

Knowledge, Attitude, and Beliefs of Dental Health Professionals Who Got Coronavirus Diseases 2019 Vaccination in BJS Dental College, Ludhiana, Punjab, India

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ABSTRACT

Introduction: The World Health Organization on March 11, 2020, has declared the novel coronavirus diseases 2019 (COVID-19) outbreak a global pandemic. On January 16, 2021 India started its national vaccination program against the SARS-CoV virus which has caused the COVID-19 pandemic. Healthcare workers, being the first line of defense were the first ones to receive the vaccination. Having received two doses of vaccination, the objective of the survey is to determine the knowledge, attitude, and response of the students and healthcare professionals in Baba Jaswant Singh Dental College and Hospital, Ludhiana, Punjab, India.

Materials and Methods: Internet-based, cross-sectional online questionnaire survey was used to measure responses of 100 dental health professionals and dental students from BJS Dental College and Hospital, Punjab using online Google forms.

Results: It has been observed that 70% of the dental health professionals, being well-aware of the situation were not hesitant in getting COVID-19 vaccination. About 64.6% of the sample population reported fatigue/lethargy after getting vaccinated. About 86.4% of the sample population felt the need for wearing masks postvaccination.

Conclusion: There is a greater need for spreading awareness regarding the efficacy and safety of COVID-19 vaccination.

Keywords: Attitude, Coronavirus diseases 2019, Vaccination

INTRODUCTION

Experts say SARS-COV 2 originated in bats. That's also how coronaviruses behind the Middle East respiratory syndrome and severe acute respiratory syndrome got started.

SARS-COV 2 made the jump to humans at one of Wuhan's open-air "wet markets." They're where customers buy fresh meat and fish, including animals that are killed on the spot.^[1]

The first human cases of coronavirus diseases 2019 (COVID-19), the disease caused by the novel coronavirus causing COVID-19, subsequently named SARS-CoV were first reported by officials in Wuhan City, China, in December 2019.^[2]

However, it became a global pandemic once it started spreading rapidly in other countries such as Germany, Russia, Italy, America, and India.

In India, On January 27, 2020, the first case was reported when a 20-year-old female presented to the Emergency Department in General Hospital, Thrissur, Kerala, with a 1-day history of dry cough and sore throat. However, due to the lack of awareness among masses, the number of cases sky-rocketed within no time. Hence, on March 11, it was declared a global pandemic.^[3]

Signs and Symptoms

The most common symptoms of COVID-19 are

1. Fever
2. Dry cough
3. Fatigue.

Other Symptoms That Are Less Common and May Affect Some Patients Include

1. Loss of taste or smell
2. Nasal congestion

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3. Conjunctivitis (also known as red eyes)
4. Sore throat
5. Headache
6. Muscle or joint pain
7. Different types of skin rash
8. Nausea or vomiting
9. Diarrhea
10. Chills or dizziness.

Symptoms of Severe COVID-19 Disease Include

- Shortness of breath
- Loss of appetite
- Confusion,
- Persistent pain or pressure in the chest
- High temperature (above 38°C).

Other Less Common Symptoms Are

1. Irritability
2. Confusion
3. Reduced consciousness (sometimes associated with seizures)
4. Anxiety
5. Depression
6. Sleep disorders.

More severe and rare neurological complications such as strokes, brain inflammation, delirium, and nerve damage.

People of all ages who experience fever and/or cough associated with difficulty breathing or shortness of breath, chest pain or pressure, or loss of speech or movement should seek medical care immediately.^[4] Severe respiratory distress in immunocompromised patients has also been observed.

Fear among Masses

It was observed that it is a contagious disease and could spread through air droplets or direct contact. As the number of cases increased, the fear among the people also increased.

