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Original Research Article

Perception towards COVID-19 vaccine among staff of urban health centres of Gandhinagar municipal corporation

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ABSTRACT

Background: COVID-19, an infectious respiratory illness caused by SARS-Cov 2 spread across the world and declared as pandemic in 2019. With the successive trail of COVID vaccine, the attention was turned towards its distribution and uptake. Vaccine hesitancy was greatest threat to the mass vaccination drive, which was major barrier for achieving desired vaccination goal. The main objective is to understand the knowledge, attitude and practices towards COVID-19 vaccine among staff of urban health centres of Gandhinagar municipal corporation.
Methods: A cross-sectional study was conducted to assess the knowledge, attitude and practices towards COVID-19 vaccine among staff of four urban health centres using a purposive sampling. Quantitative data was collected using self-administered semi-structured questionnaire.
Results: Out of 182 participants, 76 percent have taken COVISHIELD vaccine, 4 percent COVAXIN and 20 percent have not taken any vaccine. Out of these 20 percent; 14 percent denotes vaccine hesitancy due to its doubtful efficacy and fear.
Conclusions: The staff of UHCs shown good and adequate knowledge towards COVID vaccines. However, the vaccine hesitancy was found among staff regardless of their education status.

Keywords: COVID-19, COVID Vaccine, SARS-Cov 2, Vaccine hesitancy, UHC

INTRODUCTION

COVID-19 which is an infectious respiratory illness caused by the Severe Acute Syndrome Corona Virus 2 (SARS-Cov 2) was spread across the world. In December 2019, China reported an outbreak of pneumonia of unknown cause in Wuhan City, a capital city of Hubei province. WHO has declared the COVID-19 as pandemic on 11th March 2020 after assessing the situation across the globe.[1] More than 11 thousand million people were infected with COVID-19 globally and more than 25 million people have died due to it by 8 March 2021.[2] Whereas in India, 11 million confirmed cases and 0.1 million people have died due to COVID-19 till March 2021.[3] Initially entire world was struggling to diminish the spread of the virus through implementing nation-wide lockdown, compulsion of social distancing, use of face mask at all public places, hand hygiene and travel restrictions. Still the global efforts to control and contain the COVID-19 pandemic required a paradigm shift. Although, effective treatment was not available and the vaccine was absent for this novel disease. The pandemic hits hard on entire world in many aspects.[4] To tackle this situation intensified international efforts were made to develop effective measures and prepare the vaccine to take the control over COVID pandemic. Science has made tremendous progress. The pharmaceutical companies managed to develop, manufacture and scale up access to COVID-19 vaccines and leading to the global distribution with proven safety and efficacy.[4]

With the success of COVID-19 vaccine trials and its official roll out in India, the attention was turned towards vaccine distribution and its uptake. In India, the two vaccines Covishield and Covaxin was granted for emergency use authorization by the central drugs standard control organization (CDSCO).[5] The Covishield vaccine is AstraZeneca's vaccine manufactured by Serum Institute of India and Covaxin by Bharat Biotech Limited India. From dated 16 January 2023, the vaccination drive for COVID-19 was started in the state of Gujarat. The Covishield vaccine was administered among beneficiaries consisting two doses of 0.5 ml each. The second dose of Covishield is to be administered between 4-6 weeks after the first dose. Which later changed to 84 days.[6] The duration between two doses for Covaxin vaccine is 28 days. WHO defines vaccine hesitancy as the delay in acceptance or refusal of vaccines despite the availability of vaccine services. It is continuum ranging from complete acceptance or complete refusal. Vaccine hesitancy is one the major public health challenges; and was threat to then going vaccination drive against COVID-19. It may create barrier in development of herd immunity.[7] It also leads to drop out chances for vaccination drive. Thus, addressing its barrier can help in achieving desired vaccination goal. A vast variation was seen on perception of vaccines within and across countries depending upon various factors. Vaccine hesitancy still remains the public health threat. Most common reasons for vaccine hesitancy related to risk, knowledge, awareness, religious, cultural, gender and socio-economic factors.[8,9] The willingness of getting vaccinated in a person influenced by the fear of disease, perceived likelihood of its nearby outbreak and efficacy of the vaccine with evidence.[10,11] The acceptability of any newly launched vaccine is an important parameter for high vaccine coverage rate for vaccination drive. On the vaccine's efficacy, which was a subject of speculations, further assurance was required. However, during the initial vaccination drive it was given to healthcare workers of the country. No specific study on knowledge, attitude and perception of COVID-19 vaccine among healthcare workers were available during it. Current research aims to study the perception of staff of urban health centres of Gandhinagar municipal corporation on COVID-19 vaccines. It also covers the COVID appropriate behaviour among healthcare workers.

