


Commentary

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Physicians' Perception About the Side Effects of COVID-19 Vaccine and Their Role in Vaccination Program

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Abstract

Introduction: The Coronavirus disease 2019 (COVID-19) caused many problems in the health sector. Effective and safe vaccines are the only tool to combat the COVID-19 disease. Researchers and regulatory agencies have made efforts to develop such vaccines and healthcare professionals were prioritized for the vaccination program as first-line care providers. Considering this prioritization, we aimed to assess the physicians' perceptions regarding the side effects of the COVID-19 vaccine.

Methods: An interview-based study was conducted from May 5 May to November 5, 2021 (6 months) in a teaching hospital in the capital city of Islamabad, Pakistan.

Results: Among the 200 physicians who agreed to participate in the interview, 74% were male. A total of 94% did not experience any side effects after receiving the COVID-19 vaccine, regardless of the type of vaccine; 6% experienced side effects. Furthermore, 90% of physicians were afraid of side effects due to the high number of vaccine doses.

Conclusion: Conclusively, physicians had a positive perception regarding the COVID-19 vaccine. Healthcare authorities and related departments must take precautions to ensure the effective and safe COVID-19 vaccine to change the perceptions of physicians who had a negative perception. This will not only reduce the reluctance among physicians regarding administering COVID-19 vaccine, but will also boost and facilitate the vaccination program for the general public as well.

Introduction

Coronavirus disease 2019 (COVID-19) was caused by Severe Respiratory Acute Syndrome Coronavirus 2 (SARS-CoV-2) after its spread in Wuhan, China, in December 2019, then latterly spread to more than 200 countries of the world.^{1,2} The need for comprehensive strategies was required to certify vaccination programs globally. According to the available literature, almost 8 billion people were vaccinated with double-shot vaccines, but 10 - 11 billion doses are still needed to end the COVID-19 pandemic.³ The COVID-19 pandemic will never stop unless herd immunity is well established within the population. This is usually achieved by vaccination. Several COVID-19 vaccines are currently in phase 3 clinical trials and many have been approved by regulatory authorities for human use.⁴ However, in addition to its approval, numerous conspiracy theories have prevailed in the community. Hesitancy generally arises when regulatory authorities approve the vaccine for public use. However, due to the current pandemic situation, there is a lack of information on its effectiveness and safety. Lack of confidence regarding the effectiveness of the vaccine, dissatisfaction with getting infected after vaccine shots, vaccination service system, cost, countries' acceptance, and other hesitancies ultimately cause discomfort and rejection of vaccination.

In Pakistan, the COVID-19 vaccine hesitancy remains a significant challenge that has prevailed amid numerous conspiracy theories which ultimately caused delay or refusal of the vaccination program. Unfortunately, in Pakistan, a conspiracy about the COVID-19 vaccine is reportedly circulating, especially about the side effects, and long-term consequences.⁵ These theories are widely debated on social media in Pakistani culture. These rumors can spread seeds of resistance against the current COVID-19 vaccination programs. Due to such hesitancies, the vaccination program was delayed in parents, pregnant women, and some older adults.⁶

HealthCare Professionals (HCPs) have different perceptions to tackle such disasters in lower and middle-income countries such as Pakistan.⁷ HCPs play a vital role in accepting vaccines and

encouraging the vaccination process. Their recommendation to the general public helps people decide to take the COVID-19 vaccine and increases the acceptance level of vaccination in the general community.⁸ Doctors and all other HCPs should take the COVID-19 vaccine first, as they have more knowledge about it compared to the general population. Positive perceptions of HCPs regarding the COVID-19 vaccine helps to address the barriers and to increase its acceptance among the community.⁹ The current study aimed at assessing the perceptions of physicians about the side effects of COVID-19 vaccines after administration, and their recommendations for patients and the general community.

Methodology

A hospital-based study was conducted to assess the perceptions of those physicians who were vaccinated; it asked about the side effects of the COVID-19 vaccine and their recommendations to the community. The study was conducted in a teaching hospital from 5 May, 2021 to 5 November, 2021. Ethical approval was obtained from Riphah Institute of Pharmaceutical sciences, Islamabad, Pakistan (Reference No.: EC-RIP-287/0505). After the in-depth literature review,^{1,2,5,10-13} a questionnaire was developed, considering the government's standard operating procedures (SOP), and hospital precaution protocols for COVID-19. The content uniformity was 0.783 which showed consistency. Informed verbal consent was obtained from all the physicians before starting the questionnaire. After facial validation, a face-to-face interview session was conducted with 200 physicians. The questionnaire contained demographic information and perceptions related to COVID-19 vaccines. The perception section contained 10 basic questions regarding the side effects experienced by the physician or his colleagues after vaccine administration, further recommendation of the vaccine to his family and the general community, and finally, major obstacles in the vaccination process. The study flow diagram is presented in Figure 1.

Results

Out of the 223 physicians approached, 200 agreed to be interviewed. The mean age of the participants was 37.5 ± 6.07 years with male preponderance of 74%. In Table 1, the results of the participants were tabulated. The majority of physicians (94%) reported that they did not experience any side effects after receiving the COVID-19 vaccine. From the remaining 6%, 66.67% of females experienced side effects. The majority of the physicians (90%) stated that none of their colleagues experienced any side effects after receiving the COVID-19 vaccine, while 80% of the female physicians (from the remaining 10%) said their colleagues experienced side effects. The physicians were asked for their COVID-19 vaccine recommendation and they recommended it to their family members (92%), friends (95%), patients (96%), and the general community (97%). Physicians think that the high price of the vaccine (90%) and its non-availability (75%) in the market can be a big problem in delaying the vaccination program. However, 90% of the physicians highlighted that the fear of side effects, and high number of doses of the vaccine, can also be a problem in the vaccination program.

