

**How to Cite:**

Chettri, D., Desai, A., Khan, S., Lachyan, A., Awasthi, S., & Magra, O. (2022). Acceptance and side effects of COVID-19 vaccination among private dental practitioners and their staffs in Belagavi city. *International Journal of Health Sciences*, 6(S2), 4779–4785. <https://doi.org/10.53730/ijhs.v6nS2.6145>

## **Acceptance and side effects of COVID-19 vaccination among private dental practitioners and their staffs in Belagavi city**

**Dronesh Chettri**

Department of Public Health, JNMC, KAHER, Belagavi, India

**Akash Desai**

Department of Public Health, JNMC, KAHER, Belagavi, India

**Salman Khan**

School of Allied Health Sciences, Noida International University, Delhi NCR, India  
Email: [salmantomar7860@gmail.com](mailto:salmantomar7860@gmail.com)

**Abhishek Lachyan**

Department of Social and Preventive Medicine, Faculty of Medicine, University Malaya, Kuala Lumpur, Malaysia

**Supriya Awasthi**

School of Allied Health Sciences, Noida International University, Delhi NCR, India

**Oniya Magra**

School of Allied Health Sciences, Noida International University, Delhi NCR, India

**Abstract**---Background: In January 2021, India launched its largest COVID-19 vaccination campaign. Vaccines were distributed at 3,006 locations across India. The health-care workers were given first preference for vaccination. Vaccines are intended to provide immunity without the risk of disease transmission. Methods: A survey was conducted among private dental practitioners and their staff to inquire about their vaccination status, symptoms experienced, post-vaccination dental practice, and out-patient care. A complete list of registered dentists was compiled. A total of 315 participants were interviewed, including both private dental practitioners and their staffs, and data collected via phone call. Results: A total of 315 participants from 120 Dental Clinics in Belgaum City were included in the current study. 84.1% of the population were immunized. The majority of them (80.38%) were vaccinated with Covishield, and (69.06%) received two doses. In addition, 90.57% of participants

experienced one or more symptoms following vaccination. The main symptoms reported were Fever/Chills (50.19%), Fatigue (27.12%), Headache (22.26%). Only 0.75% had diarrhea. None of the symptoms were life-threatening or necessitated hospitalization. Conclusion: The vaccine acceptance rate was 84.1% in the study. Mild and short post-vaccination symptoms was reported in more than two-thirds of healthcare professionals.

**Keywords**---dentist, COVID-19, vaccination, dental staffs, covaxin, covishield.

## Introduction

Mankind has faced several pandemics in the past. The novel Coronavirus outbreak which started in Wuhan, China in 2019 took over the world rapidly and became a pandemic in few months. It was reported that this virus was transferred initially from animals to humans and then from human to human. This virus primarily spread in high-income countries causing a significant number of deaths. As of July 18, 2021, India faced 41,157 new cases of COVID-19, with a total case tally to 3,11,06,066 and deaths to 4,13,609. [1] On 30<sup>th</sup> January 2020 India recorded its first case of Covid 19 in Kerala after the discovery of it soon after few weeks, a nationwide lockdown was announced.

India started its largest COVID-19 vaccination drive in January 2021. Vaccines were distributed at 3,006 locations across India. The health-care workers were given first preference for vaccination. [2] Mild-to-moderate side effects were very common and were desirable to have fever, fatigue, headache, muscle pain, chills, and diarrhea as a few well-known side effects. [3] As of July 21, 2021, India has approved three vaccines - Covishield, Covaxin, and Sputnik V. [4] Studies have shown that, spread of this corona virus was through droplet or contact transmission. The typical pathways were sneezing, cough etc. The virus attaches to human angiotensin converting enzyme 2 and spreads in the body. The average incubation period is around 7-14 days. It's known that patients in their incubation period were also a source of transmission. [5]

Dentists and dental staffs are in close proximity with patients and are constantly exposed to their oral cavity. The dental practice also involves rotary and surgical materials that create droplets. Large droplets can be transmitted to nearby subjects, and the smaller droplets contaminated with air may spread to a long distance. [6] This puts Dentists and their staffs at a high risk of cross transmission. Thus vaccination against COVID-19 becomes important for both a dentist and their staff as they are a vulnerable group; but the side effects after vaccination may lead to economic burden among dental practitioners and their staffs especially those who are solely dependent in their practice for income. Hence, this study was conducted to assess the vaccine acceptance rate and the symptoms experienced by Dentists and their staff after taking COVID-19 vaccine.

## Methodology

A survey was conducted in Belagavi city, Karnataka from 15th June to 25th June 2021 among the private dental practitioners and their staff regarding their vaccination status, symptoms experienced, post-vaccination dental practice and care taken during out-patient. The list of private dental clinics was obtained from the Indian Dental Association - Belgaum branch. Complete enumeration of registered dentists was done. A total of 120 dental clinics were included with a total of 315 participants including both private dental practitioners and their staff were interviewed, and data was collected via phone call.