METHODS

Study design, setting and duration

A quantitative cross-sectional type of study carried out at four urban health centres of Gandhinagar municipal corporation. These UHC centres are situated at Sector-2, Sector-24, Sector-29 and Palaj respectively. The study was conducted from April 2021 to June 2021.

Sampling method

The purposive sampling technique was used to obtain desired samples. The sample was distributed across four urban health centres. A total of 182 participants were included. The staff of urban health centres of Gandhinagar municipal corporation were only included. The subject below 18 years, who haven't taken vaccines, pregnant and lactating mothers and those who are not willing to participate were excluded.

Tools

The semi-structured questionnaire was prepared for the study. However, a pilot study was conducted prior to actual research. The tools were prepared after reviewing a few literature and Gujarati translated questionnaire was used. Microsoft Excel software was used to organise and analyse the data as well. Participation of the subject were voluntary. Informed consent was taken from each participant before enrol them into the study maintaining anonymity.

RESULTS

Population characteristics

In this study, a total of 182 participants were included. Out of which 145 participants have taken vaccine and 37 have not taken any vaccine during the time of data collection. Although, the data of only 145 subjects was collected for perception for COVID-19 vaccine and data for 37 subjects was collected for addressing vaccine hesitancy. The socio-demographic characteristics of UHC staffs is given in (Table 1).

Out of 182 participants from all urban health centers; 67 (37%) were male and 115 (63%) were female. Among total participants; 88% were graduated, 11% completed their schooling and 1% was illiterate. This study covers 11% medical officers, 4% pharmacists, 3% laboratory technician, 14% vaccinator, 6% staff nurse, 23% female health workers, 28% MPHW and 11% of other staff including drivers, case writers, clerk and computer operator.

Source of information

When the UHC staffs were asked where they get information about COVID vaccine; the most frequent source of information was social media followed by caller tune by government, TV, newspaper. Whereas, Radio, Poster /IEC, and staff were less frequent source of information among them respectively. The source of information among UHC staff for COVID vaccine is given in (Figure 1).

Vaccination status

Among all participants, 145 (80%) have taken vaccine and 37 (20%) have not taken any vaccine. Most of the UHC staff members have been vaccinated with Covishield vaccine. The detail of the vaccination status of UHC staff is given in (Figure 2).

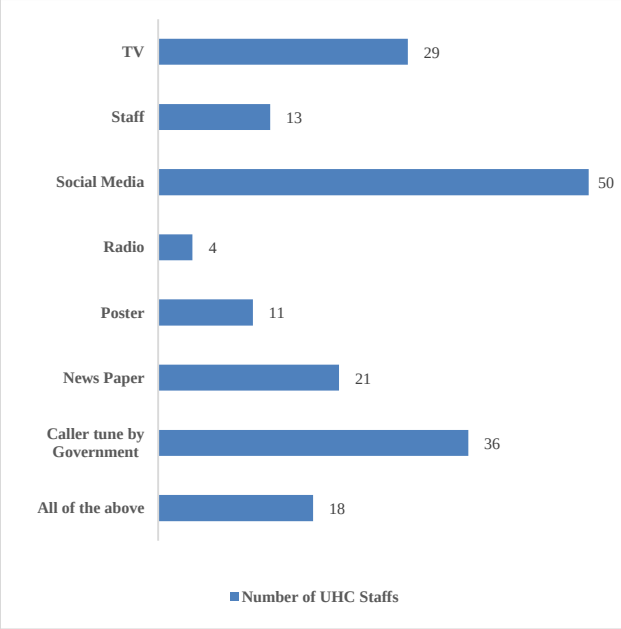

Figure 1: Source of information among UHC staff about COVID vaccine.

Table 1: Socio demographic characteristic of UHCs staff (n=182).