On the evening of March 24 2020, the Government of India under Prime Minister Narendra Modi ordered a nationwide lockdown for 21 days, limiting movement of the entire 1.38 billion or 138 crore population of India as a preventive measure against the COVID-19 pandemic in India.^[5]

Following preventive measures were introduced by the World Health Organization -

- Clean your hands often
- Cough or sneeze in your bent elbow - not your hands!
- Avoid touching your eyes, nose, and mouth
- Limit social gatherings and time spent in crowded places
- Avoid close contact with someone who is sick
- Clean and disinfect frequently touched objects and surfaces.^[6]

After a year of struggle, the vaccination was finally introduced in two forms- Covishield and Covaxin.

Covishield: The OxfordAstazeneca vaccine is being manufactured locally by the Serum Institute of India, the world's largest vaccine manufacturer.^[7]

COVAXIN®, India's indigenous COVID-19 vaccine by Bharat Biotech is developed in collaboration with the Indian Council of Medical Research - National Institute of Virology.^[8]

However, a few signs and symptoms were observed postvaccination which raised fear and suspicion towards the vaccine among the masses.

MATERIALS AND METHODS

This study relies upon an Internet-based, cross-sectional online survey. A total sample size of 100 dental students and professionals responded to the questionnaire which was uploaded on Google forms for circulation to study sample. Link for the questionnaire is: <https://forms.gle/mv1vm2NKnfrwyDn6>

Prior to full-scale implementation of this study, pilot study was done on ten dental students. Any problems that arose were addressed and rectified during pilot study and prior to the circulation to actual sample size.

RESULTS

A target population of 196, including dental students and dental professionals were shared the survey link. A total of 100 completed the questionnaire. The total sample of dentists ($n = 100$) with most responders lying in the age of 20–30 years with female predilection [Figures 1 and 2].

