Preliminary overview on the vaccination of covid.

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Abstract

A COVID-19 vaccine is a vaccine intended to provide acquired immunity against Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), the virus causing coronavirus disease (COVID-19). Prior to the COVID-19 pandemic, work to develop a vaccine against coronavirus diseases like Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS) established knowledge about the structure and function of coronaviruses; this knowledge enabled accelerated development of various vaccine technologies during early 2020. On 10 January 2020, the SARS-CoV-2 genetic sequence data was shared through GISAID, and by 19 March, the global pharmaceutical industry announced a major commitment to address COVID-19.

Keywords: Respiratory Syndrome, Coronaviruses, Cytoplasmic Organelles

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Introduction

Types of vaccines for covid -19

As of January 2021, nine different technology platforms–with the technology of numerous candidates remaining undefined–are under research and development to create an effective vaccine against COVID-19. Most of the platforms of vaccine candidates in clinical trials are focused on the coronavirus spike protein and its variants as the primary antigen of COVID-19 infection. Platforms being developed in 2020 involved nucleic acid technologies (nucleoside-modified messenger RNA and DNA), non-replicating viral vectors, peptides, recombinant proteins, live attenuated viruses, and inactivated viruses.

Many vaccine technologies being developed for COVID-19 are not like vaccines already in use to prevent influenza, but rather are using "next-generation" strategies for precision on COVID-19 infection mechanisms. Vaccine platforms in development may improve flexibility for antigen manipulation and effectiveness for targeting mechanisms of COVID-19 infection in susceptible population subgroups, such as healthcare workers, the elderly, children, pregnant women, and people with existing weakened immune systems.

Vaccination for COVID-19 is voluntary. However, it is advisable to receive the complete schedule of COVID-19 vaccine for protecting one-self against this disease and also to limit the spread of this disease to the close contacts including family members, friends, relatives and co-workers.

Once vaccinated, our immune system recognizes that the proteins don't belong in the body and begins making T-lymphocytes and antibodies. If we are ever infected in the future, memory cells will recognize and fight the virus.

During a pandemic on the rapid timeline and scale of COVID-19 infections during 2020, international organizations like the WHO and CEPI, vaccine developers, governments, and industry are evaluating the distribution of the eventual vaccine. Individual countries producing a vaccine may be persuaded to favor the highest bidder for manufacturing or provide first-service to their own country. Experts emphasize that licensed vaccines should be available and affordable for people at the frontline of healthcare and having the greatest need. In April, it was reported that the UK agreed to work with 20 other countries and global organizations including France, Germany and Italy to find a vaccine and to share the results and that UK citizens would not get preferential access to any new COVID-19 vaccines developed by taxpayer-funded UK universities. Several companies plan to initially manufacture a vaccine at artificially low pricing, then increase prices for profitability later if annual vaccinations are needed and as countries build stock for future needs.

An April 2020 CEPI report stated: "Strong international coordination and cooperation between vaccine developers, regulators, policymakers, funders, public health bodies, and governments will be needed to ensure that promising late-stage vaccine candidates can be manufactured in sufficient quantities and equitably supplied to all affected areas, particularly low-resource regions. The WHO and CEPI are developing financial resources and guidelines for global deployment of several safe, effective COVID-19 vaccines, recognizing the need is different across countries and population segments. For example, successful COVID-19 vaccines would likely be allocated first to healthcare personnel and populations at greatest risk of severe illness and death from COVID-19 infection, such as the elderly or densely-populated impoverished people. The WHO, CEPI, and GAVI have expressed concerns that affluent countries should not receive priority access to the global supply of eventual COVID-19 vaccines, but rather protecting healthcare personnel and people at high risk of infection are needed to address public health concerns and reduce economic impact of the pandemic.

Advantages, disadvantages and conclusion

The COVID-19 vaccines produce protection against the disease, as a result of developing an immune response to the SARS-Cov-2 virus. Developing immunity through vaccination means there is a reduced risk of developing the illness and its consequences. This immunity helps you fight the virus if exposed. Getting vaccinated may also protect people around you, because if you are protected from getting infected and from disease, you are less likely to infect someone else. This is particularly important to protect people at increased risk for severe illness from COVID-19, such as healthcare providers, older or elderly adults, and people with other medical conditions. The most common side effects that have been reported are soreness at the site of the injection, mild fever, chills, headaches, fatigue and muscle aches. These do not tend to last long and are a sign that your immune system is reacting well to the vaccine.