Discussion

Currently, Pakistan has more than 210 million people, but only 2.1 million people until May 3, 2021, had received the COVID-19

Table 1. Demographics and perception regarding side effects of COVID-19 vaccination

Section 1: Demographic		
Variable	Frequency	Percentage
Age (37.54 ± 6.07)	N	%
Less than 30 years	40	20
30 - 40 years	92	46
More than 40 years	68	34
Gender		
Male	148	74
Female	52	26
Section 2: Perception regarding COVID-19 vaccine side effects		
Variable	Yes (%)	No (%)
Did you experience any side effects after taking the COVID-19 vaccine?	12 (6%)	188 (94%)
Did any of your colleagues experience any side effects after taking the COVID-19 vaccine?	20 (10%)	180 (90%)
Did any of your hospitalized patients experience side effects after taking the COVID-19 vaccine?	30 (15%)	170 (85%)
Would you recommend it to your family?	184 (92%)	16 (8%)
Would you recommend it to your friends?	190 (95%)	10 (5%)
Would you recommend it to your patients?	192 (96%)	8 (4%)
Would you recommend it to the general community?	194 (97%)	6 (3%)
Would you think that non-availability of the vaccine in the market can be a problem in vaccine administration?	150 (75%)	50 (25%)
Would you think that the high prices of the COVID-19 vaccine may be a problem in vaccine administration?	160 (80%)	40 (20%)
Would you think that the fear of side effects and the number of doses can be a problem in vaccine administration?	180 (90%)	20 (10%)

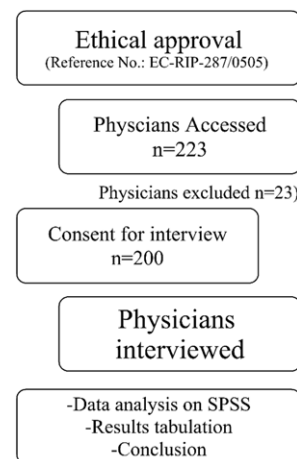


Figure 1. Study flow diagram.

vaccine. In an official report, Pakistan has increased its daily vaccinations from 30000 to 150000 and is planning to increase vaccine administration by up to 300000 a day.¹⁴

In Pakistan, so far, 5 COVID-19 vaccines have been administered, namely Sinopharm, Sinovac, Cansino, AstraZeneca, and

Sputnik. According to the Government of Pakistan, 4956853 doses had been administered by May 23, 2021, while 1193441 individuals are now fully vaccinated as each 1 has received 2 doses.¹⁵ All HCPs were advised to be vaccinated in the first phase of the national vaccination plan, but unfortunately, due to rumors and conspiracy theories, a lack of interest was observed in HCPs related to COVID-19 vaccination uptake. In our study, all participating doctors were vaccinated, but opposing results were seen in a study of the Republic of Congo where only 27.7% of HCPs agreed to be administered the vaccine, in France where 76.9% took COVID-19 vaccination, less than 50% in Bangladesh,¹⁶ 75% in Italy,¹⁷ 76.5% in Greece,¹⁸ and 90.7% of HCPs in Colombia.¹⁹ These numbers indicate that the HCPs had a positive perception of COVID-19 vaccination. Very few responses were collected regarding the presence of side effects of the COVID-19 vaccine, however, such short-term side effects should be accepted since they might be essential for activating the immune system.²⁰ Health ministry and related departments must ensure the fair availability and distribution of COVID-19 vaccines, because fair distribution of limiting vaccines is pivotal for worldwide vaccine provision. The Fair Priority Model addresses how to distribute scarce vaccine resources equitably.³ Furthermore, in our study, 92% and 97% of HCPs respectively, recommended administration of COVID-19 vaccine to their families and the general community. Similarly, 90% of them replied that the fear of side effects and number of doses can be a problem in vaccine administration. The above-mentioned studies show positive perception and acceptability of vaccination by HCPs which can reflect a positive impact on patients and the general community. Moreover, these findings can help in accepting and improving vaccination programs in the community and will demolish all the myths and false beliefs regarding the side effects of COVID-19 vaccines.

Our study has a few limitations: it is a single institute-based study with a small number of participants, but this can be expected during the pandemic, given the restrictions on movement and the very busy schedule of the physicians at the frontlines of combating the pandemic.

Conclusion

Our study revealed that only a few physicians had experienced side effects of the COVID-19 vaccine during the initial vaccination phase. HCPs should raise a voice about potential obstacles to vaccines using clear and direct messages to encourage vaccination programs in general populations. An interesting finding of our study is that physicians highly recommend these vaccines to their family, friends, patients, and the general community. Physicians can easily identify side effects of vaccines, if any, and can play a vital role in supporting vaccination programs if they advocate for these campaigns. This study high lighted the need for highly available COVID-19 vaccines with minimum prices and a low number of doses in the market and hospitals, to facilitate the standard vaccination process, and remove the possible obstacles in its administration. Physicians are considered as expert opinions and decision-makers concerning medical problems, and the health ministry seeks their suggestions and recommendations in its policy-making procedures. The government should also conduct more campaigns to improve public awareness about vaccination safety and effectiveness, and facilitate access to the available vaccines.

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