

Covid vaccine cognizance survey - A cross sectional questionnaire study

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How to citation this article: Dr. Neelam Kukreja, Dr. Manjunath Malur, Dr. Yogesh Sahu, Dr. Ankita Singh, Dr. Abhishek Pal, Ms. Simran Kukreja, “Covid vaccine cognizance survey - A cross sectional questionnaire study”, IJMACR- January – February - 2022, Vol – 5, Issue - 1, P. No. 280 – 289.

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Type of Publication: Original Research Article

Conflicts of Interest: Nil

Abstract

The recent spread of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and its associated coronavirus disease has gripped the entire international community and caused widespread public health concerns. Dental care providers need to be aware and prepared for tackling any impending infectious disease challenge as might be the case in the current outbreak of SARSCoV-2 transmission and its associated coronavirus disease, which can be life threatening to susceptible patients. Thus, the aim of this article is to provide a brief

overview of the epidemiology, symptoms, and routes of transmission of this novel infection. In addition, specific recommendations for dental practice are suggested for patient screening, infection control strategies, and patient management protocol.

Keywords: Dentist, Knowledge, Covid shield, COVAX in, Management, Vaccine

Introduction

The COVID-19 pandemic caused by the novel coronavirus, also known as SARS-CoV-2, has affected millions worldwide. There is no doubt that this global

catastrophe has brought major economies across the globe to a screeching halt. In India as of April 2021, 1.2Cr have contracted the deadly disease & over 1.7L have succumbed to it. Additionally, India is now witnessing the second wave of COVID-19, especially in the states of Chhattisgarh, Maharashtra, Kerala & Delhi NCR, and the mortality and morbidity rates have risen out of control. Epidemiological research is still ongoing, however it is largely been established that the mechanism of viral transmission through which the virus exits the reservoir host & enters the susceptible host is “Droplet Spread”. WHO says that –“The COVID-19 virus spreads between people who are in close contact with each other, typically within 1metre (short-range). A person can be infected when aerosols or droplets containing the virus are inhaled or come directly into contact with the eyes, nose, or mouth. The virus spreads readily in poorly ventilated and/or crowded indoor settings, where people tend to spend longer periods of time. This is because aerosols remain suspended in air or travel farther than 1metre (long-range). Any situation in which people are in close proximity to one another for long periods of time increases the risk of transmission.”

Since dentists perform procedures very close to their patients & because the processes involve a large propensity for aerosol/droplet production, the dental professionals carry exceedingly high risk of contracting the COVID-19 infection. Therefore, it is imperative that the dental fraternity should not just be well aware of the attributes of SARS-CoV-2 and infection prevention protocols, but also should actively adopt & advocate for COVID-19 vaccination.

In the absence of an effective antiviral, achieving herd immunity through vaccination is the only long term & cost-effective solution to the current COVID-19 crisis.

India is one of the few vaccine producing nations in the world. Here, three vaccines have been granted authorization for use by the Central Drugs Standard Control Organization (CDSCO). They are - Covishield® (AstraZeneca's vaccine manufactured by Serum Institute of India), COVAX in® (manufactured by Bharat Biotech Limited), and Sputnik V (developed by Gamaleya Research Institute, Russia), which was granted emergency-use authorization by the Drugs Controller General of India (DCGI)¹. Albeit with voluntary participation, the phased vaccination drive in India commenced on 16th Jan 2021 and it involved vaccinating health workers and frontline workers. The 2nd phase of vaccination covering all citizens above the age of 45, has begun on 1st March 2021²

Even with the nationwide deployment of the vaccination program, there are certain major roadblocks to alleviating the pandemic. The World Health Organization (WHO) has identified vaccine hesitancy as a leading global health threat^{3,4,5}. As per a recent survey, the COVID-19 vaccine acceptance rate among the healthcare workers stand at 79.3%⁶. Pegged at 29%, vaccine hesitancy is higher among the rest of the population. At this rate, it's forecasted that by the end of 2021, barely 30% of India's population would be inoculated⁷. A variety of reasons ranging from lack of awareness to misinformation/fake news spreading on social media to general distrust, etc. can be attributed to this glaring hesitancy.

