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Mini-review

COVID-19 vaccine hesitancy in Pakistan: An analysis of challenges and mitigations

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ABSTRACT

Vaccination hesitancy is strong and widespread in many parts of the world, especially in low and middle-income countries. At the time of current corona virus disease-2019 (COVID-19) pandemic, vaccination is crucial to limit the spread of SARS-CoV-2. So, beside development and access of the vaccine, it is necessary to make the general public ready to get vaccinated. Due to various conspiracy theories circulating on social media, the mass proportion may show COVID-19 vaccination hesitancy in Pakistan. This study recommends that health care authorities should take necessary steps to stop the penetration of these false claims about the COVID-19 vaccination campaign in Pakistan. It also recommends strategies to combat COVID-19 vaccine hesitancy through electronic media, strict measures from healthcare authorities, and engaging local communities. Religious and cultural barriers should be strongly addressed to vaccination in people of different ethnic groups.

Introduction

The outbreak of the zoonotic novel coronavirus disease (COVID-19) caused by SARS-CoV-2 in late December 2019 from Wuhan, China has imposed international health emergency all over the world. Starting from Wuhan, now it has spread across 209 countries and territories, including Pakistan [1,2]. The novel COVID-19 was acknowledged as a global pandemic and an emergency was initiated by the World Health Organization (WHO) on 30th January 2020. Till April 29, 2021, it has caused 3,166,947 deaths among 150,341,241 reported cases throughout the world with the highest reported cases in the USA followed by India and Brazil [3]. With the emergence and resurgence of the infection in different parts of the world, lockdown and preventive measures was the only solution to reduce transmission of SARS-CoV-2.

As the lockdown leads to the collapse of the economy especially for developing countries, the development of the vaccine was the only remedy to eradicate this pandemic. Prior to the COVID-19 pandemic, there was a recognized body of knowledge about the structure and function of coronaviruses causing diseases like severe acute respiratory syndrome (SARS) and Middle East respiratory syndrome (MERS), empowered accelerated development of various vaccine technologies during early 2020 [4]. Currently, researchers and governments are working in collaboration to develop vaccines against COVID-19 [5].

According to the WHO, vaccination prevents 2-3 million deaths globally every year from different types of infectious diseases like measles, tetanus, and

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influenza [6]. Despite the high efficacy of a vaccine, vaccination hesitancy, which is reluctance to an available vaccine, has been remaining a substantial challenge for the world, especially for Pakistan owing to various conspiracy theories based on religion, politics, health and socio-economic issues [7]. Such conspiracies theories had played a vital role in the extermination of the infectious diseases like polio from Pakistan. Along with the general public, vaccination hesitancy also exists in the medical staff as they are not yet convinced about their efficacy. The gossips of the presence of the active virus in the vaccine are also a foremost cause of the disinclination of vaccination [8]. Various studies have been conducted to determine the vaccination hesitancy and had proved that Pakistani and Bangladeshi ethnic groups had higher levels of vaccination reluctance [9]. It has been declared among 10 major threats to global health by the WHO in 2019 [10]. In this context, we share possible COVID-19 vaccination hesitancy determinants and possible solutions to mitigate its damage effects to accelerate the vaccination process in Pakistan.

The COVID-19 vaccination determinants

Public knowledge of infectious diseases assists to manage infectious diseases. The lack of poor information leads to low detection rate, tardy care, discrimination, and stigma [11]. As, the basic literacy rate of the adults in Pakistan is 60% with higher rates in the urban centers than rural areas where two third of the population live [12,13]. This lack of general awareness about COVID-19 is an unprecedented health challenge which may prove as a huge barrier in vaccination campaign. It is important in evaluating the pandemic awareness in the general public as ample civic action of the outbreak is driven by an understanding of disease, mode of spread, and treatment [14].

Since the beginning of the COVID-19 pandemic, there has been over-billing unchecked information especially through social media channels termed "infodemic" by the WHO [15]. The recent quality research has shown that unchecked infodemic about COVID-19 has created confusion, distrust and stress among the general public [16]. The most important myth rife on social media regarding COVID-19 vaccination is making people impotent sexually. Another very common conspiracy theory was introduction of a chip through vaccines which can be traced through 5G technologies [17]. Unfortunately, a conspiracy theory against COVID-19 vaccine is currently being spread in Pakistan.

Recently, a renowned political commentator and columnist in Pakistan claimed that the virus was a grand illusion to target Islamic nations, designed to allow Jews to rule the world, and to include nano-chips embedded in the bodies of people to gain control through 5G towers [18,19]. Many such theories are circulating on social media. According to a report of Gallup Pakistan, 49% of the population is reluctant to get vaccinated, even if a vaccine is available free of cost. Due to such conspiracy theories in the country, many people believe that pandemics do not exist [20]. Public attitude about the COVID-19 vaccination include varied and profound seated beliefs. Such beliefs are the result of divergent cultures, religious viewpoints and valued systems.

"How to tackle the COVID-19 vaccination barriers?"

Combating misinformation and enhancing the vaccination process demands mass awareness about COVID-19 pandemic prevention measures and possible eradication mechanisms in the general public. Social media should strictly be monitored by the electronic media regulatory authority to check the infodemic flow of the social media channels. Religious leaders should be involved to launch a strong vaccination campaign, especially in the rural areas where the literacy rate is low. The concerns of the general public should be properly addressed to the local languages.

Conclusions

Countries all over the world are rapidly gaining access to and improving their readiness for COVID-19 vaccines. However, the success ultimately depends on whether individuals are enthusiastic to accept this vaccine or not. Vaccination is crucial both for the individual and the protection of others. It is in everyone's best interests to ensure that group where a low uptake is expected has extra care.

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Declaration of interest

The authors declare no conflict of interest regarding the publication of the manuscript.

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