



COVID-19 VACCINE AND FEARS: A REVIEW

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ABSTRACT 7.2% of Indian population has been fully vaccinated by July 27, 2021. Blueprint for the development and research for vaccines was initiated by WHO. India's National COVID Vaccination Program is based on scientific and epidemiological evidences, WHO guidelines and the practices approved all over the world. Anchored in systematic end-to-end planning, it is implemented through effective and efficient contribution of States/UTs and the people at large. Government of India's commitment to the vaccination program has been unwavering and proactive. The government and DCGI along with ICMR have strengthened Research and Development capacity of Indian vaccine as well as the collaborative manufacturing of non Indian vaccines. The mission was to vaccinate as many adults safely, as fast as possible. On June 21, 2021 The Indian government declared free vaccines to the citizens. There are several myths which draws people away from getting vaccinated. Here we attempt to discuss the vaccines and the public fear to get vaccinated in Indian scenario.

KEYWORDS :**INTRODUCTION**

Corona Virus pandemic of 2019 is a respiratory infectious disease that causes severe acute respiratory syndrome Corona virus 2 or SARS-CoV-2 previously named 2019 novel corona virus or 2019-nCoV. It was first detected in Wuhan, China in December 2019 and spreaded all over the world within a short-span [1]. In India, the first travel related infection was reported on January 27, 2020 in Kerala. Kerala had experience and investments in the emergency preparedness and outbreak response in the past during Kerala floods in 2018 and especially in the NIPAH outbreak. The state used innovative approaches like active surveillance, setting up of district control rooms, building of frontline health workers and addressing the psychological needs of the vulnerable populations were some of the key strategies that kept the disease under control [2]. By May 15 India was under Covid-19 community spread with 33-35 lakh active cases. To curb the pandemic, initial control measures in the India relied on widespread closures of public and commercial spaces through Stay at Home, break-the chain, masking and "lockdown" orders to enforce social distancing guidelines to help slow the spread of the virus. An effective vaccine represents the best COVID-19 control option for a country to return to normalcy. However, as public health practice indicate that to control an epidemic like COVID-19, adequate number of people must be vaccinated. Massive research funding and government support have been channeled toward the development of vaccines. To date, a number of vaccine candidates are under various stages of development. A total of 4 of them have been approved for use in India.

AZD1222 (also known as Oxford-AstraZeneca vaccine, ChAdOx1 nCoV-19) is a COVID-19 vaccine candidate developed by the Oxford University and AstraZeneca. In India it is developed by Serum Institute and marketed under the name Covishield. It is a non-replicating primate adenovirus vector containing the sequence of SARS-CoV-2 S protein and tissue plasminogen activator [3].

Covaxin (also known as BBV-152) is a COVID-19 vaccine candidate developed by the Bharat Biotech and the Indian Council of Medical Research (ICMR). It is an inactivated vaccine that consists of the whole-virion SARS-CoV-2 inactivated via the β - propiolactone inactivation method [4, 5].

Sputnik V, also known as Gam-COVID-Vac, is a non-replicating viral vector vaccine developed by the Gameleva Research Institute in collaboration with the Russian Direct Investment Fund and The Gamaleya National Research Center for Epidemiology and Microbiology of the Ministry of Health of the Russian Federation. It consists of a recombinant adenovirus type 26 (rAd26) vector and a recombinant adenovirus type 5 (rAd5) vectors, in which both encoded the SARS-CoV-2's spike glycoprotein (rAd26-S and rAd5-S) [6].

mRNA-1273 is a vaccine candidate developed by Moderna Inc. in collaboration with the Coalition of Epidemic Preparedness Innovations and the National Institute of Allergy and Infectious

Disease. It is a novel lipid nanoparticle-encapsulated mRNA-based vaccine developed against SARS-CoV-2. The mechanism is based on the principle that cells intake non-replicating mRNA, translate, and transiently express viral antigen protein on the cell surface without entering the cellular nucleus or interacting with the genome constitutively [7].

Strategies To Analyze The Fears Behind Vaccination

There are large array of barriers that can interfere with vaccine uptake, resulting failure in disease control. The barriers can be broadly divided into two categories: structural and attitudinal. In this review, we discuss the attitudinal barriers in a brief [1].

Attitudinal Barriers

Attitudinal barriers are the beliefs or perceptions that may reduce one's willingness to seek out or accept a vaccine service. Addressing these barriers involves working with individuals and communities to build partnerships, listening to concerns and allaying fears, combating misinformation, providing awareness campaign to allow people to make fully informed decisions, and build trust.

Looking at different aspects of perceived risk, studies have generally found that individuals who perceive COVID-19 to pose a greater risk engage more readily in preventive efforts, such as hand washing and social distancing [2]. Malik et al. (2020) found that US respondents who rated covid-19 higher on a risk perception index more often reported that they would accept a vaccine against COVID-19. Glockner et al. (2020) found that in a German sample, those who perceived their chances of getting infected with COVID-19 as high and the health consequences of the disease as severe had higher vaccination intentions. By contrast, at an early stage of the pandemic, Faasse and Newby (2020) found in an Australian sample that perceived infection risk and perceived disease severity were not meaningful predictors of COVID-19 vaccination intentions. Taken together, the available research indicates that individuals who perceive the risk of COVID-19 as higher, report more willingness to take a prospective vaccine against the disease [8, 9, 10, 11].

Research suggests that when there is a lack of information and experience about the safety of a new vaccine, people may tend to form their opinions based on attitudes to existing vaccines. Some vaccines which could affect the uptake of covid-19 vaccines are Pandemrix and MMR vaccine. If someone does not think the disease being prevented is serious or a big hoax, then they are unlikely to get a vaccine protecting them from that disease. If someone thinks that vaccines are dangerous and they are likely a plot to make money, they will be highly likely to skip the vaccination. If someone thinks that government agencies and medical communities involved in recommending and distributing a vaccine are not trustworthy, they are unlikely to listen to recommendations and get vaccinated [1].

Google Trends can assist in monitoring aspects of public health perceptions, such as attitude towards vaccines, during rapidly

changing global health crises such as the COVID-19 pandemic. It is able to provide real-time information, as well as geographic variations in search trends potentially reflective of the public response within a given population [12].

Trust in agencies involved with vaccine development and distribution and their perceived competence significantly influences vaccine uptake. Qualitative and quantitative studies have indicated that African Americans are more likely than others to mistrust the agencies involved in vaccine development and distribution that may affect COVID-19 vaccine uptake. Economical differences are rather complex and politically sensitive in India. This issue has to be addressed in Indian vaccination programme to provide equal health for all.

DISCUSSION

Having an effective and widely available vaccine will be the best tool at our disposal for infectious disease control. Findings of this review suggest that programs to deliver vaccine must consider the attitudinal barriers to ensure adequate number of persons being vaccinated. All vaccines must be distributed fairly to achieve equal protection and to reduce disparities in infectious disease control.

Firstly there is a highly developed social media all over the world, the pro-vaccination campaigns helps to educate the people around the globe the importance of getting vaccinated and keeping COVID-19 pandemic under control. The Govt. agencies like DCGI, ICMR, etc. have a huge potential to draw people's attention towards vaccination with scientific evidences and real time analysis. Vaccination programmes must begin with front-line health workers, political leaders, sanitization workers and celebrities who can influence the society.

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