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Knowledge, attitudes, perceptions and vaccine hesitancy amongst dentists regarding COVID-19 vaccination

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Purpose: India began its vaccination roll out for coronavirus disease 2019 (COVID-19) on 16th January, 2021 with the healthcare personnel (HCP) being the priority group to receive the vaccine. Dentists constitute a high-risk subgroup to COVID-19 infection. This study was conducted, to assess the knowledge, attitude and perceptions regarding the COVID-19 vaccination amongst the dentists in India.

Materials and Methods: A prospective qualitative study was done in Faculty of Dentistry, Jamia Millia Islamia, New Delhi. A self-administered, validated questionnaire was shared with 1,000 dentists. Data was analysed for determining statistical significance of qualitative variables.

Results: About 67.1% were graduates, with Bachelor of Dental Surgery (BDS) degree and 32.9% were postgraduates, with Master of Dental Surgery (MDS) degree; 75.5% were systemically healthy with no reported co-morbidities. About 996 (99.6%) were vaccinated and only 4 subjects were unvaccinated (0.4%). About 70.6% had no hesitancy about getting vaccinated while about 29.4% were hesitant for the same. The main reasons behind vaccine hesitancy were medical or psychological reasons, presence of allergies, comorbidities, lack of unavailability of long-term safety and efficacy data, reports of adverse reactions after vaccination, rapid generation of vaccines, and reports of developing adverse reactions or unexplained deaths after COVID-19 vaccination.

Conclusion: This study has helped to gain an insight into the vaccination status of dentists across India and address the reasons for vaccine hesitancy amongst dentists working in various dental colleges, dental clinics and find ways to address the gaps in the vaccination programme.

Keywords: COVID-19; Dentists; India; Vaccination; Vaccine hesitancy

INTRODUCTION

Coronavirus disease 2019 (COVID-19) is an infectious disease caused by the novel severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2). It was first reported in Wuhan, China, in December 2019. On 30th January, 2020, the World Health Organization (WHO) declared it as a public health emergency of international concern and on 11th March, 2020, COVID-19 was declared a pandemic, calling all the nations to

take aggressive steps to control its transmission. It caused a disease ranged from asymptomatic infections to respiratory symptoms of varied severity scaling to respiratory distress and even death. Soon, scientific communities embarked on the mission of developing vaccines and acquiring emergency approvals. The priority group to receive the vaccine globally were the healthcare personnel (HCP) and other frontline workers.

India began its vaccination program on 16th January, 2021. However, by 1st March, 2021, only 14 million HCP's and frontline workers were vaccinated in India falling short of the original goal of 30 million [1]. During the surge of the devastating delta variant, on 30th April, 2021, India reported about 400,000 new cases and 3,500 deaths in a day [2]. Consistent efforts from the government in terms of awareness among the masses and ensuring availability of the vaccines led to an increase in the vaccine uptake by the people and India crossed 500 million doses milestone on 6th August, 2021 [3]. By 26th August, 2021, 99% of HCP and 100% of frontline workers had received first dose of the vaccine [4]. About 88% were fully vaccinated by 4th March, 2023 [5].

Similar to other vaccines, COVID-19 vaccines too had side effects, such as pain, pyrexia, crankiness and headaches [6]. In spite of assurances by the experts about benefits outweighing risks associated with the vaccines there were indications of vaccine hesitancy about COVID-19 vaccination, especially during the initial phase of vaccine roll-out. 'Vaccine hesitancy' has been an established barrier for many infectious diseases in the past too and has been defined as "delay in acceptance or refusal of vaccines despite availability of vaccination services" [7]. For successful vaccination campaigns, it is important that this issue should be addressed in a proactive manner.

HCP are extremely susceptible to COVID-19 infection because of the risk of acquiring the infection directly or indirectly. Dentists constitute an important and vulnerable subgroup of this work force due to the exposure to aerosols [8].

The knowledge, attitude and perceptions regarding COVID-19 vaccinations amongst HCP, must have been an influencing factor for vaccination uptake. The initial low vaccination rate in India during the first phase of vaccination, indicated towards vaccine hesitancy. In view of this, knowledge, attitude and perceptions regarding the COVID-19 vaccination amongst dentists in India was studied, with the following objectives:

1) To generate data regarding COVID-19 vaccination status of dentists working in various dental colleges or clinical practices in India;
2) To assess determinants of acceptance and vaccine hesitancy of dentists towards COVID-19 vaccination.