Characteristics	Categories	UHC staff, N	%
Age of Participants	21-30	136	74.73
	31-50	38	20.88
	41-50	8	4.39
Sex	Male	67	36.81
	Female	115	63.19
Education	Doctor	21	11.54
	Pharmacist	7	3.85
	Lab Technician	5	2.75
	Nursing	76	41.76
	Graduate	52	28.57
	Higher Secondary	14	7.69
	Secondary	6	3.30
	Uneducated	1	0.54
Post in UHC	Medical Officer	21	11
	Pharmacist	7	4
	Lab Technician	5	3
	Staff Nurse	11	6
	Vaccinator	25	14
	FHW	42	23
	MPHW	52	28
	Others	19	11

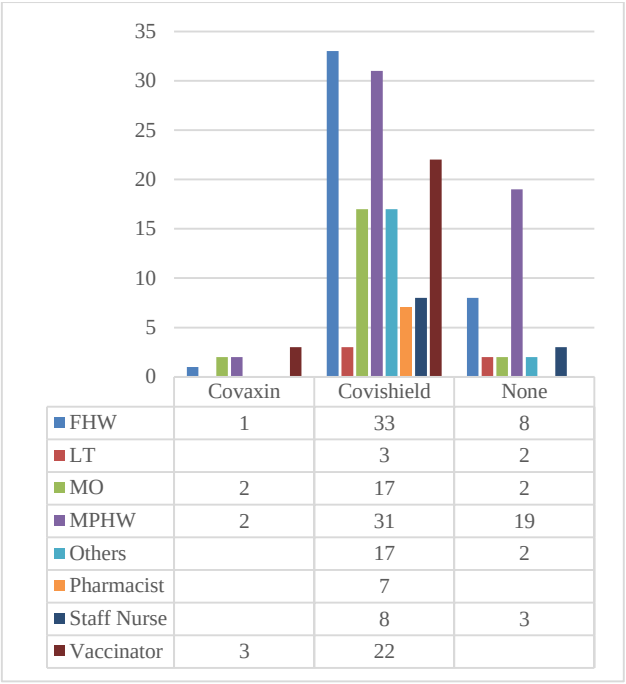

Figure 2: Vaccination status of UHC staff.

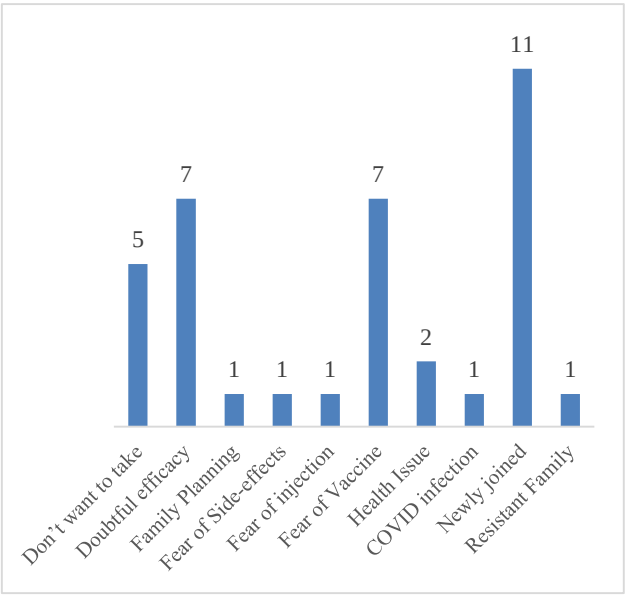

Figure 3: Reasons for vaccine hesitancy.

Vaccine acceptance and hesitancy

The most common reason for vaccination among 138 (95%) participants was protection against COVOD-19. Whereas 7 (5%) participants have taken vaccine because government was providing free vaccine. The reason for 20% of the participants who was not opted for vaccine is given in (Figure 3). Most of the staff were newly joined hence they didn't take vaccine; followed by fear of vaccine, doubtful efficacy, less confident about it, health issues, etc. These represents less trust or lack of awareness toward new vaccines and its efficacy.

Table 2: Knowledge for COVID-19 vaccine (n=145).

Variable	Response in staff of UHCs		
	Yes	No	Don't know
Vaccine is safe	120	1	24
Vaccine is effective	134	4	7
Vaccine is essential	143	2	-
Vaccination is necessary to reduce COVID-19 cases	131	13	1
Side effects of Vaccine	22	97	26
COVID Appropriate Behaviour after vaccination is essential to decrease COVID-19 infection.	139	6	-

Table 3: Attitude towards COVID-19 vaccine.