To ameliorate the vaccine acceptance scenario, a concerted effort would be required at large in which the dental community could rise upto the challenge and play a pivotal role. In recent research it was concluded that the public is more likely to trust information they receive about the COVID-19 vaccine when that information

comes from public health entities or health care professional⁸. Dentists being a respected community of health care professionals in India, can promote vaccine awareness & build confidence among the people, and provide them a nudge to get the COVID-19 vaccine. By getting vaccinated themselves, the dentists won't just immunize themselves from the life-threatening disease, but will also serve as a role model for the common populace.

Objective

Our study among the dentists is aimed at assessing their knowhow & awareness related to the COVID-19 vaccination drive in India.

Methodology

KAP study: A Knowledge, Attitudes, and Practices survey is a standardized questionnaire in a structured manner providing quantitative and qualitative information targeting a specific population.

a) Study Design

A cross-sectional survey of knowledge, attitude and practices regarding COVID-19 vaccine among Dentist in Chhattisgarh (a state of India) was conducted online. To carry out this survey, a Google form was used, as this Table1: Questionnaire with options.

S. No	Question	Options
1.	Vaccines administered under Indian Government	a) Covishield & Covax in c) Covax in & Pfizer b) Covishield & Pfizer d) Pfizer & Moderna
2.	What is the type of Covishield Vaccine	a) Inactivated c) Recombinant b) Live attenuated d) Toxoid
3.	Covax in is developed by	a) Bharat Biotech c) Zydus Cadila b) Serum Institute d) Indian Immunologicals
4.	Efficacy rate of Covax in	a) 50% c) 98% b) 81% d) 78%
5.	Number of Doses in each vial of vaccine	a) 10 c) 5 b) 20 d) 15

software allows the respondents to submit their answers and record them. A set of standardized questions were formatted in English language to gather information from respondents. This form was circulated via social media platforms. The time span of this online survey was from

1st April 2021 to 1st May 2021

b) Participants

The target population and type of participants for this online research were Dentists. 200 dental practitioners of Chhattisgarh were invited to assess the literacy skill, knowledge, and awareness towards vaccination. Out of 200, 150 professionals participated and attempted the questionnaire.

c) Questionnaire

A list of questions associated with type, dose, route and particulars of COVID-19 vaccine was developed with multiple options. Table 1 depicts all the questions along with options quoted in the survey. At the outset, the name and Email id of participants were registered. In addition to this, an investigation of various demographic parameters like age, gender, qualification, and specialization was included.

6.	Course of Vaccination	a) 2 doses b) Single doses c) Any of the above
7.	Route of administration	a) Intradermal b) Intramuscular c) Intravenous d) Subcutaneous
8.	Dose of Vaccine	a) 0.5ml b) 1.0ml c) 10ml
9.	Interval between the doses of Covishield vaccine	a) 1week b) 2 weeks c) 4-6 weeks d) 4-8weeks
10.	Vaccination is contraindicated in:	a) during pregnancy & lactation b) below 18yrs c) all of the above d) None of the above
11.	Is there any intranasal vaccine for covid?	Yes b) No c) may be
12.	First vaccine used for covid in world	a) Covishield b) Covax in c) Pfizer- BioNTech d) Moderna
13.	Temperature required for Covid shield vaccine	a)-2 degree to -8 degree C b) +2 degree to + 8 degree C
14.	Opinion regarding Vaccine safety	a) Good for health b) harmful c) other
15.	Most common side effect of vaccination	a) Fever b) vomiting c) dizziness d) none of the above

Result & Discussion

a) Demographic characteristics

Initially, the contextual factors or variables like gender, age, qualification and specialization were reported. The findings revealed that out of 150 participants, 76 were male and 74 were females (Fig1). Almost an equal proportion of participation of either gender was observed in the questionnaire. Among the entrants, 76 dentists (53.1%) were BDS and 67 (46.9%) were MDS qualified. The majority of BDS qualified Dentists was more as compared to MDS (refer Fig 2). About 64% of Dentists in the age group of 20-29 showed maximum participation in the survey followed by 27.3% in the age group 30-39 (Fig3). A high degree of involvement was reported from 50 General Practitioner. According to the survey, the contribution of specialists is in the following order: 38.5% General Practitioner > 13.8% Prosthodontic > 13.1% Endodontics > 8.5% Orthodontics > 6.9% Oral Surgery > 6.2% Periodontics > 6.2% Paediatric

Dentist > 3.1% Oral Medicine & Radio > 3.1% Oral Pathology > 0.8% Public Health Dentistry (Fig 4). Table 2 highlights the results of these parameters in numbers and percentages.