MATERIALS AND METHODS

A descriptive study was carried out in a tertiary care government Dental Institute in New Delhi. The study population included dental faculty members employed in various dental colleges across India, permanent as well as contractual; junior (Bachelor of Dental Surgery [BDS] graduates) and senior residents (pursuing Master of Dental Surgery [MDS]); dental research fellows and dentists working in various dental clinics who had at least completed the BDS program (4 years course + mandatory one year internship). Those excluded from the study were medical faculty, BDS students, interns and paramedical staff.

A validated questionnaire (**Supplementary Data 1**), was circulated amongst the participants electronically, between April 2022 and August 2022. The questionnaire had components of knowledge, attitude and perceptions regarding COVID-19 vaccination [9].

A sample size of 1,000 was calculated based on previous studies [10-13], with lowest prevalence of 6% and relative precision of 1.5%, alpha=0.05. Formula used was $n=4pq/E^2$ ($=4\times0.06\times0.94/0.015^2=1,000$), where p=prevalence, q=1–p and E=allowable error of 'p.' Data was checked for missing entries and analysed with Statistical Package for Social Sciences (SPSS) version 24 (IBM Corp., Armonk, NY, USA). Responses to different items of the questionnaire were summarized as absolute & relative frequencies and compared using χ^2 test. Multiple logistic regression was applied to test the impact of different variables on participants' attitudes towards vaccination by calculating odds ratio and 95% confidence interval after controlling for other variables. A 2 tailed p-value ≤0.05 was taken as a level of statistical significance.

Ethics statement

The study was approved by the Institution's (Faculty of Dentistry, Jamia Millia Islamia) Internal Research Review Committee (FOD/IRRC/67/161120121) and Institutional Ethics Committee (Proposal No. 4 7/2/355/JMI/IEC/2022, 14.2.2022) gave their approvals.

RESULTS

The study population comprised of 1,000 participants, 61.5% were females and 38.5% males. Graduates with BDS degree were 67.1% with BDS degree and 32.9% were postgraduates, with MDS degree. About 75.5% were systemically healthy with no reported co-morbidities. Hypertension was the most frequent of all the co-morbidities (7.1%), followed by diabetes (6.1%) and obesity (4.4%).

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Table 1. Vaccine hesitancy during various phases of vaccination drives in India

Vaccination phase	Eligible population	Vaccine hesitancy		Total
		No	Yes	
Phase 1 (16th January 2021–28th February 2021)	All Healthcare personnel & frontline workers	363 (71.7)	143 (28.3)	506 (50.6)
Phase 2a (1st March 2021–31st March 2021)	All individuals >60 yr & those between 45–60 yr with co-morbidities	101 (64.3)	56 (35.7)	157 (15.7)
Phase 2b (1st April 2021 onwards)	All individuals >45 yr of age	42 (75.0)	14 (25.0)	56 (5.6)
Phase 3 (1st May 2021–till date)	All individuals >18 yr of age	201 (72.0)	76 (28.0)	277 (27.7)
None (not vaccinated)		0 (0.0)	4 (100)	4 (0.4)
Total		707 (70.7)	293 (29.3)	1,000 (100.0)

Values are presented as number (%).

Regarding COVID-19 infection history, 46.3% had never been diagnosed with COVID-19 infection, 32.2% had been diagnosed earlier along-with symptoms, 12% were asymptomatic and diagnosed with the COVID infection and 9.5% were unsure if they ever had the infection earlier. Nine hundred ninety-six (99.6%) were vaccinated and only 4 subjects were unvaccinated (0.4%). Maximum uptake was of Covishield (77%), followed by Covaxin (20%), Sputnik (2%) and Pfizer (0.6%). About 59% had taken 2 doses of vaccine, 36.3%, 3 doses (additional booster dose) and 4.3% only one dose. About 2.3% had anxiety and did not take the second dose. About 57.6% did not report any side effects whereas 42% reported some side effects like rash, fever, body ache, vomiting, diarrhoea, etc. (and 0.4% had not taken the vaccine). Out of the vaccinated subjects, post-vaccination adverse events (thrombotic thrombocytopenic purpura, intracranial venous sinus thrombosis, seizures, etc.) were not seen in about 88.5% subjects while 11.1% subjects experienced them. Of the vaccinated subjects, about 10.1% subjects were even hospitalized due to the adverse events experienced after vaccination.