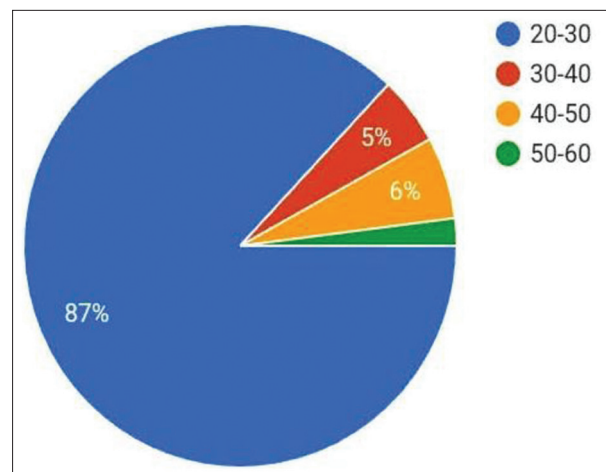


Figure 1: Age of the respondent

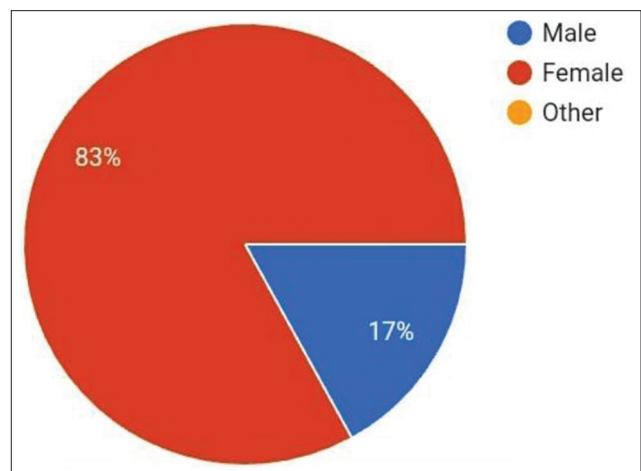


Figure 2: Gender of the respondent

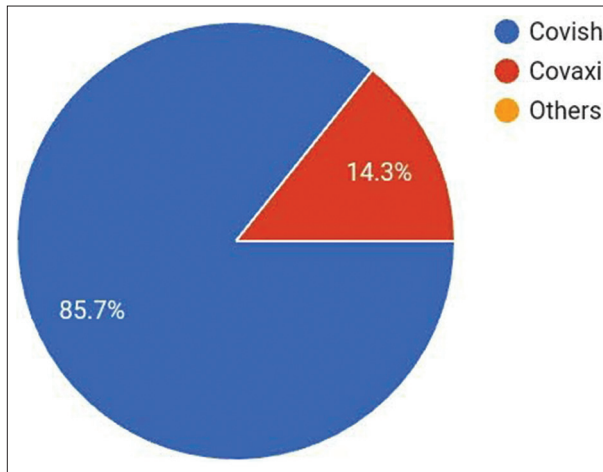


Figure 3: Vaccination that the respondent got

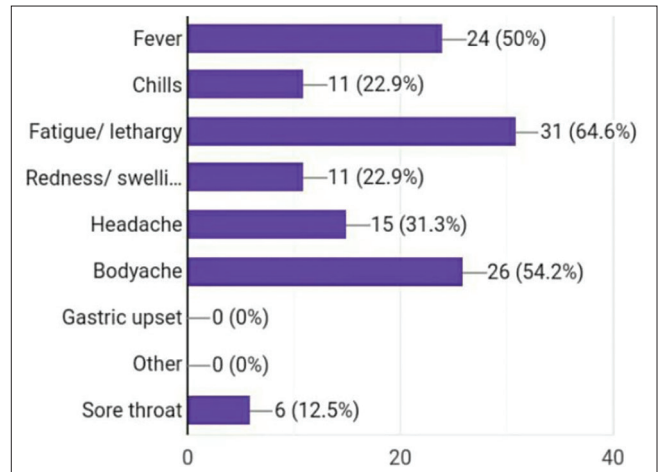


Figure 5: Symptom(s) experienced after first dose

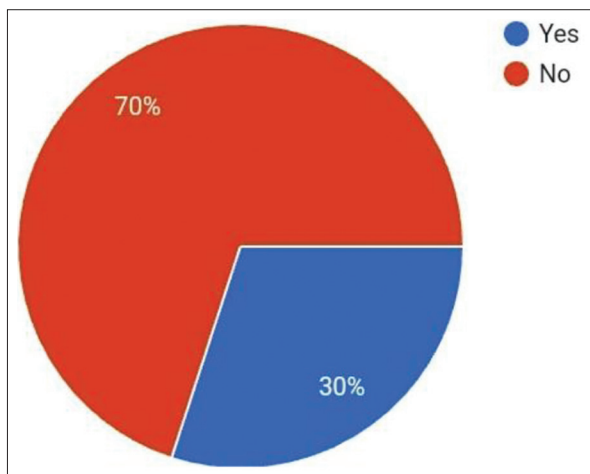


Figure 4: Hesitancy in respondents regarding vaccination

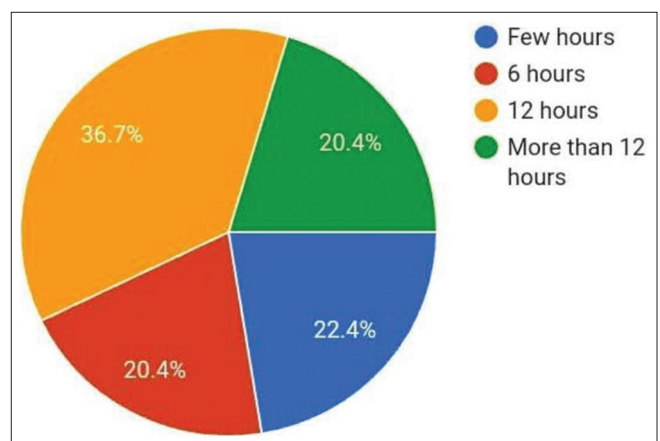


Figure 6: Time taken for the symptom(s) to appear

About 85.7% of the dental health care professionals and workers were vaccinated with covishield vaccine introduced by the Serum Institute of India, out of which 70% were not hesitant in getting vaccinated [Figures 3 and 4].