Gender

150 responses

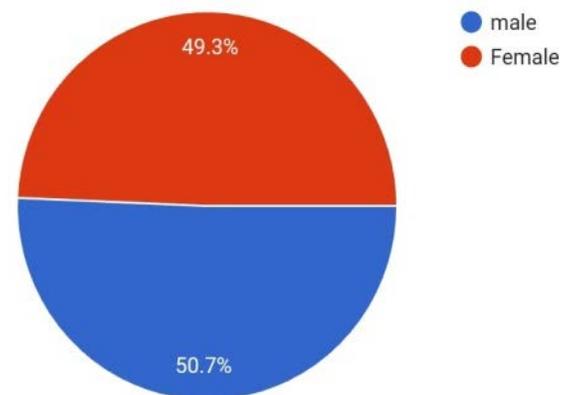


Fig 1: Result of Gender

Qualification

143 responses

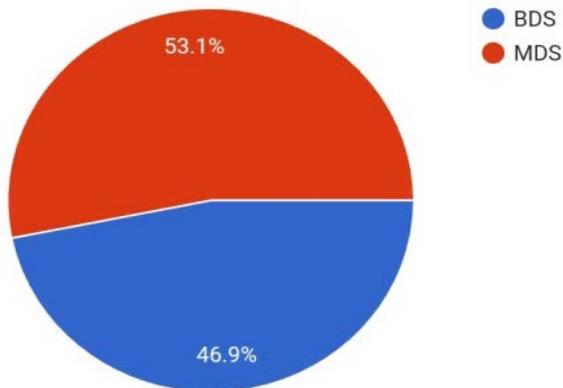


Fig 2: Result of Qualification

Age

150 responses

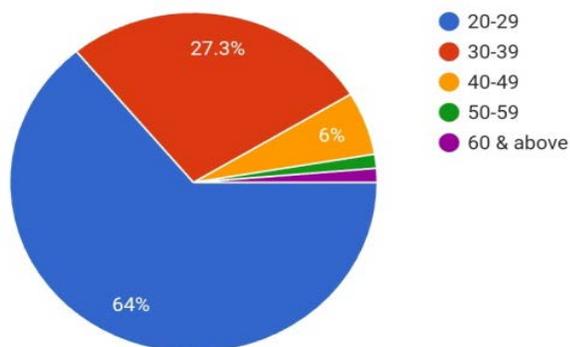


Fig 3: Result of Age

Specialization

130 responses

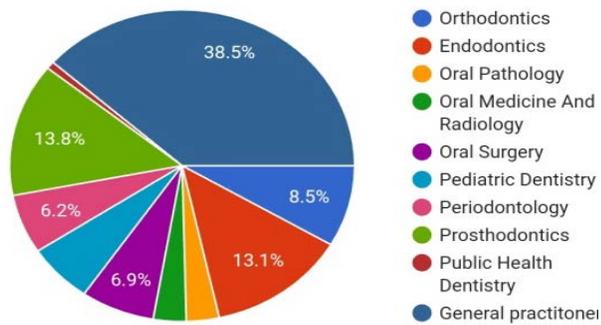


Fig 4: Result of Specialization

Table 2: Results of Demographic Parameters.