About 50.6% of the dentists availed first dose of vaccine during the first phase of vaccination, 15.7% took during the first part of Phase 2, 5.6% took during the second part of second phase, and 27.7% took the first dose during the third phase (**Table 1**).

Regarding previous vaccination details, 75% had never refused any vaccine and 25% had refused a vaccine earlier for themselves or their family members. About 65% of the population had taken COVID-19 vaccination without any compulsion whereas 35% took vaccination out of some compulsions. Main compulsions for taking the vaccine were self-protection and fear of infecting the family members and friends. About 70.6% had no hesitancy about getting vaccinated while 29.4% were hesitant.

Gender wise difference for vaccine hesitancy was seen to be non-significant (p=0.776) (**Table 2**). Vaccine hesitancy was seen in 40% in those with co-morbidities compared to 26% without co-morbidities, with p<0.001 (**Table 3**).

Table 2. Gender-wise difference in COVID-19 vaccine hesitancy

Gender	Numbers	COVID-19 vaccine hesitancy		p-value
		No	Yes	
Males	385	270 (70.1)	115 (29.9)	0.776^{NS}
Females	615	436 (70.9)	179 (29.1)	
Total	1,000	706 (70.6)	294 (29.4)	

Values are presented as number (%).
COVID-19, coronavirus disease 2019; NS, not significant.

Table 3. Co-morbidities and COVID-19 vaccine hesitancy

Co-morbidities	Total	COVID-19 vaccine hesitancy		p-value
		No	Yes	
Absent	756 (75.6)	560 (74.0)	196 (26.0)	**<0.001**
Present	244 (24.4)	146 (60.0)	98 (40.0)	
Total	1,000	706 (70.6)	294 (29.4)	

Values are presented as number (%). The p-values marked with bold indicate statistically significant.
COVID-19, coronavirus disease 2019.

Vaccine hesitancy and the reasons behind it showed statistically significant difference (p<0.001), e.g., medical or psychological reasons, presence of allergies, comorbidities, lack of unavailability of long-term safety and efficacy data, reports of adverse reactions after vaccination, rapid generation of vaccines raising doubts about its safety and efficacy, and reports of developing adverse reactions or unexplained deaths after COVID-19 vaccination (**Table 4**).

Multiple information sources influenced the pattern of COVID-19 vaccination. A statistically significant difference was seen between vaccine hesitancy and the source of information influencing the vaccination, such as social media, government agencies, healthcare providers or family and friends (**Table 5**).

In the knowledge components, respondents having a higher educational qualification (MDS) had significantly better knowledge regarding 6 knowledge components about COVID-19 vaccines. These were about ICMR approved vaccines in India (p=0.002), ideal doses of vaccines to be taken (p=0.004), achievement of protective immunity after which dose of the vaccine (p=0.007), non-mounting of immune response in some individuals (p=0.003), whether pregnant

Table 4. COVID-19 vaccine hesitancy and reasons behind it

Reasons behind vaccine hesitancy	%	Vaccine hesitancy		p-value
		No	Yes	
None	62.1	84.0	9.5	**<0.001**
Medical reasons	8.1	3.3	19.7	**<0.001**
Psychological reasons	8.5	2.0	24.1	**<0.001**
Both	10.5	6.4	20.3	**<0.001**
Others				
Unavailability of long-term efficacy and safety of vaccines	10.5	3.8	26.4	**<0.001**
Conspiracy theories about the natural origin of the COVID-19 infection	1.2	0.8	2.0	0.123[NS]
Rapid generation of vaccines raising doubts about its safety and efficacy	2.6	0.7	7.1	**<0.001**
Reports of unexplained deaths after taking the vaccines	3.4	1.1	8.8	**<0.001**

Values are presented as %. The p-values marked with bold indicate statistically significant.
COVID-19, coronavirus disease 2019; NS, not significant.