Most of the signs and symptoms observed postvaccination were fatigue and lethargy being the most common with 64.6% followed by bodyache (54.2%), fever (50%), and sore throat being the least commonly reported (12.5%) [Figure 5].

Majority of the sample population faced symptoms beginning from the 12th h and lasted almost upto 48 h [Figure 6].

Since the dental health professionals belong to the medical field, they believe- "Prevention is better than cure." Hence, even after vaccination, 86.4% of the study population feels the need for wearing masks [Figure 7].

According to the survey, 95.8% of the sample population was safe and were not COVID-positive even after vaccination [Figure 8].

It has been observed that about half of the sample populations' family members were vaccinated as well, out of which only 4.2% were tested COVID-positive after vaccination [Figures 9 and 10].

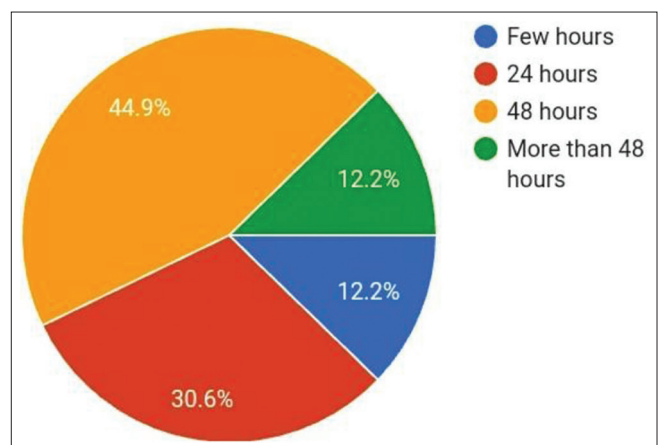


Figure 7: Time taken for the symptom(s) to disappear

DISCUSSION

India is facing a "severe, intensive" second wave.^[9] India is close to becoming the second worst-hit country in the world again. The country has so far reported 12.58 million cases after Brazil with 12.98 million cases. The US with over 31 million cases continues to remain the worst-hit country in the world.^[10]