S.No	Demographic Parameters		n	%
1	Gender	Male	76	50.7
		Female	74	49.3
2	Qualification	BDS	76	53.1
		MDS	67	46.9
3	Age	20-29	96	64
		30-39	41	27.3
		40-49	09	6
		50-59	02	1.3
		Above 60	02	1.3
4	Specialization	General Practitioner	50	38.5
		Prosthodontic	18	13.8
		Endodontics	17	13.1
		Orthodontics	11	8.5
		Oral Surgery	09	6.9
		Periodontics	08	6.2
		Paediatric Dentist	08	6.2
		Oral Medicine & Radio	04	3.1
		Oral Pathology	04	3.1
		Public Health Dentistry	01	0.8

a) Knowledge based

We received 135 & above responses from each question out of 150. This indicates active participation and the keen interest of Dentists regarding the awareness of the ongoing global pandemic vaccine. 15 questions were related to knowledge of COVID-19 vaccine in this survey and the results obtained were appreciable. More than 50% of respondents were correct in 10 questions. The overall correct answer rate for knowledge-based questionnaire was 60.37% and 39.62% was incorrect.

Table 3 represents complete data of total number of responses recorded in each question along with the number and percentage of correct as well as incorrect

answers given by entrants. In addition to this, number of questions left blank was also reported.

Table 3: Result of Knowledge based response.

Question	Responses	Correct		Incorrect		Left blank
		n	%	n	%	
Q1	147	143	97.3	4	2.8	3
Q2	138	32	23.2	106	76.7	12
Q3	148	121	81.8	27	18.3	2
Q4	148	81	54.7	67	45.2	2
Q5	137	11	8	126	92	13
Q6	149	140	98.7	9	1.4	1
Q7	149	147	94	2	6	1
Q8	145	92	63.4	53	36.6	5
Q9	147	75	51	72	48.3	3
Q10	148	80	54.1	68	45.9	2
Q11	147	32	21.8	115	78.3	3
Q12	142	16	11.3	126	88.7	8
Q13	139	64	46	75	54	11
Q14	142	141	99.3	1	0.7	8
Q15	142	134	94.4	8	5.6	8

The data collected from all the questions pertaining to knowledge is depicted in Fig 5- Fig 19. Each figure evidences the question along with options with different colors, the total number of responses and the results obtained in percentage with divisions.

Around 143(97.3%) participants have information that Covishield and COVAX in were administered under Indian Government. Almost all the dentists (99.3%) were aware of the vaccine’s safety. In question 6, 98.7% of entrants recognized the course of vaccination. Similar proportions were observed in response to questions 7 & 15. 94% of people have knowledge regarding the route of administration of vaccine and 94.4% knew that fever is the most common side effect.121(81.1%) were familiar with question 3. In above discussed questions,

the Dentists of Chhattisgarh was reliable, clear and sure about the knowledge on the vaccine.

In contrast to the above questions, lack of certainty and ambiguity was observed in questions number 2, 5, 11, 12. The percentage of correct answers associated with the type of Covishield vaccine, number of doses in each vial, intranasal vaccine for covid and first vaccine for covid was only 23.2 %, 8 %, 21.8% , 11.3% respectively. Due to the vagueness and confusion, high proportions of wrong answers was analysed in these questions. And the percentage is in the order of questions discussed here: 76.7%, 92%, 78.3%, and 88.7 %. Additionally, the questions not attempted or left blank were insignificant.

However, the outcome of 4 questions showed that the entrants were perplexed and found themselves in a dilemma. The ratio between correct and incorrect was 50:50. And these questions are mentioned in brief below:

- a. Efficacy rate of Covax in
- b. Interval between the doses of Covishield vaccine
- c. Vaccination is contraindicated in
- d. Temperature required for Covishield vaccine

Vaccines Administrated Under Indian Government

147 responses

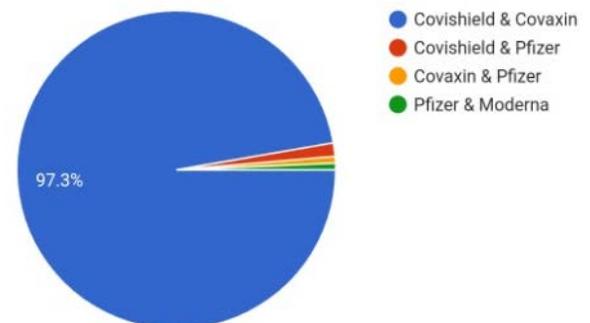


Fig 5

What Is The Type Of Covishield Vaccine ?

