


COVID-19 vaccine hesitancy: Pakistan struggles to vaccinate its way out of the pandemic

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Dear Editor,

Although vaccinations are the only effective means of tackling viral diseases (others being hygienic measures and social distancing); many people do not believe in their safety and effectiveness. This decreases the number of individuals being vaccinated, resulting in the re-emergence of previously eradicated infections in some regions.¹ The COVID-19 pandemic is not spared from this public health issue. The development of an effective vaccine has proven to be a holy grail in the prevention of this deadly disease and mitigation of severe complications requiring frequent hospitalizations that are frequently worsened by in-hospital super-infection due to decreased immunity.² Efforts are directed to developing an effective vaccine for combatting this fatal infection. However, vaccine development itself is not enough until a sufficient number of people are vaccinated to provide global immunity.³ Despite recent advances in vaccine development, vaccine hesitancy remains a public health threat having deleterious consequences.⁴

According to the World Health Organization (WHO), vaccine hesitancy is among the top 10 global health threats.⁵ Pakistan is also facing this emerging challenge of COVID-19 vaccine hesitancy. It is one of the countries least eager to get vaccinated. Statistics show that two out of five Pakistanis are hesitant to take the COVID-19 vaccine.⁶ In February 2021, the Chinese government donated more than 500,000 doses of the Chinese Sinopharm vaccine to Pakistan, and the Pakistani government decided to vaccinate front-line healthcare professionals on a priority basis.

Seeing such a low number of healthcare workers taking the vaccine, Sindh's health minister ordered all workers to either take the COVID-19 vaccine or face disciplinary action.⁷ Even the wide availability of the COVID-19 vaccine cannot convince Pakistanis for vaccination as they are least interested in getting the vaccine.⁶ A senior health official of Sindh said: 'There are people who don't even believe in COVID here, so how would you find people to take the vaccine?'⁷ This article will explain factors associated with vaccine hesitancy in Pakistan and the strategies to combat this challenge.

Factors affecting acceptance of the vaccine

Vaccine hesitancy is not a new phenomenon in Pakistan. The country has already faced great resistance against polio vaccination campaigns, making it one of the two remaining countries endemic for polio;⁷ thus, any negative beliefs against COVID-19 vaccines would affect the ongoing efforts to end this pandemic, too.⁸ COVID-19 vaccine hesitancy remains a daunting challenge against the public health of Pakistan during these precarious circumstances.⁸ People from low economic classes are more hesitant to be vaccinated. Factors influencing the acceptance of the COVID-19 vaccine by the general public include fear of its safety and efficacy, probable adverse effects, and lack of trust in the vaccine-developing agencies.^{1,9} The rising number of fatalities around the globe, emotional distress regarding overwhelmed education and healthcare systems, and insufficient preventive measures also contribute to hesitancy among the people.¹⁰ According to Gallup's COVID-19 tracking

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survey, a large number of people (49%) reported COVID-19 vaccine hesitancy in Pakistan.¹¹ Another study conducted to understand the COVID-19 vaccine hesitancy in Pakistan revealed that 50.6% of people are hesitant to take the COVID-19 vaccine, owing to the belief that the vaccine can cause various side effects like autism, infertility, autoimmune disorders, and death.¹²

Various conspiracy theories against the COVID-19 vaccine are currently being spread in Pakistan. Fake narratives have been spread that the virus was invented to target Islamic nations so that Jews can rule the world. An ex-foreign minister of Pakistan, Abdullah Hussain Haroon, presented a similar belief, accusing the United States of inventing the virus and transferring it to China for global spread.⁸ He said

‘The coronavirus was created in a lab in the UK and whose registry was in the US. From there it was sent to a lab in Wuhan via Air Canada. The lab in the UK was sponsored by the Bill and Melinda Gates Foundation while the John Hopkins and the Bloomberg School of Public Health in the US had made preparations to dispatch the virus to Wuhan’.¹³

Some believe that the virus is a bioweapon invented by China to destroy western countries.¹¹ It was observed that individuals involved in spreading these conspiracy narratives were younger, less well-educated, politically more extreme, and more stressed.¹⁴ The presence of laboratories engaged in developing an effective COVID-19 vaccine in the same area from where the virus has spread initially makes the laboratory-based origin of the virus even more convincing.³

Furthermore, social media plays a vital role in spreading these theories in the Pakistani community, leading to resistance in the general public against coronavirus vaccination.⁸ Social media is an emerging platform spreading anti-vaccination beliefs.¹⁰ Although Pakistan Electronic Media Regulatory Authority (PEMRA) claims to publish reports on misleading news, no action is seen against fake news regarding the COVID-19 vaccine. Stopping the spread of false rumors is not feasible, but it is possible to analyze the information sources, transmission patterns, and impacts on the general public. The rate of viral spread is also high in Pakistan due to a weak health system

and poor hygiene practices, and a long-term lockdown is not feasible due to economic turmoil.^{8,15,16} Healthcare professionals are also hesitant to get the COVID-19 vaccine as shown by some studies, which can influence an adequate workforce to provide care for infected patients in Pakistan.¹⁷ Thus, Pakistan needs a better health-care system to control the viral spread.