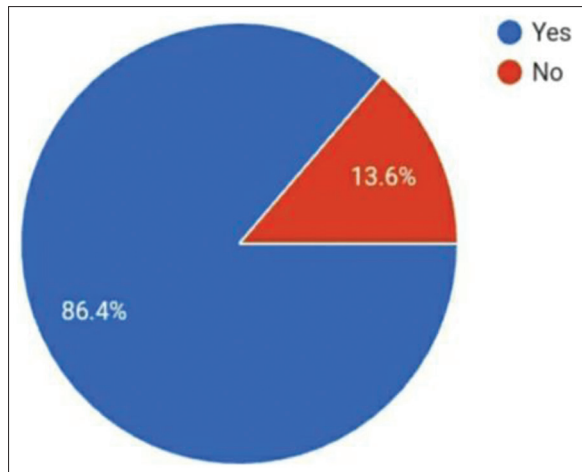


Figure 8: Respondents who are willing to follow the strict mask wearing protocol

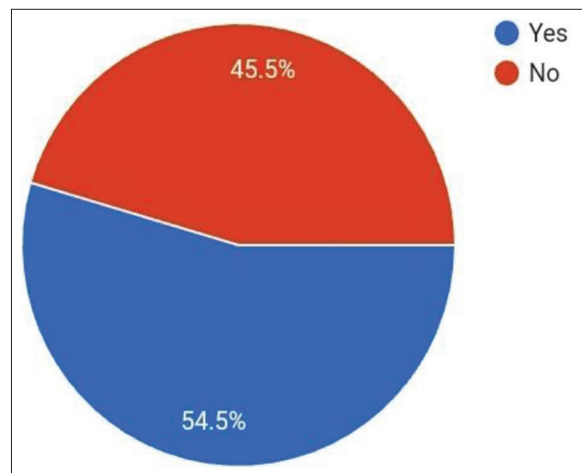


Figure 9: Family member(s) who got vaccinated

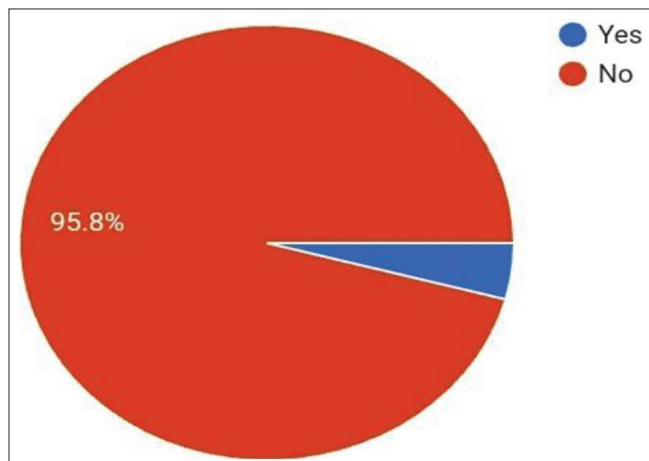


Figure 10: Respondents/family member(s) who tested COVID-positive post vaccination

However, there are only few rare cases where people have contracted COVID-19 after taking vaccines and even if someone tests positive after taking vaccines, it minimalizes the chances of their hospitalization or admission to ICU wards.^[11]

According to the survey conducted to determine the knowledge, attitude, and beliefs among the dental health professionals who got COVID-19 vaccination in BJS Dental College, Ludhiana, Punjab, India: It was observed that the most common signs and symptoms reported postvaccination were fatigue and lethargy (64.6%), bodyache (54.2%), and fever (50%) after about 12 h and it took almost 48 h for the symptoms to disappear. The above stated result is at par with the article on common side effects of COVID-19 vaccination.^[12]

The article published regarding the efficiency of Covishield (74.2%) (65–81%) after complete regimen and prevention of developing more severe symptoms that often require hospitalization.^[13]

Furthermore in accordance with our report stating that 4.2% of the respondents/family member(s) were tested COVID-positive postvaccination.

The Dental Health Care Professionals, being the first line of defense, have actively participated in fighting the war against COVID-19 and according to our survey, 86.4% of the dental health professionals believe in following the strict mask-wearing protocol.

Currently, AstraZeneca has completed its phase 3 of trial in the UK, but other vaccinations are yet to undergo it. It is too soon to conclude about the efficacy and safety of vaccination and hence more trial results are awaited for the same. However, vaccination is the only tool that can aid in defeating this deadly virus.^[14,15] Moreover, it is the responsibility of every citizen to get vaccinated and fight alongside the health professionals in this war.

CONCLUSION

Most of the dental health professionals and students received the Covishield vaccine as it is the most commonly available vaccine in Punjab, India.

It is too early to determine the complete efficacy of the vaccine as these vaccines were approved for emergency use. More clinical trials should be conducted around the globe by various vaccine manufacturers. Currently, vaccination is the only tool to curb the COVID-19 infection and help in breaking the chain and spreading of this infection.