Table 5. Sources of information which influenced COVID-19 vaccination uptake

Sources of information	%	Vaccine hesitancy		p-value
		No	Yes	
1 Mass media	33.6	34.7	31.2	0.305[NS]
2 Social media	21.3	19.1	26.4	**0.011**
3 Friends & family	21.8	18.8	28.8	**0.001**
4 Government agencies	38.9	43.0	29.2	**<0.001**
5 Health care provider	26.1	28.0	21.7	**0.04**
6 All of the above	10.6	11.6	8.1	0.115[NS]
7 Others				
1 Scientific journals	11.7	12.4	9.8	0.281[NS]
2 Misinformation and conspiracy theories present through the media	1.7	1.4	2.4	0.290[NS]

Values are presented as %. The p-values marked with bold indicate statistically significant.
COVID-19, coronavirus disease 2019; NS, not significant.

or lactating mothers could take the COVID-19 vaccine (p=0.014) and whether one should continue wearing face masks, follow hand sanitation and social distancing even after COVID-19 vaccination (p=0.006). Regarding awareness of reporting of side effects after vaccination on the government portal CoWIN, the difference was insignificant (p=0.602) (**Table 6**).

In the present study, a strong agreement was seen amongst dentists to some attitude components such as: 72.8% for getting their family and relatives vaccinated; 53.7% to getting the vaccine even after recovery from previous COVID-19 infection; 58.6% for necessity of vaccine for protection against severe infection; 48.7% for reporting the adverse side effects on the government portal CoWIN. About 51.2% agreed for acceptance of minor side effects post COVID-19 vaccination; 41.2% regarding benefits of COVID-19 vaccine outweighing its risks; 41.6% regarding availability of sufficient data regarding safety and efficacy of COVID-19 vaccines; 54% regarding concerns of rapid generation and emergency approval; 42.2% for some unseen future effects of COVID-19 vaccines; 49.5% regarding misinformation prevalent in media; 40.9% regarding lack of trust in indigenous vaccines. About 33.5% had a neutral stance towards natural immunity is sufficient to provide immunity from future infections. About 23%–37% of dentists had neutral stance regarding safety concerns due to rapid generation and emergency approvals of the vaccine, availability of sufficient safety data, possibility that the vaccines may have some unseen future effects, misinformation prevalent in the media about the vaccine, natural immunity is sufficient after COVID-19 infection to protect against future infections and lack of trust for indigenous vaccines (**Table 7**).

DISCUSSION

The COVID-19 pandemic witnessed an unprecedented collapse of healthcare infrastructure globally. The HCP faced dire challenges, notably the risk of acquiring infection from direct or indirect exposure, acute shortage of personal protective equipments, extended working hours due to high infections amongst the treating staff and nurses, long and lonely isolation periods after exposure, long hospitals stays, as there were even reports of doctors being debarred from residential societies, the constant fear of transmitting the infection to families and the mammoth amount of mental

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Table 6. Qualification-wise comparison of correct responses to knowledge items

Knowledge items	Options	BDS	MDS	p-value
1. ICMR approved vaccines available in India are the following (you can choose multiple options):	a) Covishield b) Covaxin c) Sputnik V d) Don't know	25.4	34.8	**0.002**
2. How many doses of any of the above vaccine should be taken ideally?	a) One b) Two c) Don't know	60.1	50.6	**0.004**
3. Protective immunity against COVID-19 infection is achieved after:	a) First dose of vaccination b) Second dose of vaccination c) After 14 days of complete vaccination d) Don't know	37.1	46.1	**0.007**
4. COVID-19 vaccination may not mount an immune response in some individuals.	a) Yes b) No c) Don't know	55.1	65.2	**0.003**
5. Pregnant or lactating mothers can take the COVID-19 vaccine.	a) Yes b) No c) Don't know	56.5	64.8	**0.014**
6. After COVID-19 vaccination, should you still wear face masks, follow hand sanitation and social distancing?	a) Yes b) No c) Don't know	91.4	96.1	**0.006**
7. Are you aware that side effects after vaccination can be reported on the government portal CoWIN?	a) Yes b) No	81.3	82.7	0.602[NS]

Values are presented as %. The p-values marked with bold indicate statistically significant.
ICMR, Indian Council of Medical Research; BDS, Bachelor of Dental Surgery; MDS, Master of Dental Surgery; COVID-19, coronavirus disease 2019; NS, not significant.

