Perception and Knowledge of Medical Doctors and Dentist in Bharatpur towards COVID-19 Vaccination and Vaccine

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ABSTRACT

Introduction: COVID-19 vaccination has begun in many countries in the world and in Nepal too. However, many doctors and dentists have been reported missing in the vaccination program. Moreover, many those vaccinated had reported with several adverse effects along with being tested COVID-19 positive. This study aimed to assess the knowledge and perception of medical doctors and dentists towards COVID-19 vaccination program in Bharatpur.

Methods: A descriptive cross-sectional study was conducted using self-administered questionnaire survey among Nepal medical council registered Doctors and Dentist in Bharatpur during July 15, 2021 to September 15, 2021. The collected data was entered into Statistical package for social science (SPSS) version 26, and analyzed using descriptive statistical tool (frequency, percentages).

Results: The majority of the participants 160 (88.9%) were of age 25-30 years. Most of them 176 (97.8%) participants were vaccinated against COVID-19, among which 152 (84.4%) received both the doses of vaccine. Majority of them 144 (77.8%) received AstraZeneca vaccine while 101 (56.1) experienced adverse symptoms. Among the participants, 121 (67.2%) participants replied that Covishield vaccine was developed on non-replicating vector platforms.

Conclusions: Majority of the participants of the study had taken COVID-19 vaccine which shows the negative hesitancy towards this deadly virus and importance vaccine for themselves and their patients too. The medical doctors and dentists need to be updated with the COVID-19 vaccine information.

INTRODUCTION

Coronavirus disease 2019 (COVID-19) is a rapidly emerging condition that has become exceedingly contagious infirmity lead by novel virus related to coronavirus family.¹ It was declared pandemic in 11th of March 2020 while Nepal identified its first case in January 13th 2020.^{2,3} Since then more than 115 vaccine manufacturers have been reported in the process of developing vaccines for COVID 19.⁴

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On December 8 2020 UK became the first country to start administrating the citizens with fully trialed and tested COVID 19 vaccine.⁵ Ever-since many countries had started vaccinating their citizens. Nepal entered the race of COVID 19 vaccination since January 27 2021 as the country received 1 million doses of Covishield vaccine developed by serum institute of India from the Indian government.⁶ Government of Nepal prioritize vaccination first to the frontline workers such as health professionals, policeman, and government employed personnel.⁶ Slowly study related to the efficacy of trial, of ChAdOx1 nCoV-19, have started to emerge.⁷

Maintaining the health of the health care workers has been considered as a first step towards COVID-19 pandemic preparedness. Many doctors and dentist have received the vaccine. While those who received also complained of various adverse effects of the vaccine and many were tested COVID 19 positive.^{8, 9}Studying the knowledge and perceptions of doctors and dentist towards COVID-19 vaccination and vaccine can also help to analyze the effectiveness of the vaccine. This study aimed to assess the knowledge and perception of medical doctors and dentists towards COVID-19 vaccination program in Bharatpur.

METHODS

A descriptive cross-sectional study was conducted among the medical doctors and dentists of Bharatpur Metropolitan city from July 15, 2021 to September 15, 2021 after obtaining the ethical approval Bharatpur Hospital (077/78-016).

The sample size was calculated using formula N = Z^2pq/d^2 , taking p = 87.1% = 0.871,⁴ q = (1 - p) = (1 - 0.871) = 0.129 at 95% confidence interval level and d = allowable error which is kept at 5%. The sample size was calculated as 172.65. However, in this study 180 medical doctors and dentists were included. A convenience sampling method was used to collect the data. All the medical doctors and dentists who were from Bharatpur Metropolitan city and gave informed consent were included in the study.

A self-administered questionnaire was used to collect information on the perception and knowledge. The questionnaire was adopted from extensive literature review of previous studies.¹⁰⁻¹³A pretesting of the questionnaire was conducted among 15 doctors and dentists who were practicing outside Bharatpur city. They were chosen to avoid inclusion in the study. Based on the pretesting results, the questionnaire was modified with consultation from the experts in the field.

The questionnaire consisted of 3 parts where part 1 included the demographic information and part II was related to the vaccination program while part III included questions related to vaccine itself.

Collected data was entered into Statistical package for social science (SPSS) version 26, and analyzed using descriptive statistical tool (frequency, percentages).

RESULTS

The sociodemographic details of the medical doctors and dentists is shown in Table 1. The majority of the participants 160 (88.9%) were of age 25-30 years. Most of them were males 103 (57.2%).