Variable	Response in staff of UHCs (n=145)		
Preference of vaccine	Covaxin (20)	Covishield (125)	-
Affordability of vaccine if it is not free of cost	Yes (100)	No (45)	-
Encouragement of family for uptake of vaccine	Yes (142)	No (3)	-
COVID appropriate behaviour even after vaccine	Yes (135)	No (10)	-
Mental status before taking vaccine	Fear (33)	Anxious (84)	Normal (28)

Knowledge for COVID-19 vaccine among UHC staff

The knowledge was assessed through set of questions on vaccine safety, efficacy, essentiality, necessity, side effects and COVID appropriate behavior after vaccination (Table 2). About 83% of participants felt that the vaccine is safe and 16% didn't know about its safety. 92% responded vaccine as effective, 3% with not effective and 5% don't know about its effectiveness. 99% participants responded that vaccine is essential for us. 90% participants felt that vaccination is essential to stop spread of COVID-19 infection and 9% didn't found it essential. Only 15% participants believed that vaccine has side-effects, while 67% has no any side-effects and 18% didn't know about it. 96% of participants responded that COVID appropriate behavior is an effective way to reduce COVID-19 infection.

Attitude for COVID-19 vaccine among UHC staff

The attitude about the COVID-19 vaccine was assess from vaccine preference, its cost, mental status before vaccination, family encouragement for vaccination and reasons if not, following COVID appropriate behavior after vaccination. Majority of the participants 86% preferred Covishield vaccine over Covaxin. 69% responded that they would agree to take vaccine if its will be charged and 31% of people would consent to take if it was free. Most of the MPHW worker were unable to afford the vaccine. 58% participants felt anxious/nervous, 23% fearful and 19% were normal just before vaccination. 98% participant have encouraged their family to take vaccine. 93% participants have agreed to follow the covid appropriate behavior even after taking vaccine. Further they narrated like first dose provide only partial immunity, fear of getting infected, new strain of covid, doubtful vaccine efficacy and pandemic still persists were some of the reasons.

Table 4: COVID appropriate behaviour practices.

Particulars	N	%
Mask		
N-95 mask	88	61
Surgical triple layer mask	27	18
Cotton mask	10	7
Hand wash practice		
Frequently	104	72
Less frequently i.e., 2-3 times	38	26
Once a day	3	2
Avoid crowded place		
Yes	131	90
No	14	10

Practices related to COVID appropriate behavior among UHC staff

The COVID appropriate behavior includes maintaining respiratory hygiene by wearing protective mask, hand washing practices, avoid unnecessary travel and crowded places. 61% participants have used N95 mask, 18% surgical triple later mask and 7% used cotton mask. 72% participants have respondent that they frequently wash their hands, 26% less frequently and 2% wash their hand once in a day. Majority of the respondent i.e., 90% have avoided going to crowded places. Overall, the UHC staffs taking appropriate precautionary measures for COVID-19. (Table 4).

DISCUSSION

The present study aimed to explore the knowledge, attitude, and practices of urban health center (UHC) staff regarding COVID-19 vaccination and appropriate behavior. The results showed that most UHC staff received information about the COVID-19 vaccine through social media, followed by the caller tune by the government, TV,

and newspapers. These findings indicate that social media has played a crucial role in disseminating information about the COVID-19 vaccine to the UHC staff. Moreover, the study revealed that 80% of the participants had taken the vaccine, and most of them received the Covishield vaccine. The primary reason for vaccination was protection against COVID-19, and only a few participants opted for vaccination because the government was providing it for free. Interestingly, 20% of the participants did not take the vaccine, and the most common reason for not taking the vaccine was being newly joined at the UHC. Additionally, some participants expressed concerns about the efficacy, safety, and potential side effects of the vaccine, indicating a lack of trust or awareness of the vaccine.

The results also revealed that the majority of the participants had a positive attitude towards the COVID-19 vaccine, as they perceived it to be safe, effective, and essential. Most of them preferred Covishield over Covaxin, and they were willing to take the vaccine even if they had to pay for it, although some participants mentioned financial constraints. Interestingly, almost all participants encouraged their family members to take the vaccine, indicating the perceived importance of vaccination in preventing COVID-19 infection. Regarding COVID-appropriate behavior, the results showed that the majority of the participants maintained respiratory hygiene by wearing masks, washing hands frequently, and avoiding crowded places. However, a small proportion of the participants used cotton masks, which may not provide adequate protection against the COVID-19 virus. Nevertheless, the majority of the UHC staff followed COVID-appropriate behavior even after taking the vaccine, indicating their understanding of the importance of continued prevention measures.

