



NOVEL CORONA VIRUS VACCINE : THE PERSPECTIVES OF A HEALTH CARE WORKER.

Dr. Preethi. R	Postgraduate Resident Department of Anaesthesiology Sri Devaraj Urs Academy of Higher Education and Research, R L Jalappa Hospital, Tamaka, Kolar, Karnataka-563103, India.
Dr. Ravi. M	Professor and Head Department of Anaesthesiology Sri Devaraj Urs Academy of Higher Education and Research, R L Jalappa Hospital, Tamaka, Kolar, Karnataka-563103, India.
Dr. Suresh Kumar. N	Professor Department of Anaesthesiology, Sri Devaraj Urs Academy of Higher Education and Research, R L Jalappa Hospital, Tamaka, Kolar, Karnataka- 563103, India.

ABSTRACT

BACKGROUND AND AIMS: Vaccines played a pivotal role in improving the health outcomes. The development of a safe and effective COVID-19 vaccine is a critical step to halt the pandemic.

OBJECTIVES: To assess the COVID 19 vaccine knowledge, acceptance and determinants (post vaccination symptoms and signs) among the Health care workers of Sri Devaraj Urs Medical College, Tamaka, Kolar.

METHODS: This was a cross sectional descriptive study. The participants were the health care workers like physicians, residents, nurses, and technicians. The study subjects included were age above 30 years of both the gender. The vaccine contraindicated individuals as per the available vaccine guidelines were excluded from the study. The study duration was for 3 months. The sample size was calculated to be 189. A validated, self-administered electronic questionnaire was used to collect the data. The study tool had an informed consent at the beginning. After obtaining ethical committee approval from Institutional Human Ethics Committee, the study was conducted.

RESULTS: Addressing the conspiracy theories, public concerns, increasing awareness regarding the COVID-19 vaccination as an epidemic-control method, decreasing the vaccination hesitancy, and raising the efforts to provide vaccines in countries with limited resources to prevent additional deterioration of general public health as a result to COVID-19 is imperative.

CONCLUSION: Decreasing the vaccination hesitancy, and raising the efforts to provide vaccines in countries with limited resources to prevent additional deterioration of general public health as a result to COVID-19 is imperative.

KEYWORDS :

INTRODUCTION:

With the outbreak of the novel Coronavirus disease 2019 in December 2019 at Wuhan City, China, WHO declared it as pandemic in March 11, 2020. The spectrum of disease ranged from asymptomatic, mild, severe and fatal.¹ To slow its spread and alleviate its health effects, all the nations around the world have instigated different measures, such as partial and comprehensive lockdowns, social distancing, wearing face masks in public etc. Although such measures have helped in flattening the epidemic curve, the resurgence of COVID-19 has been reported as societies and economies reopened²

Vaccines played a pivotal role in improving the health outcomes during the past similar epidemics and pandemics like smallpox, polio, and plague³. With the increase in morbidity and mortality associated with COVID-19, the development of a safe and effective COVID-19 vaccine is a critical step to halt the pandemic. Although vaccination against COVID-19 has started, misinformation and conspiracy theories surrounding COVID-19 vaccines can highly influence vaccine uptake. Such theories can lead to vaccine hesitancy. "SAGE working group on Vaccine Hesitancy"⁴ defined the term vaccine as "delay in acceptance or refusal of vaccination despite availability of vaccination services". Vaccine Hesitancy for COVID 19 vaccine can result in drastic effect on the measures to control the spread of SARS-CoV-2 infection.

OBJECTIVES:

The present study was done to assess the COVID 19 vaccine knowledge, acceptance and determinants (post vaccination symptoms and signs) among the Health care workers of Sri Devaraj Urs Medical College, Tamaka, Kolar.

METHODOLOGY:

Study design and setting: This was a cross sectional

descriptive study conducted among health care workers of Sri Devaraj Urs Medical College, Kolar

Study population:

The participants were the health care workers like physicians, residents, nurses, and technicians.

INCLUSION CRITERIA:

The study subjects included were age above 30 years of both the gender.

EXCLUSION CRITERIA: The vaccine contraindicated individuals as per the available vaccine guidelines.

Study duration: 3 months (June 2021-August 2021)

Sample size: Sample size was calculated according to the formula

$$N = (4 \times P \times Q) / L^2$$

With the prevalence as 86.3%⁶ and allowable error of 5%, the sample size was calculated to be 189.

Sampling technique: Snow ball sampling.

Study tool and data collection:

A validated, self-administered electronic questionnaire was used to collect the data. It was distributed through emails and online social networking platforms. The study tool had an informed consent at the beginning.

Ethical consideration:

After obtaining ethical committee approval from Institutional

Human Ethics Committee, the study was conducted. The informed consent was obtained before the initiating the study. The confidentiality of the participants was maintained throughout the phase of the study.