 Table 1: Sociodemographic information of participants

Variables		Frequency (%)
Age	25-30 years	160 (88.9)
	31-35 years	9 (5.0)
	36-45 years	10 (5.6)
	46-55 years	1 (0.6)
Gender	Female	77 (42.8)
	Male	103 (57.2)
Level of education	BDS	73 (40.6)
	MBBS	89 (49.4)
	MD/MS	12 (6.7)
	MDS	6 (3.3)
Years of experience	1-3 years	159 (88.3)
	10-20 years	4 (2.2)
	3-5 years	7 (3.9)
	5-10 years	10 (5.6)

Medical doctors' perception towards COVID-19 vaccination is presented in Table 2. As presented in Table, 176 (97.8%) participants were vaccinated against COVID-19, among which 152 (84.4 %) received both the doses of vaccine. Majority of them 144 (77.8%) received AstraZeneca vaccine. Among those who were vaccinated 101 (56.1) experienced adverse symptoms after vaccination. About 90 % believed that the vaccination was effective against COVID-19 while 159 (88.3%) reported that they were updated with the knowledge of COVID-19 vaccine.

Table 2: Participants perception status associated with the COVID-19 Vaccination

Questions	Options	Frequency (%)
Are you vaccingted against COCID 10	No	4 (2.2)
	Yes	176 (97.8)
Did you receive both doors of your sing?	I received only the first dose of vaccine	24 (15.6)
	I received both doses of vaccine	152 (84.4)
Were you infected after receiving the vaccine?	No	140 (77.8)
	Yes	40 (22.2)
Which of the following vaccine did you received?	AstraZeneca/Covishield	144 (82.2)
	Vero cell	29 (16.1)
	Johnson and Johnson	3 (1.7)
Did you experience any symptoms after vaccina-	No	75 (43.9)
tion?	Yes	101 (56.1)
a Hoadacho	Yes	39 (21.7)
	No	137 (78.3)
	Yes	51 (28.3)
	No	125 (71.7)
a Murala ariaint nain	Yes	59 (32.8)
c. Muscle of joint pain	No	117 (67.2)
	Yes	46 (25.6)
	No	130 (74.4)
	Yes	25 (13.9)
	No	151 (86.1)
f. Nausea	Yes	2 (1.1)
	No	174 (98.9)
Do you think this vaccination is effective against COVID-19?	Don't know	18 (10.0)
	Yes	162 (90.0)
Are you updated with the effectiveness and adverse effects of the COVID-19 vaccine?	Don't know	9 (5.0)
	No	12 (6.7)
	Yes	159 (88.3)
Is it essential to follow safety procedure (like wear- ing PPE, hand sanitization) after receiving vaccina- tion?	Don't know	1 (0.6)
	Yes	179 (99.4)
Were you/ are you infected by COVID-19?	No	102 (56.7)
	Yes	78 (43.3)
	Don't know	19 (10.5)
a. Do you think you were infected from your work- place?	No	111 (61.7)
	Yes	50 (27.8)
b. Ware you bernitalized for the treatment?	No	168 (93.3)
	Yes	12 (6.7)
	One	72 (40)
C. HOW many times have you been intected with	Тwo	6 (3.3)
	No a single time	102 (56.7)

Among the participants, 121 (67.2%) participants replied that Covishield vaccine was developed on

non-replicating vector platforms while a mixed response was elicited by participants regarding Vero cell using peptide antigen as its platform. More that three fourth of the participants were known the trial status of both Vero cell and Covishield vaccine. In total 99 (55.1%) said that the self-life of Cov-ishield was 6 months and 77 (42.8%) said the self-life of Vero cell was 2 years. More than 80 % reported that the storage temperature of Covishield and Vero cell was 2°-8°C (Table 3).

Table 3: Participants knowledge regarding the COVID-19 Vaccine

Questions	Options	Frequency (%)
	True	121 (67.2)
Covishield vaccine was developed on non-replicating viral vector	False	10 (5.6)
	Don't know	49 (27.2)
	True	64 (35.6)
Vero cell includes peptide antigen as its platform	False	60 (33.3)
	Don't know	56 (31.1)
	True	137 (76.1)
Both Vero cell and Covishield has completed phase 2 and 3 trials	False	20 (11.1)
	Don't know	23 (12.8)
It is essential that vaccinated person should develop mild to moderate	True	18 (10.0)
symptoms following vaccination otherwise the vaccines might not	False	136 (75.5)
work	Don't know	26 (14.5)
	True	130 (72.2)
Thrombosis with thrombocytopenia syndrome (TTS) is considered as a	False	22 (12.2)
	Don't know	28 (15.6)
	True	18 (10.0)
It is safe to give Covishield vaccine to those who are tested Covid-19	False	148 (82.2)
	Don't know	14 (7.8)
	True	79 (43.9)
In Covishield longer the dose interval between first and second dose	False	79 (43.9)
	Don't know	22 (12.2)
	True	75 (41.7)
I he recommended dose of Covishield is two dose I ml each with an interval of 8-12 weeks each	False	80 (44.4)
	Don't know	25 (13.9)
	True	30 (16.7)
Covishield vaccine uses methyl paraben as preservative	False	71 (39.4)
	Don't know	79 (43.9)
	True	99 (55.1)
The shelf life of Covishield is 6 months	False	17 (9.4)
	Don't know	64 (35.5)
	True	77 (42.8)
The shelf life of Vero cell is 2 year	False	29 (16.1)
	Don't know	74 (41.1)
	True	80 (46.4)
In Covishield water is used as a vehicle for injection	False	25 (13.9)
	Don't know	67 (39.7)
	True	150 (82.8)
The storage temperature for Covishield and Vero cell is 2°-8°C	False	4 (2.2)
	Don't know	26 (15.0)