Overall, the findings suggest that the UHC staff had a good level of knowledge, positive attitude, and appropriate practices towards the COVID-19 vaccine and prevention measures. However, there were some concerns regarding the efficacy, safety, and side effects of the vaccine, which need to be addressed through targeted educational campaigns. Moreover, financial barriers to vaccination need to be addressed to ensure equitable access to the vaccine. Future research should also investigate the factors that influence UHC staff's attitudes and practices towards the COVID-19 vaccine, as this can inform strategies to promote vaccine uptake and appropriate behavior.

CONCLUSION

The study revealed that the majority of UHC staff members have been vaccinated with Covishield vaccine, and the most common reason for vaccination was protection against COVID-19. The study also highlighted that social media was the most frequent source of information about COVID-19 vaccines among UHC staff members. The participants had good knowledge about the safety, efficacy, and essentiality of the vaccine, and most of them agreed to follow COVID-appropriate behavior even after vaccination. However, a significant proportion of UHC staff members have not taken the vaccine, primarily due to fear, doubtful efficacy, lack of confidence, and health issues. Therefore, it is essential to create awareness and build trust among UHC staff members regarding the efficacy and safety of COVID-19 vaccines. The study findings suggest that appropriate communication strategies, such as the use of accurate and reliable sources of information and building trust in the healthcare system, can increase vaccine uptake among UHC staff members and the general population. It is crucial to continue promoting COVID-appropriate behavior among healthcare workers, as well as the general public, to reduce the transmission of the virus and prevent further outbreaks. Overall, this study provides important insights into the factors affecting vaccine uptake among UHC staff members and highlights the need for targeted interventions to address vaccine hesitancy and promote vaccine acceptance.

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REFERENCES

1. Chowdhury DS, Oommen AM. Epidemiology of COVID-19. J Digest Endoscop. 2020;11(1):3-7.
2. WHO Coronavirus Disease (COVID-19). Available at: https://covid19.who.int/. Accessed on 9 March 2022.
3. India Coronavirus: Worldometer. Available at: https://www.worldometers.info/coronavirus/country/india/. Accessed on 9 March 2021.
4. Mtimkulu-Eyde L, Denholm J, Narain A, Fatima R, Sagili KD, Perumal R, et al. Mandatory COVID-19 Vaccination: Lessons from Tuberculosis and HIV. Health Human Rights. 2007;24(1):85-91.
5. Frequently asked questions for the management of health workers in response to covid-19. Available at: https://iris.paho.org/bitstream/handle/10665.2/52727/PAHOIMSHSSCOVID-19200033_eng.pdf?sequence=1&isAllowed=y. Accessed on 9 March 2022.
6. Serum Institute Of India - ChAdOx1 nCoV- 19 Corona Virus Vaccine (Recombinant) - Covishield. Available at: https://www.seruminstitute.com/product_covishield.php. Accessed on 9 March 2022.

7. Immunizations, Vaccines and Biologicals. WHO. Available at: https://www.who.int/immunization/research/forums_and_initiatives/1_RButler_VH_Threat_Child_Health_gvirf16.pdf?ua=1. Accessed on 9 March 2022.
8. Marti M, de Cola M, MacDonald NE, Dumolard L, Duclos P. Assessments of global drivers of vaccine hesitancy in 2014-Looking beyond safety concerns. PLoS One. 2017;12(3):e0172310.
9. Bhartiya S, Sengupta M, Dutta S, Roy A, Chakrabarti S, Mukhopadhyay I. Knowledge, attitude and practice survey towards COVID-19 vaccination: A mediation analysis. Int J Health Plann Manage. 2022;37(4):2063-80.
10. Mesch GS, Schwirian KP. Vaccination hesitancy: fear, trust, and exposure expectancy of an Ebola outbreak. Heliyon. 2019;5(7):e02016.
11. Suresh PS, Thejaswini V, Rajan T. Factors associated with 2009 pandemic influenza A (H1N1) vaccination acceptance among university students from India during the post-pandemic phase. BMC Infect Dis. 2011;11:205.

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