REFERENCES

1. Bhargava HD. Coronavirus History. 2020 WebMD, LLC. <https://www.webmd.com/lung/coronavirus-history#:~:text=continued-,coronavirus%20evolution,seven%20coronaviruses%20can%20infect%20humans.> [Last accessed on 2021 Mar 15].
2. World Health Organization. Infection Prevention and Control during Health Care when Covid-19 is Suspected. Coronavirus Disease 2019 (Covid-19). Geneva: World Health Organization; 2019. Situation report-94. Available from: https://www.google.com/url?sa=t&source=web&rct=j&url=https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200423-sitrep-94-covid-19.pdf&ved=2ahUKEwjsjt6tpu_vAhWxguYKHRAFAV8QFjAKegQICBAC&usg=AOvVaw0hctaJOvg8zVHod23wrrBQ&csid=1617907440139. [Last accessed on 2021 Mar 20].
3. Andrews MA, Areekal B, Rajesh KR, Krishnan J, Suryakala R, Krishnan B, et al. First confirmed case of COVID-19 infection in India: A case report. *Indian J Med Res* 2020;151:490.
4. World Health Organization. Coronavirus Disease (Covid-19). 2021 Geneva: World Health Organization; 2020. Available from: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/question-and-answers-hub/q-a-detail/coronavirus-disease-covid-19#:~:text=symptoms.> [Last accessed on 2021 Mar 20].

- accessed on 2021 Mar 20].
5. Gettleman J, Schultz K. Modi Orders 3-Week Total Lockdown for all 1.3 Billion Indians. *The New York Times*; 2020. Available from: https://www.en.m.wikipedia.org/wiki/COVID-19_lockdown_in_India. [Last accessed on 2021 Mar 25].
 6. World Health Organization. COVID-19 Transmission and Protective Measures WHO Western Pacific. Geneva: World Health Organization; 2021. Available from: <https://www.who.int/westernpacific/emergencies/covid-19/information/transmission-protective-measures>. [Last accessed on 2021 Mar 25].
 7. Sputnik V, Covishield, Covaxin: What we know about India's Covid-19 Vaccines. *BBC News*; 2021. Available from: <https://www.bbc.com/news/amp/world-asia-india-55748124>. [Last accessed on 2021 Apr 15].
 8. COVAXIN India's First Indigenous Covid-19 Vaccine Bharat Biotech; 2021. Available from: <https://www.bharatbiotech.com/covaxin.html>. [Last accessed on 2021 Apr 15].
 9. Coronavirus Update: India is Facing a "Severe, Intensive" Second Wave. *BBC News*; 2021. Available from: <https://www.bbc.com/news/world-asia-india-56586420>. [Last accessed on 2021 Apr 15].
 10. Benett, Coleman and Co Ltd. Explained in 10 Charts: How Covid Cases are Rising, Spreading during 2nd Wave. *Times of India*; 2021. Available from: https://www.m.timesofindia.com/india/explained-in-10-charts-the-rise-of-covid-19-second-wave-in-india/amp_articleshow/81910892.cms. [Last accessed on 2021 Apr 15].
 11. Benett, Coleman and Co. Ltd. Harsh Vardhan: Seven COVID-19 Vaccine Candidates in Clinical Trials, Says Harsh Vardhan *The Economic Times*; 2021. Available from: https://www.m.economictimes.com/industry/healthcare/biotech/pharmaceuticals/seven-covid-19-vaccine-candidates-in-clinical-trials-says-harsh-varadhan/amp_articleshow/81756548.cms. [Last accessed on 2021 Apr 18].
 12. Ministry of Health and Family Welfare. Common Side Effects (AEFI). Some Common Ailments that can be Expected after Vaccination. Ministry of Health and Family Welfare. GOI Design, Developed and Hosted by National Informatics Centre; 2021.
 13. COVID 19 Vaccine Efficacy Summary. Institute for Health Metrics and Evaluation(IHME), Seattle, USA: IHME, University of Washington, 2021.
 14. Voysey M, Clemens SA, Madhi SA, Weckx LY, Folegatti PM, Aley PK, et al. Safety and efficacy of the ChAdOx1 nCoV-19 vaccine (AZD1222) against SARS-CoV-2: An interim analysis of four randomised controlled trials in Brazil, South Africa, and the UK. *Lancet* 2021;397:99-111.
 15. Ministry of Health and Family Welfare. Frequently Asked Questions. What is the Safety and Efficacy of the Vaccines Used in the Country. Ministry of Health and Family Welfare, GOI Design, Developed and Hosted by National Informatics Centre (NIC); 2021.

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