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DISCUSSION

Covid-19 has become a major public health problem throughout the world. Various public health measures such as social distancing, wearing face mask, hand washing and avoiding crowded spaces have been effectively used to restrain this pandemic.¹⁴ In addition vaccination program has also proved a ray of hope in this pandemic.¹⁴

Health care workers are frontline health professionals who are at high risk of getting exposed to COVID-19. So, they are at first recommended to get the vaccine against this virus.^{8, 9, 14} It was also expected that the health care workers are role model in the vaccination program, and do not have any hesitancy to get vaccinated against COVID-19. However, various studies showed a negative response. Many doctors and dentist have reported to be missing to receive the vaccine. While those who received complained of various adverse effects of the vaccine and many were tested COVID-19 positive. This led to the disbelief and unreliability towards the vaccine causing many health professionals not receiving the second dose.^{8, 12, 14} The government of Nepal also focused on the vaccination of frontline people such as health care workers, policeman and government employed personnel.⁶ Thus, it was necessary to assess the knowledge and perception of medical doctors and dentists regarding COVID-19 vaccine and the vaccination program.

In this study, majority of participants were vaccinated against COVID-19. This also shows their keenness towards taking the vaccine against COVID-19. This was very high as compared to the study done in the Democratic Republic of Congo, Nzaji et al reported that 22.7% of the health care workers showed positive attitude towards taking COVID-19 vaccine.¹⁵ The low acceptance to receive the COVID-19 vaccine was also reported in two studies performed among Saudi population.^{16, 17} The high rate of acceptance of getting vaccinated in our study might be due to the result of advernment prioritization and the effect of social media and mass communication. Even 84.4 % of the study participants had received both the doses of vaccine. Health care workers play a major role in their patients' acceptance of the vaccine too as they are the main source of information to the public and their counseling and consultation can also be an important matter to the general public to get vaccinated or not.13 In this study, about 90 % believed that the vaccination was effective against COVID-19 while 159 (88.3%) reported that they were updated with the knowledge of COVID-19 vaccine.

United Kingdom was the first country to approve the COVID-19 vaccine.⁵ Nepal started its vaccination programs on Jan 27th 2021. All of these vaccines were provided by donations from various countries.⁶ A lot of vaccines have been approved by WHO. In this study, nearly 80 % had received AstraZeneca vaccine. Apart from this Covishield, Johnson and Johnson have also been popularly used in Nepal. Among those who were vaccinated 101 (56.1) experienced adverse symptoms after vaccination. The common experiences shared were headache, fatique, muscle pain, fever, chills. In a similar study in Nepal, symptoms such as myalgia, nausea, tenderness at the injection site and feverish feeling were reported.⁶ In a study conducted in Banaladesh, Paul et al reported that about 46.2% reported that COVID-19 vaccines have side effects. This study also showed that more than 90% of participants knew about COVID-19 vaccine.¹⁸ Level of education has high impact on the knowledge of COVID-19 vaccine. Out study participants were medical doctors, although in most questions we received clear message, but in some questions mixed response was obtained. Regarding knowledae of vaccine, 121 (67.2%) participants replied that Covishield vaccine was developed on non-replicating vector platforms while a mixed response was elicited by participants regarding Vero cell using peptide antigen as its platform. The getting of mixed response may be due to the busy clinical hours of the clinicians. However, with time the updating of the knowledge is deemed necessary.

The study was conducted among the medical doctors and dentists of Bharatpur Metropolitan city in a small sample so the results of the study cannot be generalized. The questionnaire-based study also has its own bias such as information bias which cannot also be ignored in this study.

CONCLUSIONS

Majority of the participants of the study had taken COVID-19 vaccine which shows the negative hesitancy towards this deadly virus and importance vaccine for themselves and their patients too. Regarding the knowledge of vaccine, the medical doctors and dentists need to be updated with the COVID-19 vaccine information.

