

Concerns and fears of Indian dentists on professional practice during the coronavirus disease 2019 (COVID-19) pandemic

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Keywords: concerns, coronavirus, COVID-19, fears, Indian dentists

The coronavirus disease 2019 (COVID-19) pandemic, due to the severe acute respiratory syndrome virus 2 (SARS-CoV-2), was declared a public health emergency of international concern by the World Health Organization on 30th of January 2020 (World Health Organization, 2020). The first case of COVID-19 was reported in India on the same day, and at the time of writing, on 20 May 2020, India has reported over 106,000 patients, with over 3,300 related deaths. The country is under a state of lockdown since 25 March 2020, and over 600 healthcare providers have been infected.

Earlier epidemics such as the severe acute respiratory syndrome (SARS) has shown the susceptibility of healthcare providers, including dental care workers, to the risk of possible infection, and the consequential psychological toll on these workers (Schwartz, King, & Yen, 2020; Wu et al., 2009). Indeed, a recent report from Indonesia indicates that dentists have died from COVID-19 (Booth, 2020), although it is unclear whether the infection transmission occurred due to occupational exposure.

Dental care workers are, therefore, likely to be concerned about the post-pandemic delivery of professional services, and there is a need to assess their psychological profile in terms of their preparedness for resuming dental practice in the face of the unprecedented pandemic. Hence, we conducted the current questionnaire survey to fulfil the latter objective.

A cross-sectional, online questionnaire survey (approved by the Research Unit, Karnavati School of Dentistry, Karnavati University, India) was conducted from 3 May to 5 May 2020. The target group comprised dentists in the private, single-handed practices, group

practices and academic institutes, regardless of their specialization. The questionnaire which was developed in English based on guidelines of Centre for Disease Control (CDC), Ministry of Health and Family Welfare of the Government of India, and the Dental Council of India (DCI) assessed the dentists' preparedness, concerns and fears related to dental practice during and the post-COVID-19 era. The participants were recruited from a Facebook group, *Endohaveli*: a diverse group of over 52,000 Indian dental professionals.

Statistical analyses were conducted using SPSS 21.0 (IBM Corp.).

A total of 403 responses were received out of 1,200 questionnaires forwarded online to a random sample of dentists practicing throughout India. The response rate of 33.6% was within the general acceptable degree for online survey responses (Funkhouser et al., 2017).

The perceived preparedness and anxieties of dentists in the provision of patient care during the pandemic are shown in Table 1. Given that personal protective equipment (PPE) for the dental team is an essential prerequisite for provision of dental care during the COVID-19 pandemic, it was surprising to note that a majority of the respondents (61.5%) have not purchased PPE, while N95 masks were not available to a similar proportion (55.8%). In this context, it should be noted that Indian dentists are besieged by substandard, poor quality and heavily overpriced PPE kits, and this may be one reason for the latter responses. Additionally, a significant proportion of dental clinics in India are not geared for ideal donning and doffing of PPE. Ebola virus outbreak has shown that improper doffing may lead to self-contamination and spread of infection (Suen et al., 2018).

As for patient management concerns, a small majority of dentist (57.8%) perceived that they like to request COVID-19 test results

TABLE 1 Perceived preparedness and anxieties among Indian dentists for patient care provision

Preparedness and anxieties of dentists	Number (of 403)	%
Perceived preparedness		
Purchase of PPE		
No	248	61.5
Yes	155	38.5
Availability of N95 Masks		
No	225	55.8
Yes	172	44.8
Requesting COVID-19 antibody test from patients		
No	9	2.2
May be if the patient is symptomatic	161	40.0
Yes, all patients for aerosol-generating treatment procedures	233	57.8
Provided emergency treatment within last month		
No	311	77.2
Yes	92	22.8
Anxieties		
Perceived confidence in commencing the dental practice at present during COVID-19 epidemic		
Not confident at all	144	35.7
Hesitant	219	54.3
Confident	38	9.4
Fully confident	2	0.6
Main concern to commence the dental practice again		
Risk of getting infected by a COVID-19 patient	185	45.9
Limited supply of PPE	75	18.6
Increased operational cost and unaffordable treatment cost	143	35.5

Abbreviations: N95 masks, a mask which filters at least 95% of airborne particles; PPE, personal protective equipment.

from all patients prior to any aerosol-generating treatment procedures, while two-fifths (40.0%) of the respondents wished to request the test only from symptomatic patients. Although a large proportion of respondents wished to ascertain COVID-19 disease status of patients, during the post-pandemic period, this is an unrealistic expectation, especially in a developing country such as India. Hence, scrupulous adherence to standard infection control measures including droplet precautions appears to be the only practical method currently available to prevent SARS-CoV-2 transmission in the operatory.