Table 7. Attitude towards COVID-19 vaccination on a 5-point Likert's scale

Attitude components	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1. My family and friends need to take the COVID-19 vaccine.	729 (72.8)	216 (21.6)	50 (5.0)	4 (0.4)	3 (0.3)
2. People who have recovered from COVID-19 infection should take the COVID-19 vaccine.	538 (53.7)	334 (33.3)	111 (11.1)	19 (1.9)	0 (0.0)
3. COVID-19 vaccine is necessary for protection against severe COVID-19 infection.	587 (58.6)	309 (30.8)	83 (8.3)	19 (1.9)	4 (0.4)
4. Minor side effects post COVID-19 vaccination (fever, myalgia, etc.) are acceptable.	362 (36.1)	513 (51.2)	110 (11.0)	15 (1.5)	2 (0.2)
5. Adverse events following immunization should be reported by citizens on the government portal CoWIN.	488 (48.7)	391 (39.0)	113 (11.3)	7 (0.7)	3 (0.3)
6. The benefits of taking the COVID-19 vaccine outweigh the risks involved with the vaccine.	376 (37.5)	413 (41.2)	183 (18.3)	27 (2.7)	3 (0.3)
7. Sufficient data is available regarding safety and efficacy of COVID-19 vaccines.	191 (19.1)	417 (41.6)	278 (27.7)	97 (9.7)	19 (1.9)
8. COVID-19 vaccines may have some safety concerns due to the rapid generation and emergency approval.	174 (17.4)	541 (54.0)	237 (23.7)	42 (4.2)	8 (0.8)
9. COVID-19 Vaccines may have some unseen future effects.	134 (13.4)	42 (42.2)	374 (37.3)	64 (6.4)	7 (0.7)
10. After COVID-19 infection, natural immunity is sufficient to provide immunity from future infections.	88 (8.8)	314 (31.3)	336 (33.5)	229 (22.9)	35 (3.5)
11. Misinformation is prevalent in the media regarding COVID-19 vaccines.	189 (18.9)	496 (49.5)	257 (25.6)	55 (5.5)	5 (0.5)
12. There is a lack of trust for indigenous vaccines.	136 (13.6)	500 (49.9)	258 (25.7)	92 (9.2)	16 (1.6)

Values are presented as number (%).
COVID-19, coronavirus disease 2019.

stress during this whole period [14].

Effective control of an infection is not solely dependent upon the vaccine's efficacy and safety but also its acceptance among the general public and healthcare professionals. Vaccine hesitancy has been an established barrier against preventable death rate. The WHO identifies vaccine hesitancy as one of the top ten leading threats to global health [15]. For COVID-19 infection, it was estimated that an immune population of 60%–75% range was required to prevent community spread and transmission of the virus [16].

In our study, with an impressive vaccination rate of 99.6%, 51% had received the first dose at the onset during the Phase 1 of vaccination drive, with 28% hesitant. About 16% received the first dose during the first part of Phase 2 but, the hesitancy rate increased to 36%, possibly due to increase in negative reports about the vaccines in the media. In the third phase, when vaccination was made available for individuals above 18 years the vaccination rate was 28%, out of which 72% were non hesitant while 28% were vaccine hesitant. This coincided with reopening of educational institutions and healthcare facilities. Before that, most of the colleges were only conducting emergency services. With normalcy returning back, students, interns and residents had to get vaccinated before resumption of their duties. This increase in the vaccination rate can be explained as half of our study population consisted of residents and relatively younger dentists.

Maximum vaccine uptake was of Covishield (77%), followed by Covaxin (20%), Sputnik (2%) and Pfizer (0.6%). This followed in wake of the government approvals to various vaccines.

A non-significant gender wise difference in the hesitancy rate (p=0.776) was seen. This may be because the population under study were healthcare professionals with a professional college education, a reasonably good socio-economic status, who knew their roles and responsibilities in the society and had equal access to digital resources of information. In a global survey by Riad et al. [17] involving undergraduate dental students, females, who constituted 70% of the population and students in their pre-clinical years had statistically significant higher vaccine hesitancy. These results were in agreement with other studies in which males were more likely to accept the COVID-19 vaccine due to higher perception of danger by COVID infection and lesser beliefs in the conspiratorial rumours around the vaccines [18,19].