DATA ANALYSIS:

Statistical Analysis was done through SPSS version 23. The normal distribution of the continuous variable was assessed using Kolmogorov-Smirnov test. Variables was presented as mean (standard deviation (SD), frequency and percentages.

RESULTS:

The mean age of the study participant was 29.40 ± 5.697

Table 1: Profile of the study participants

S no	Variable	Frequency	Percentage
1	Gender		
	Male	96	50.8
	Female	93	49.2
2	Marital status		
	Married	82	43.4
	Unmarried	107	56.6
3	Occupation		
	Residents	53	28
	Doctors	75	39.7
	Nurses	41	21.7
	Technicians	20	10.6

Out of the 189 study participants, 93.7% were aware about the names of the available COVID- 19 vaccine in the Indian market. 2.1% are not sure and 4.2% were not aware about the vaccine names.

Table 2: Attitude towards COVID-19 vaccine

S no	Variable	Frequency	Percentage
1	Believe in safety		
	Yes	147	77.8
	No	0	0
	Not sure	42	22.2
2	Believe in effectiveness		
	Yes	132	69.8
	No	12	6.3
	Not sure	45	23.8
3	Vaccination prevents complications		
	Yes	153	81
	No	12	6.3
	Not sure	24	12.7

48.7% prefer Indian made vaccine and 8.5% prefer the imported vaccines. 95.8% of the study participants were willing to take the COVID-19 vaccines when available. All 8 of the study participants who were not willing were concerned about the vaccine side effects.

Table 3: Practice related to COVID-19 vaccination

S no	Variable	Frequency	Percentage
1	Encouragement to take vaccine		
	Available free	4	2.1
	Made compulsory by government	13	6.9
	Made compulsory in working place	12	6.3
	More studies on effectiveness and safety	128	67.7
	On doctor's recommendation	32	16.9
2	Had COVID-19 vaccination		
	Taken 1 st dose	33	17.5
	Taken 2 nd dose	148	78.3
	Not taken	8	4.2

3	Willing to take second dosage		
	Yes	18	54.5
	No	12	36.4
	Not sure	3	9.1
4	Reason for not willing to take the second dose		
	Not safe	4	26.7
	Pregnancy	3	20
	Experienced side effects	6	40
5	Side effects after vaccination		
	Body ache	105	58
	Fever	62	34.3
	Others	14	7.7

DISCUSSION:

Efficacy and availability of the COVID-19 vaccine are important to control the pandemic successfully. Health authorities and policy makers must ensure trust and acceptance and from both the health care workers and community as delay and hesitation may lead to vaccination refusal. This could result in distressing effects in public health and hamper the healthcare system's ability to accommodate the challenges faced during the pandemic. Our study provided an overview of the perspectives of the COVID-19 vaccine by the healthcare workers.

77.8% and 69.8% of the study participants believe in safety and effectiveness of the vaccine. A study done by Sharun K et al⁵, showed that 55% and 46.2% of the participants believed that the vaccination is safe and effective respectively.

The present study showed that nearly 78.3% have taken both the doses. And among the 33 health care workers, 18 were willing to take the second dosage. A study done by Fu C et al⁶, has shown that 76.4% of the health care workers were willing to receive the vaccination. However, in a study done by Shekhar R et al⁷ showed that only 36% of the health care workers were willing to take the vaccination. A worldwide survey on COVID-19 vaccine acceptance in among 13,426 participants in 19 countries have shown that the acceptance for COVID-19 vaccines varies between the countries with 90% in China and 55% in Russia.⁸ They stated that the acceptance was higher among the high - income countries.

The present study has shown that nearly 67.7% and 16.9% were willing to take the vaccine upon availability of more studies on its effectiveness/ safety and upon doctor's recommendation respectively. Lazarus JV et al⁸ showed that a slightly higher level of trust in government recommendations than the present study. Another study among 911 participants in US showed that 57.6% were willing to be vaccinated.⁹ In a study conducted among 1878 US participants, it showed that 52%, 27% were very likely, and somewhat likely, to receive the COVID-19 vaccinations, while 7% were not willing for the vaccination.¹⁰

A systemic review of recent literature on 33 countries showed that the vaccination acceptance varied based on the income levels and geographical locations. The acceptance is low in countries like Jordan (28.4%) and Kuwait (23.6%), moderate in countries like, Russia (54.9%), Poland (56.3%) and Italy (53.7%). In contrast, the acceptance was higher among some countries like China (91.3%), Indonesia (93.3%) and Malaysia (94.3%).¹¹ This shows that vaccine acceptance should be increased and encouraged to achieve the population/ geography-based immunity needed to control the pandemic situation.

CONCLUSION:

Addressing the conspiracy theories, public concerns, increasing awareness regarding the COVID-19 vaccination as an epidemic-control method, decreasing the vaccination hesitancy, and raising the efforts to provide vaccines in

countries with limited resources to prevent additional deterioration of general public health as a result to COVID-19 is imperative.

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