138 responses

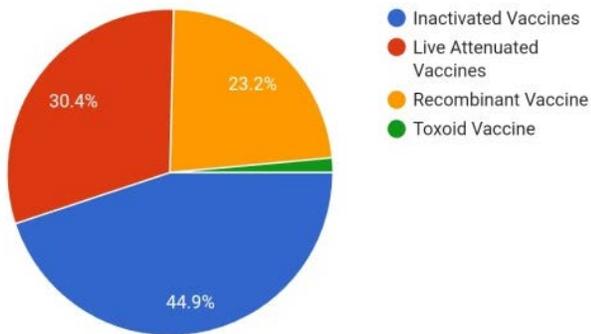


Fig 6
Covaxin Is Developed By :

148 responses

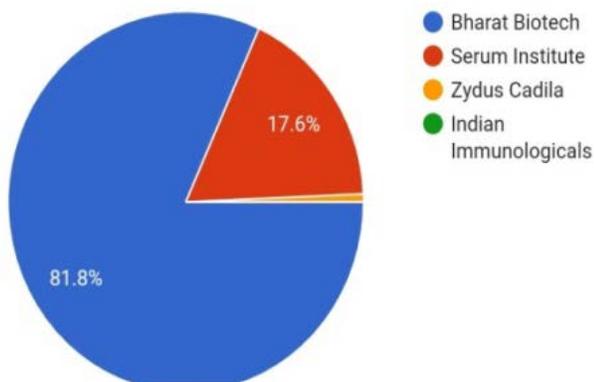


Fig 7
Efficacy Rate Of Covaxin

148 responses

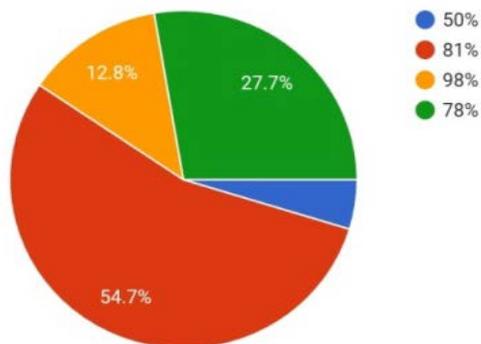


Fig 8

Number Of Doses Of In Each Vial Of Covaxin

137 responses

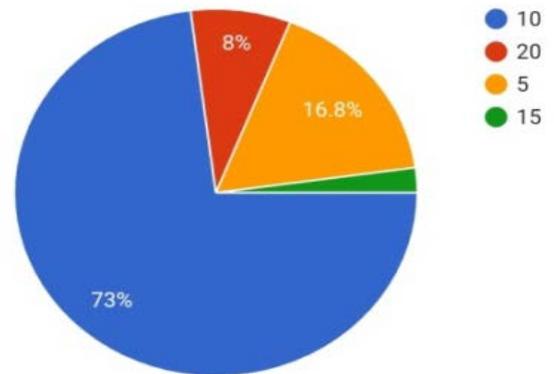


Fig 9
Course Of Vaccination:

149 responses

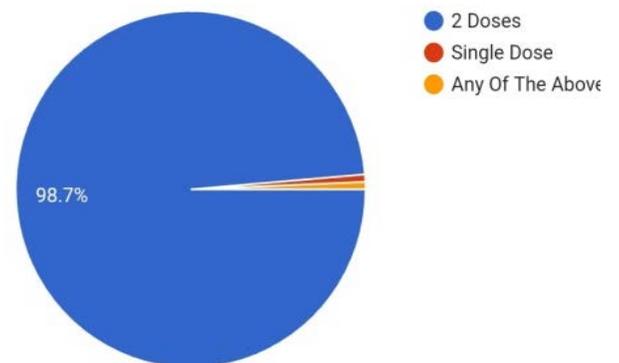


Fig 10
Route Of Administration

149 responses

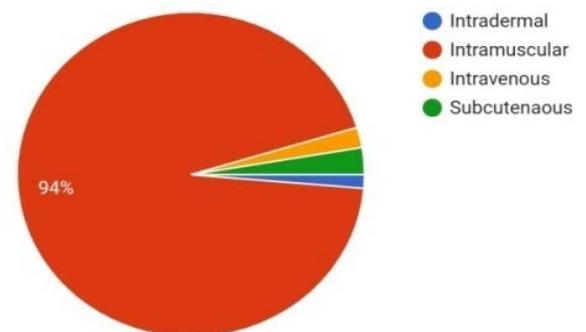


Fig 11

Dose of vaccine

145 responses

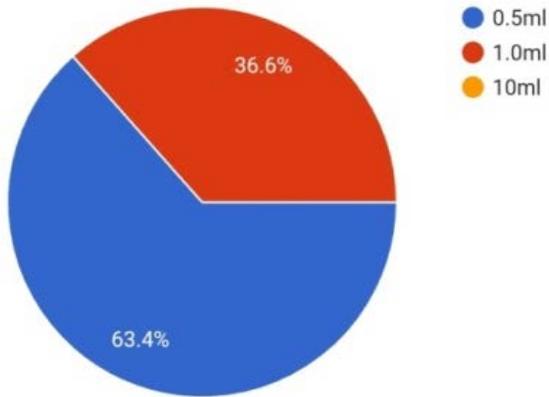


Fig 12

Interval between the doses of Covishield vaccine

147 responses

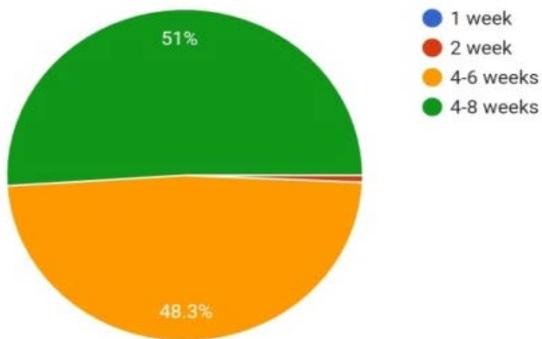


Fig 13

Vaccination is contraindicated in:

148 responses

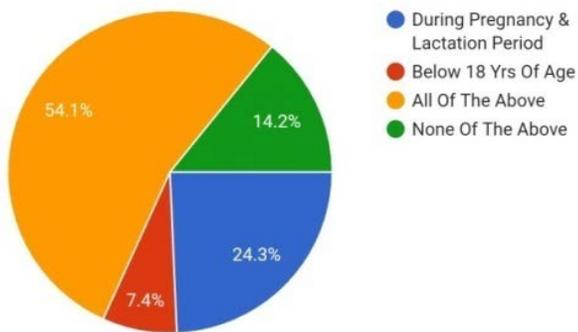


Fig 14

Is there any intranasal vaccine for covid?

