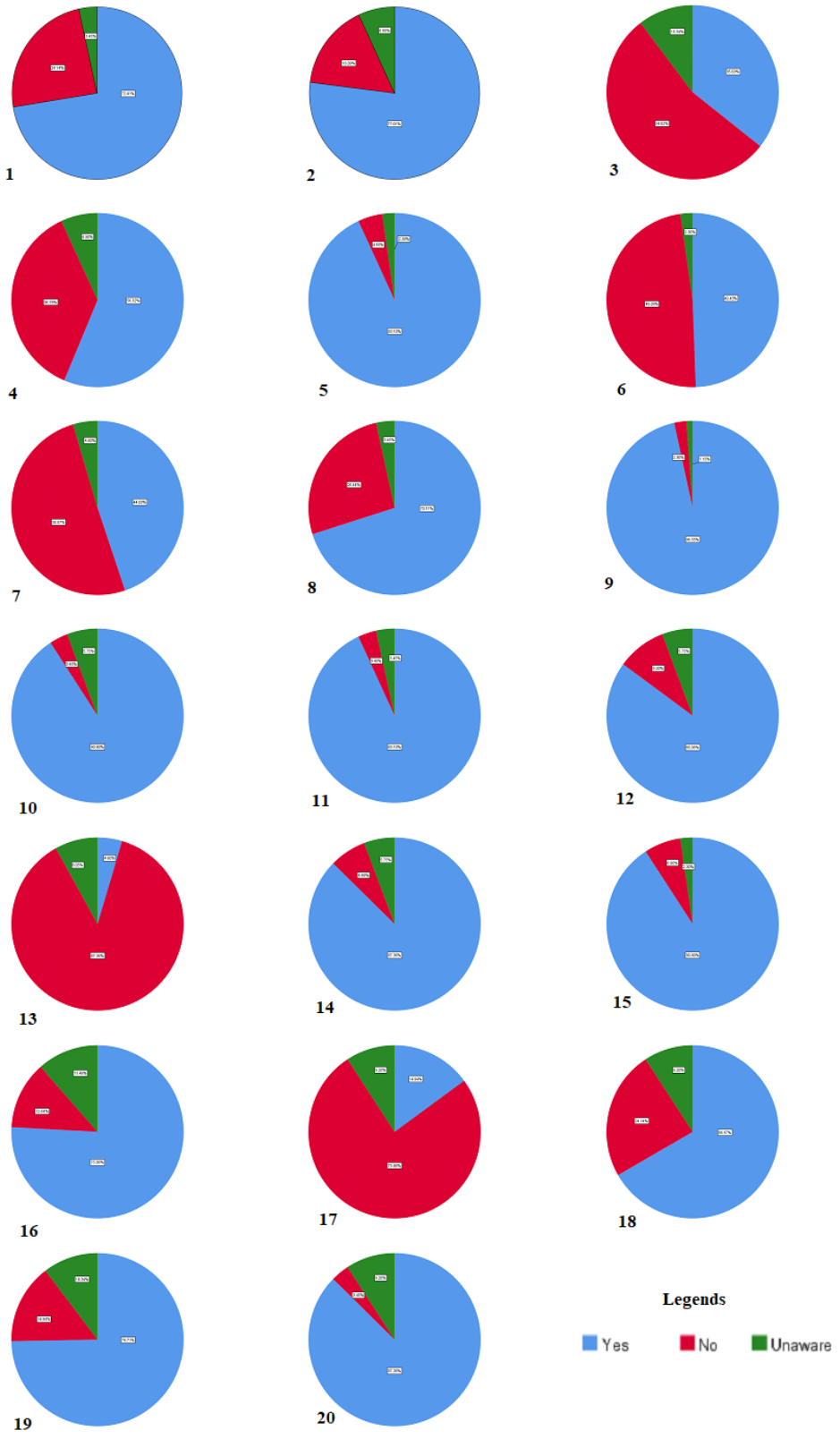


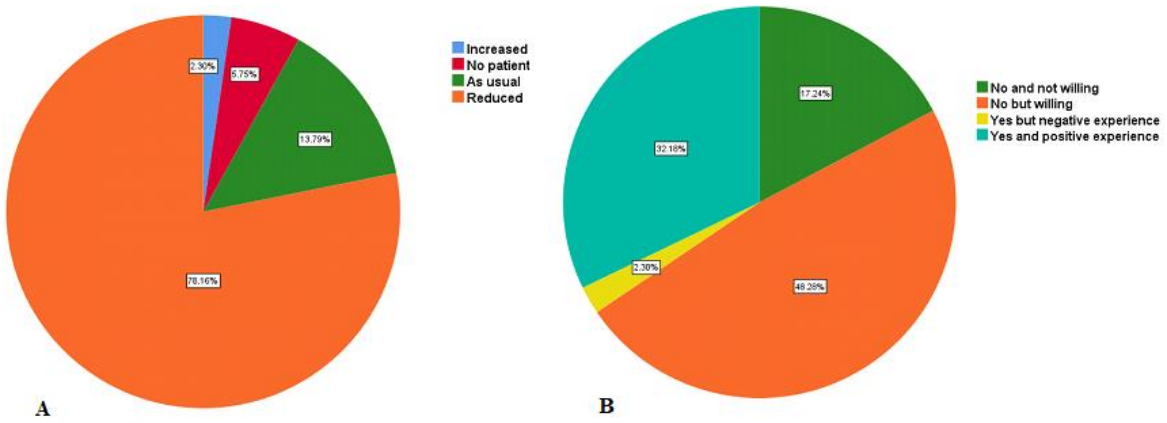
Fig. 1: Showing the pie charts of the responses made to the items

conductapreliminary check of all patients who have travel history or showing symptoms of the infection. The practice of wearing N-95 masks and engaging into proper sanitization and

Table 2: Showing information on the change in the number of patients and status of online consultations attended by the dentists

	Increased	No patients	As Usual	Reduced
Change in the number of patients	2	5	12	68
	No and not willing	No but willing	Yes but negative experience	Yes and positive experience
Status of online consultations	15	42	2	28

Fig 2: Showing the pie charts for the change in the number of patients and status of online consultations



A: Change in the number of patients B: Status of online consultations

hygiene-maintaining behavior has been prominent among the dentists. This study also revealed that most dentists have currently reduced the number of patient consultations. At the same time, most of the dentists showed the willingness to shift to online consultations.

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