## Questionnaire

A self-structured 18-items questionnaire was designed in English to collect relevant information regarding the objective of the study. The questionnaire started with 5 questions which asked about vaccination status and symptoms experienced. If fever was one of the symptoms, then the next 3 questions were related to it, the next 10 questions were related to work and out-patient practice.

## Statistical analysis

Statistical Analysis was performed using SPSS V22. All the data collected were categorized into Microsoft excel sheet 2016.

## Results

In the present study, a total number of 315 participants from 120 Dental Clinic in Belgaum City (both private dental practitioners and their staff) were included. It was seen that 84.1% participants were vaccinated against COVID-19. Majority of them, 80.38% were vaccinated by Covishield vaccine and 69.06% had been administered with two doses. Also, 90.57% participants had one or more symptoms after vaccination. In Table 3, it showed the symptoms which were experienced after COVID-19 Vaccination. Fever/Chills (50.19%), Fatigue (27.12%), Headache (22.26%) were the main three symptoms which they reported. Only 0.75% had diarrhea. Symptoms mainly reported were not of a serious nature that required hospitalization.

Table 4 showed that 45.11% participants didn't know the temperature of their fever, denoting that they didn't go to hospital or check their temperature at that time. Around 37.59% had low fever of 99.5-100.5 F. Around 52.63% participants got fever within 12 hours, and it lasted for just 24 hours among 58.65% participants. No participant required hospitalization.

Table 1: Distribution of participants according to Covid 19 vaccination acceptance

Question	Responses	Frequency (%)
Are you vaccinated for COVID-19?	Yes	265 (84.1)
	No	50 (15.9)

Table 2: Details regarding COVID-19 vaccination

Questions	Responses (Among 265)	Frequency (%)
Vaccine type	Covishield	213 (80.38)
	Covaxin	52 (19.62)
No. of doses	One Dose	82 (30.94)
	Two Dose	183 (69.06)
Were symptoms experienced after vaccination?	Yes	240 (90.57)
	No	25 (9.43)
Did any symptoms affect your work? (same day or day after)	Yes	34 (12.8)
	No	231 (87.2)

Table 3: Which symptoms did you experience after getting a COVID-19 Vaccination?

Symptoms	No. of Participants (Among 265)	Frequency (%)
Fever/Chills	133	50.19
Headache	59	22.26
Fatigue	99	27.12
Nausea/Vomiting	11	4.15
Muscle-Joint Pain	34	12.83
Diarrhoea	2	0.75
Sore Throat	3	1.13
Others	0	0

Table 4: Details regarding Fever

Questions	Responses (Among 133)	Frequency (%)
Highest temperature reading	99.5-100.5 <sup>0</sup> F	50 (37.59)
	100.6-101.4 <sup>0</sup> F	16 (12.03)
	101.5-102.3 <sup>0</sup> F	7 (5.26)
	102.4 <sup>0</sup> F	0
	Don't know	60 (45.11)
How long after receiving the vaccine did you get fever?	Within 12 hours	70 (52.63)
	Between 12-24 hours	35 (26.32)
	After 24 hours	28 (21.05)
How much time did the fever last for?	24 hours	78 (58.65)
	48 hours	30 (22.56)
	72 hours	20 (15.03)
	More than 72 hours	5 (3.76)

Table 5: Details regarding hospitalization due to any symptoms

Questions	Responses	Frequency (%)
-----------	-----------	---------------

	(Among 265)	
Did any symptoms affect your work on the vaccination day or day after?	Yes	44 (16.60)
	No	221 (83.40)
Did you visit a doctor concerning any of the symptoms?	Yes	28 (10.57)
	No	237 (89.43)
Did you tested for COVID-19 after experiencing any symptoms?	Yes	51 (19.25)
	No	214 (80.75)
What were your result of COVID-19 test reports?	Positive	0
	Negative	51 (19.25)
Were you hospitalized for treatment?	Yes	0
	No	51 (19.25)
If yes, how long were you hospitalized?	No	0

Table 6: Miscellaneous

Questions	Responses (Among 315)	Frequency (%)
Has any of your family member suffered from Covid-19?	Yes	75 (23.81)
	No	240 (76.19)
Do you ask your patients about their COVID-19 Vaccination History?	Yes	118 (37.46)
	No	197 (62.54)
Do you prescreen your patients before treating them?	Yes	112 (35.55)
	No	203 (76.60)
Does your patient sign a COVID-19 waiver before treatment?	Yes	35 (11.11)
	No	280 (88.89)

## Discussion

In the contemporary study, it was discovered that Covishield (80.38%) and Covaxin (19.62%) were administered. But in another study by Rajeev Jayadevan et al., (95%) had received Covishield (3.3%) received Covaxin while Pfizer-Biotech and Sinopharm vaccines were received (0.8%) each from other nations among the respondents. [7]

In the present study, 84.1% of the participants were vaccinated, which indicates the vaccine acceptance rate among private dental practitioners. Trust in authorities is essential during mass vaccination campaigns. Citizen trust in the government was identified as the critical criteria for the vaccine confidence because it reduces vaccine hesitancy reported by WHO-SAGE (World Health Organization's Strategic Advisory Group of Experts) has identified citizen trust in governments as critical for vaccine confidence because it reduces vaccine hesitancy. [8]