147 responses

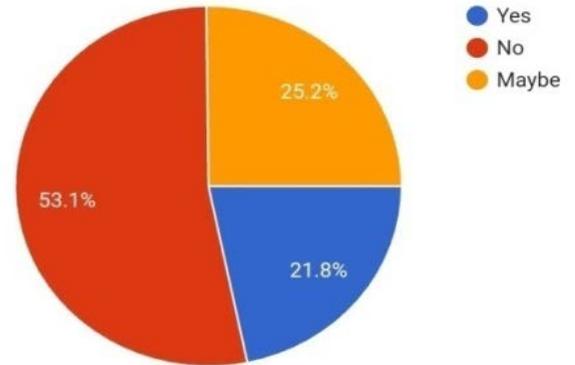


Fig 15

Temperature required for covishield vaccine

139 responses

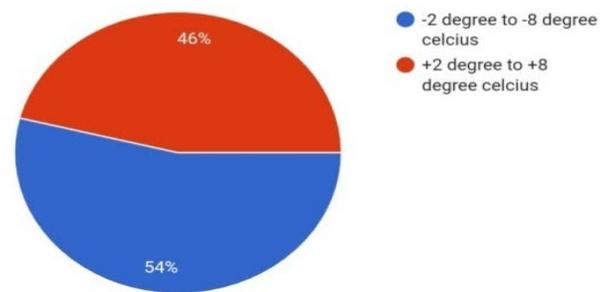


Fig 16

First vaccine used for covid in World

142 responses

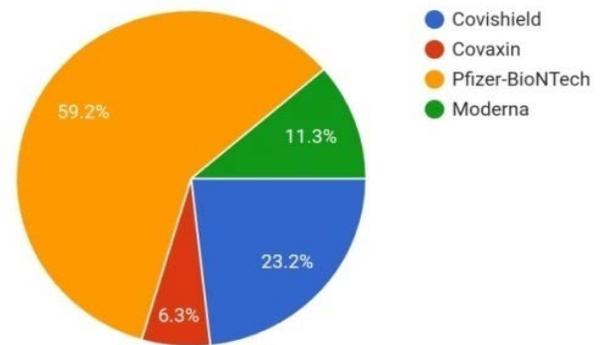


Fig 17

Opinion regarding vaccine safety

142 responses

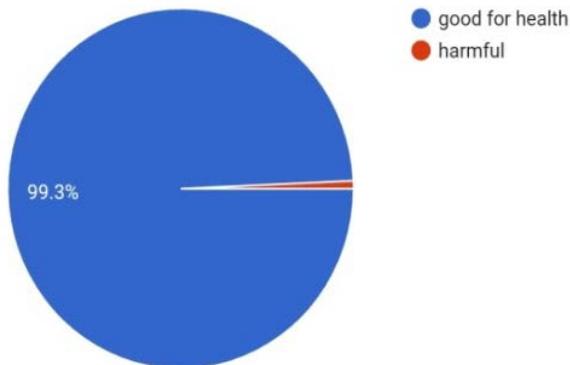


Fig 18

Most common side effect of vaccination

142 responses

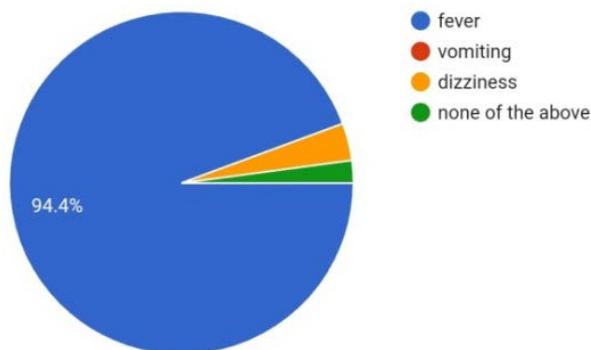


Fig 19

Conclusion

The present study conducted on 150 Dentists of Chhattisgarh to assess the knowledge regarding vaccine revealed that male participant was slightly higher in number. Significant response was from 20-29 age group respondents and the majority was of General practitioner which means BDS qualified. Lack of knowledge was evident in few instances but 60% of the targeted population recorded accurate answers. In a nutshell, the survey yielded beneficial, informative and productive results involving active participation, developing interest, or a strategy to build literacy and make health

care professional aware regarding the COVID 19 vaccine. The high-quality performance and knowledge of Dentists is admirable and excellent.

References

1. MyGov.in. Govt of India. 16 March 2020. Retrieved 12 June 2021.
2. Das, Krishna N. (10 March 2021). "Big Indian state scales down vaccinations, citing shortage". Reuters. Retrieved 4 June 2021.
3. Beaumont, Peter (24 March 2021). "Delhi reportedly halts AstraZeneca Covid vaccine exports as cases soar". The Guardian. Retrieved 22 April 2021.
4. "Covid-19 vaccination: How is India's inoculation drive going". BBC News. 1 May 2021. Retrieved 22 April 2021
5. Pandey, Vikas (7 April 2021). "India Covid-19: 'No end in sight' as doctors battle second wave". BBC News. Retrieved 22 April 2021
6. Dey, Sushmi (19 April 2021). "Only 37% of 3 crore health, frontline workers fully vaccinated". The Times of India. Retrieved 4 June 2021.
7. Sanghi, Neeta (23 April 2021). "The Modi Govt Wants to Vaccinate All Indians. Its Plan Points the Other Way". The Wire Science. Retrieved 4 June 2021.
8. Ghosh, Poulomi, ed. (19 March 2021). "Every vaccine does not require universal immunisation': Harsh Vardhan on Covid-19 vaccine in Lok Sabha". Hindustan Times. Retrieved 4 June 2021.