Sources of information also impacted the decision-making in vaccine uptake [20]. Globally it is seen that dependence on media and social media was associated with decreased level of vaccine acceptance and trust in government was associated with higher level of vaccine acceptance among dental students [17,21]. In some studies, it was seen that vaccine conspiracy beliefs in HCP were significantly associated with reliance on social media reports in comparison to scientific reports [22,23]. In our study also, there was a significant difference between vaccine hesitancy and relying on social media as the source of information whereas relying upon government agencies was associated with better outlook about vaccine uptake (**Table 5**).

Vaccine hesitancy was seen in 40% of those who had co-morbidities as compared to those without co-morbidities (26%). A statistically significant difference (p<0.001) was seen for vaccine hesitancy in persons with and without co-morbidities (**Table 3**). This is contrary to the previous findings, where poor perception of health and comorbidities had lower odds of refusal and higher acceptance rate [24,25]. A shift was seen in the trend of hesitancy towards acceptance in those already suffering from various illnesses. The reason could be that during the first phase of the vaccination program, there was lack of clarity regarding co-morbidities and vaccine safety. The vaccine has a protective role in people having the co-morbidities became clearer with the passage of time.

Lower vaccine acceptance has been seen in those who believed that natural immunity can prevent COVID-19 infection better than the vaccine [17,26]. The results of our study comply with this perception where statistically significant difference was seen between previous COVID infection and vaccination. Subjects who were never diagnosed of COVID were less hesitant to vaccination than those who were previously infected.

Vaccine acceptance is also related to a person's general belief in vaccines. In various studies, hesitancy to COVID vaccine was seen in participants who had refused any vaccine earlier or had not taking previous influenza vaccine [19,27,28].

Many studies had been conducted on the general population, nurses, medical students and hospital staff, prior to the roll out of the vaccination programme, to evaluate the vaccine acceptance upon their availability, so as to plan strategies to address the pitfalls in the vaccination program [18,22]. A global online survey in 2020, consisting of a random sample of 13,426 respondents (constituting 55% of global population) from 19 countries, with high COVID burden assessed the likelihood of vaccine acceptance. About 71.5% responded in favour of vaccine uptake, when assured of its safety and efficacy. India had an acceptance rate of 74.5% [29].

In the present study, 70.6% did not have any hesitancy at all and 29.4% had vaccine hesitancy. In spite of this we had an impressive acceptance rate of 99.6%. This was much higher than the acceptance rate towards COVID-19 vaccine among dental practitioners (81.1%) in the systematic review

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by Lin et al. [30]. The earlier systematic reviews conducted on HCP gave an acceptance rate which ranged between 51% to 73% [31,32]. The initial reluctance and hesitancy for vaccination was broken down by constant government and public awareness efforts.

There has been scepticism over rapid generation and approval of the vaccines worldwide [19]. In our study, 62% of subjects had no reasons for vaccine hesitancy and the majority of those who had, cited medical or psychological reasons (10.5%) or unavailability of sufficient safety data (10.5%). About 2.6% were concerned about the rapid generation of vaccines. Trust in government and pharmaceutical companies is also a positive predictor of vaccine acceptance [17,20]. The present study thus reflects trust in the government or pharmaceutical agencies, indicating the presence of a population driven by scientific temper rather than conspiracy or unscientific reports.

History has been a witness to the fact that vaccination has definitely brought about reduction in the high mortality rate due to numerous infectious diseases, e.g., diphtheria, pertussis, tetanus, mumps, measles and rubella.

Vaccine hesitancy among dentists was mainly due to safety and efficacy concerns, availability of insufficient data validating the vaccine's safety and efficacy, rapid generation of vaccines, violation of personal and human rights by the compulsory vaccinations imposed by government agencies, reliance on natural immunity and conspiracy theories prevalent on social media against the vaccine.

Dentists are relied upon by the general population for sound oral healthcare advice. Their hesitation or mistrust in the vaccination programs trickles down to reduced uptake of vaccines by the communities too. They have been icons in promoting the COVID-19 vaccination program, by their scientific temperament and proactive behaviour and have broken down the silos in the society, which was created out of irrational fear. Proactive attitude and behaviour of dentists in the midst of the conundrum sent a strong message in the society that a scientific temperament along with preventive measures goes a long way in dissolving vaccine hesitancy and help people come out of their silos.

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No potential conflict of interest relevant to this article was reported.

SUPPLEMENTARY MATERIAL

Supplementary Data 1
Questionnaire

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