Due to the pandemic a number of professional bodies has advised not to conduct routine dentistry including aerosol generating procedures, and deliver dental care only in acute, emergency situations (Jamal et al., 2020). In this context, although India is currently under a country-wide lockdown, up to two-fifths of the respondents

TABLE 2 Concerns of dentists on medico-legal issues with regard to COVID-19 patient care

Concerns	Number (of 403)	%
How much worried are you about the medico-legal issues that may arise in dental practice		
Very much	180	44.7
Worried	124	30.8
Neutral	72	17.9
Not worried	14	3.5
Not worried at all	13	3.2
Perceived efficiency in dental care delivery as per the Indian Government guidelines on patient management		
Not efficient at all	46	11.4
Somewhat efficient	52	12.9
Neutral	146	36.2
Efficient	111	27.5
Fully efficient	48	11.9
Expect enforcement of laws/guidelines by the government safeguarding and securing legal & professional concerns of dentists during & after COVID-19 pandemic		
No	49	12.2
Yes	354	87.8
Do you use A. Setu mobile application?		
No	153	38.0
Yes	250	62.0

(22.8%) provided emergency treatment during this period. Although we did not question as to the reasons underlying such care provision, a recent study indicates increased global utilization of dental emergency services during COVID-19 pandemic (Guo, Zhou, Liu, & Tan, 2020).

The shape and form of "new normal," post-pandemic care provision in health facilities are currently under discussion. Clearly, our data indicate that approximately one-half of the respondents (54.3%) were not confident, and about a third (35.7%) hesitant to commence their post-pandemic dental practices. The reasons for this appear to be either personal health or financial considerations, as approximately one-half of the respondents (45.9%) were anxious of the risk of contracting SARS-CoV-2 infection *via* a patient, and roughly, a third (35.5%) were concerned of increased treatment costs due to additional infection control procedures. It is noteworthy that only one-tenth of the respondents (10%) were confident/fairly confident of post-pandemic delivery of dental care (Table 1).

COVID-19 pandemic has led to an array of medico-legal and professional concerns for Indian dentists in terms of patient care provisions. Hence, the Indian government and the Dental Council of India (DCI) have promulgated guidelines on appropriate patient management principles during the pandemic. Interestingly, an overwhelming majority of dentists (87.8%) expect the government and the non-governmental organizations to further enact and enforce laws to safeguard professional obligations of dentists during, and after

COVID-19 pandemic (Table 2). However, a three-quarter of the respondents (75.5%) appear to be worried about medico-legal consequences of post-pandemic dental care provision, and a one-quarter (27.5%) perceived themselves to be ill-equipped to follow guidelines so formulated by the government and DCI.

Finally, we wished to ascertain whether the COVID-19 tracking mobile application introduced by the Indian government in April 2020, called *Aarogya Setu* (literally, bridge for disease freeness), is used by the respondents. Approximately two-thirds of the respondents (62%) were users of this app and were significantly better prepared, with modest concerns, than non-users in providing patient care ($p = .0001$).

In conclusion, Indian dental professionals, in general, seem inadequately prepared for provision of patient care either during or after COVID-19 pandemic, due to professional and/or medico-legal concerns. However, the utility of *A. Setu* mobile application emerged as a significant factor that may mitigate such concerns. Further, detailed surveys in large cohorts are required to elicit the full spectrum of such views among the dental professionals in India.

ACKNOWLEDGEMENTS

We thank Dr Rahul Bisht for his help in data collection. We also thank all the dentists who made time in their busy schedules to complete the questionnaire. This study received no funds or financial support from any profit or not-for-profit organizations.

CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

AUTHOR CONTRIBUTION

Niraj Kinariwala: Conceptualization; Data curation; Formal analysis; Methodology; Project administration; Writing-original draft; Writing-review & editing. **Prof. Lakshman Samaranayake:** Conceptualization; Investigation; Methodology; Project administration; Supervision; Validation; Writing-original draft; Writing-review & editing. **Irosha Rukmali Perera:** Data curation; Formal analysis; Methodology. **Zeal Patel:** Data curation; Formal analysis; Methodology; Software; Writing-review & editing.

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How to cite this article: Kinariwala N, Samaranayake LP, Perera I, Patel Z. Concerns and fears of Indian dentists on professional practice during the coronavirus disease 2019 (COVID-19) pandemic. *Oral Dis*. 2021;27(Suppl. 3):730–732. <https://doi.org/10.1111/odi.13459>