How to combat the challenge?

Transparent knowledge on how vaccines are developed, how they work, what constituents they have, their efficacy, probable risks, and adverse effects will increase public confidence in COVID-19 vaccines.⁸ Pointing out the concerns of COVID-19 vaccine hesitancy, it is suggested that wider communication about the origin of the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) with the people may help future strategies.³ The healthcare agencies in Pakistan must assure the general public that the vaccine development has followed all necessary development steps, and there was no compromise made in the quality of the final product even if it was carried out in a short period. Healthcare professionals play a pivotal role in counteracting doubts as their suggestions are considered significant in accepting the vaccine.¹ Educational campaign targeting medical professionals should be encouraged to reduce the risk of vaccine hesitancy.¹⁴ Medical students are an ideal target for awareness campaigns regarding COVID-19 vaccines; thus, understanding their perspective about the vaccine may effectively plan management strategies in the pandemic period. Psychosocial research should be encouraged aimed at understanding students’ perspectives regarding COVID-19 vaccines.⁵ Conspiracy theories related to COVID-19 vaccines are tied to religious views. Thus, it is paramount to include renowned Islamic scholars in health promotion and awareness regarding the COVID-19 vaccine before anti-vaccination campaigns penetrate the local population. The sense of individual responsibility for public health may influence people’s attitudes toward the COVID-19 vaccine.⁵ Confidence in the general public about vaccines is directly related to public awareness of infectious diseases, so mass awareness programs should be encouraged. Lack of scientific knowledge regarding the vaccine among the public is the main culprit; thus, the WHO needs

to strengthen its efforts to adequately address public queries and provide the most updated scientific knowledge regarding the vaccines.¹⁸

Recommendations

Vaccine hesitancy itself is not new to Pakistan; it is the same hesitancy toward vaccine administration that has left Pakistan unable to cope with debilitating diseases such as polio, tuberculosis, and so on. The preconceived flawed notions people harbor about vaccines need to be eliminated. The role of the government in the elimination of these beliefs through mass awareness programs is critical. In this day and age, this can be achieved through widescale video transmissions on TV and the Internet imparting accurate knowledge about vaccines and encouraging the general population to take the COVID-19 vaccine alongside door-to-door vaccine administration and awareness drives similar to those done for Polio. Various efforts on different levels are being practiced in Pakistan to raise awareness regarding COVID-19 vaccine like awareness messages on radio and so on. But they should be done on community level and should be made available to all. Gaining public trust and confidence related to the COVID-19 vaccine is highly significant, which can be achieved only when the awareness drives are recognized at the government level. In addition to that, schools and colleges should provoke healthy activities among their students to raise awareness regarding vaccine safety and effectiveness. These activities may include awareness videos, poster-making competitions, and door-to-door awareness campaigns. Some of the schools and private organizations are doing this in Pakistan, but there is a dire need of recognition on government level. Furthermore, communicating with secondary target groups (teachers, physicians, etc.) who influence perceptions of the main target group that is, the general population especially young adults and adolescents, plays a pivotal role. Therefore, adequate training of secondary target groups on the significance of administering vaccines should be done. However, a lot of people who are hesitant to receive vaccines often avoid interacting with people who are 'pro-vaccine'. Hence, a broad-minded approach is needed. The healthcare providers and the rest of the secondary target group should address the primary target's concerns with an open mind and non-judgmental attitude, asking

open-ended questions, providing risk-to-benefit facts about vaccines, and not coercing them forcefully to get the vaccine. This will build physician-patient trust, and based on the stages of changes model, people will be more likely to use their autonomy to get the vaccine.

Conclusion

The development of a safe and effective vaccine against the virus is vital for controlling the COVID-19 outbreak. Various conspiracy theories in Pakistan regarding the COVID-19 vaccine led to vaccine hesitancy in the general public. People at the most significant risk of developing a deadly viral infection should be encouraged to get the vaccination. Measures should be taken to circumvent further impediments for future perspectives, and effective strategies to vaccinate an adequate number of people around the globe should be formulated to achieve herd immunity and minimize health inequalities in the world.

Author contributions

Qasim Mehmood: Writing – original draft.

Irfan Ullah: Conceptualization; Project administration; Writing – original draft.

Mohammad Mehedi Hasan: Data curation; Methodology; Supervision; Writing – review & editing.

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