REFERENCES

- Kumar D, Malviya R, Sharma PK. Corona Virus: a review of COVID-19. Eurasian Journal of Medicine and Oncology. 2020;4:8-25.
 [DOI] [Full text]
- 2. Singh DR, Sunuwar DR, Karki K, Ghimire S,

ORIGINAL ARTICLE

Shrestha N. Knowledge and perception towards universal safety precautions during early phase of the COVID-19 outbreak in Nepal. J Community Health. 2020:1-7. [PubMed] [DOI] [Full text]

- 3. Piryani RM, Piryani S, Shah JN. Nepal's response to contain COVID-19 infection. Journal of Nepal Health Research Council. 2020;18(1):128-34. [PubMed] [DOI]
- Mose A, Yeshaneh A. COVID-19 vaccine acceptance and its associated factors among pregnant women attending antenatal care clinic in southwest Ethiopia: institution-al-based cross-sectional study. International Journal of General Medicine. 2021;14:2385. [PubMed] [DOI] [Full text]
- 5. Ledford H, Cyranoski D, Van Noorden R. The UK has approved a COVID vaccine-here's what scientists now want to know. Nature. 2020;588(7837):205-6. [PubMed] [DOI] [Full text]
- Sah R, Shrestha S, Mehta R, Sah SK, Raaban AR, Dharma K, et al. AZD1222 (Covishield) vaccination for COVID-19: experiences, challenges and solutions in Nepal. Travel medicine and infectious disease. 2021. [PubMed] [DOI] [Full text]
- Voysey M, Clemens SAC, 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. The Lancet. 2021;397(10269):99-111. [PubMed] [DOI] [Full text]
- Aemro A, Amare NS, Shetie B, Chekol B, Wassie M. Determinants of COVID-19 vaccine hesitancy among health care workers in Amhara region referral hospitals, Northwest Ethiopia: a cross-sectional study. Epidemiology & Infection. 2021;149. [PubMed] [DOI] [Full text]
- Gagneux-Brunon A, Detoc M, Bruel S, Tardy B, Rozaire O, Frappe P, et al. Intention to get vaccinations against COVID-19 in French healthcare workers during the first pandemic wave: a cross-sectional survey. Journal of Hospital Infection. 2021;108:168-73. [PubMed] [DOI] [Full text]
- Sah MK, Singh A, Sangroula RK. Knowledge of novel coronavirus disease (COVID-19) among dental surgeons of Nepal: a na-

tionwide study. BMC Infectious Diseases. 2020;20(1):871. [PubMed] [DOI] [Full text]

- Qattan A, Alshareef N, Alsharqi O, Al Rahahleh N, Chirwa GC, Al-Hanawi MK. Acceptability of a COVID-19 vaccine among healthcare workers in the Kingdom of Saudi Arabia. Frontiers in Medicine. 2021;8:83.
 [PubMed] [DOI] [Full text]
- 12. Nepal R, Sapkota K, Adhikari K, Paudel P, Adhikari B, Paudyal N, et al. Knowledge, attitude and practice regarding COVID-19 among healthcare workers in Chitwan, Nepal. Journal of Chitwan Medical College. 2020; 10 (3):98-102. [DOI] [Full text]
- Kaur A, Kaur G, Kashyap A, Singh G, Sandhu HS, Khilji I, et al. Attitude and acceptance of covid-19 vaccine amongst medical and dental fraternity-a questionnaire survey. Rocz Panstw Zakl Hig. 2021;72(2):185-91. [PubMed] [DOI]
- Shekhar R, Sheikh AB, Upadhyay S, Singh M, Kottewar S, Mir H, et al. COVID-19 vaccine acceptance among health care workers in the United States. Vaccines. 2021;9(2):119. [PubMed] [DOI] [Full text]
- Nzaji MK, Ngombe LK, Mwamba GN, Ndala DBB, Miema JM, Lungoyo CL, et al. Acceptability of vaccination against COVID-19 among healthcare workers in the Democratic Republic of the Congo. Pragmatic and observational research. 2020;11:103. [PubMed] [DOI] [Full text]
- Alfageeh El, Alshareef N, Angawi K, Alhazmi F, Chirwa GC. Acceptability of a COVID-19 vaccine among the Saudi population. Vaccines. 2021;9(3):226. [PubMed] [DOI] [Full text]
- Al-Hanawi MK, Ahmad K, Haque R, Keramat SA. Willingness to receive COVID-19 vaccination among adults with chronic diseases in the Kingdom of Saudi Arabia. Journal of Infection and Public Health. 2021;14(10):1489-96. [PubMed] [DOI] [Full text]
- Paul A, Sikdar D, Mahanta J, Ghosh S, Jabed MA, Paul S, et al. Peoples' understanding, acceptance, and perceived challenges of vaccination against COVID-19: A cross-sectional study in Bangladesh. PLOS ONE. 2021;16(8):e0256493. [PubMed] [DOI] [Full text]