Studies on dentist and dental student acceptance of vaccination with an overall 421 dentist survey sample has shown inadequate compliance with recommended vaccinations across several countries. Research in Germany also indicated lower influenza vaccination acquiescence among dental health workers. In another

study conducted by Michael Belingheri, a positive intention was reported of more than 82% of the participants willing to be vaccinated against COVID-19. A survey led in September 2020 of the overall Italian population conveyed that only 1 in every 2 Italians were willing to be vaccinated. According to a study involving 13,426 participants from 19 countries, it was reported that the global acceptance of COVID-19 vaccines series from as high as in China (88.6%) and only (54.8%) in Russia respectively. Furthermore, Higher public acceptance of vaccine was recorded in most of the Western countries (59-75%).<sup>[9][10][11]</sup>

In many of the previous research on vaccine hesitancy has revealed that vaccine hesitancy is often a case- and context-specific, that makes it more difficult to predict on how COVID-19 vaccines will be received in any given situation. For example, in Russia and United State where COVID-19 vaccine acceptance rate is relatively lower may reflect the politicisation of this definite pandemic and of vaccine development, as well as general vaccine skepticism. <sup>[12][13]</sup>

According to the analysis of this study on Private Dental Practitioners who participated provided a report of their immediate post-vaccination experience. Survey indicated that mild and predictable symptom were mainly reported following the uptake of vaccine. Among the general symptoms reported Fever/Chills (50.19%), Fatigue (27.12%), Headache (22.26%). Only 0.75% had diarrhea. Also, during an extensive community-based study in the United Kingdom, the most shared events among the participants after the first dose were injection- site pain (71–83%), (34–47%) (25–42%) fatigue, and headache respectively. Although, in their community-based study after the analysis, injection-site pain complain were reported in less than 30% of users and less than 25% of fatigue and headache after the first dose. <sup>[14]</sup>

## **Conclusion**

The vaccine acceptance rate was 84.1% in the study. Mild and short post-vaccination symptoms was reported in more than two-thirds of healthcare professionals.

**Funding:** There was no outside support for this study.

**Conflicts of Interest:** There are no conflicts of interest declared by the authors.

## **Acknowledgments**

First and foremost, I want to express my gratitude to God for allowing me the opportunity to conduct and complete this research project for my academic achievement. I'd want to thank and show gratitude to my mentor for encouraging and guiding me during the process of writing this post. who had devoted their valuable time to guiding me, either directly or indirectly, during the journey. I'd want to express my heartfelt gratitude to all of my friends for their unwavering support and aid in completing this study. Finally, I'd like to express my gratitude to my family for their love, patience, and support throughout the study process.

## References

1. The Hindu: Coronavirus updates, July 18, 2021.
2. World Health Organisation: India rolls out the world's largest COVID-19 vaccination drive [Internet]. Jan 2021. Available from: <https://www.who.int/india/news/feature-stories/detail/india-rolls-out>
3. World Health Organisation: Side effects of COVID-19 vaccines. [Internet] 2021.
4. Indiatoday: Covid-19 vaccines in India: Prices and doses to availability, complete guide. Jul 2021.
5. Baghizadeh Fini M. What dentists need to know about COVID-19. *Oral Oncol.* 2020 Jun;105:104741.
6. Bhanushali P. "COVID-19: Changing trends and its impact on future of Dentistry". *International Journal of Dentistry*, 2020.
7. Jayadevan, Rajeev & Shenoy, Ramesh & T S, Anithadevi. (2021). Survey of symptoms following COVID-19 vaccination in India. 10.1101/2021.02.08.21251366.
8. L. Bunch, "A tale of two crises: addressing Covid-19 vaccine hesitancy as promoting racial justice," *Hec Forum*, pp. 1–12, 2021.
9. Di Giuseppe G, Nobile CGA, Marinelli P, Angelillo IF. A survey of knowledge, attitudes, and behavior of Italian dentists toward immunization. *Vaccine.* (2007) 25:1669–75.
11. La Vecchia C., Negri E., Alicandro G., Scarpino V. Attitudes towards influenza vaccine and a potential COVID-19 vaccine in Italy and differences across occupational groups, September 2020. *Med Lav.* 2020; 17 (111(6): 445-448)
12. Lazarus J.V., Ratzan S.C., Palayew A. et al. A global survey of potential acceptance of a COVID-19 vaccine. *Nat Med.* 2021; 27: 225-228
13. Hornsey, M. J., Finlayson, M., Chatwood, G. & Begeny, C. T. Donald Trump and vaccination: the effect of political identity, conspiracist ideation and presidential tweets on vaccine hesitancy. *J. Exp. Soc. Psychol.* 88, 103947
14. Bokemper, S. E., Huber, G. A., Gerber, A. S., James, E. K. & Omer, S. B. Timing of COVID-19 vaccine approval and endorsement by public figures. *Vaccine* 39, 825–829
15. SJ Polack FP, Thomas, Kitchin N et al. Safety and efficacy of the BNT162b2 mRNA COVID-19 vaccine. *N Engl J Med.* 2020; 383: 2603-2615