Description

While the world eagerly awaits the arrival of the COVID-19 vaccine, there are several questions that remain! By when can we expect the vaccine to be ready? Is it safe to participate in the ‘human challenge’ vaccine trials? Are COVID-19 vaccine trials being rushed, thereby compromising their efficacy and safety? How will the vaccine be distributed? Will there be a fair distribution policy? These pressing unknowns are creating a stir in the minds of people! In the following sections, let us understand how the scientific community has progressed so far? Also let us familiarize ourselves with strategies under consideration for ensuring safety, efficacy, and fair distribution of the COVID-19 vaccine.

Stages of COVID-19 Vaccine Development

The standard time for developing a vaccine is around four to ten years. In certain cases, it even took decades: from approximately 5 years for Ebola to 40 years for the polio vaccine. The fastest vaccine to reach the market in an astonishing record speed of four years was the mumps vaccine. Ideally, a vaccine must pass through multiple stages including pre-clinical and clinical stages. Each stage typically takes about two or more years to complete. However, in an attempt to win the COVID-19 vaccine race, are researchers skipping or combining critical stages?

Researchers must proceed with caution! The allure and pressures of acing the vaccine race must not sabotage the safety and efficacy of the vaccine. Public health experts fear that vaccines might gain early approval and reach the market without complete analysis and testing. Moreover, the haste of rolling out a vaccine quickly could compromise the scientific rigor required to properly assess the effectiveness of the vaccines. Another concern is that fast-tracking the vaccine may leave lesser room for recognizing any unintentional side-effects. Authorities must therefore carefully weigh the risk-benefit ratio of the vaccine before approving them.

Are You Ready for the ‘Human Infection’ Challenge?

What would you say if you were offered a decent monetary reward to expose yourself to a deadly virus? Amazingly, more than 25,000 volunteers from around the world have expressed their readiness to be tested by taking ‘challenge’ doses of the coronavirus!

With the lack of established animal models for the COVID-19 vaccine challenge testing, the use of 'controlled human infection' or 'human challenge studies' is being considered. Although it sounds like a risky affair, the choices we have are limited. Indeed all of this is happening with a belief that such trials could expedite the massive COVID-19 vaccine trials, saving millions of lives and livelihoods. Proponents of COVID-19 argue that although deliberate infection with the deadly SARS-CoV-2 pathogen is precarious, it can be done safely and ethically. Furthermore, it will assist in generating enormous and critical data about the disease.

The COVID-19 Vaccine Update – Where Have We Reached So Far?

No sooner than the coronavirus genome sequence was released, scientists across the globe started working up a vaccine at a breakneck pace! Several research groups across the globe are working round the clock to develop an effective COVID-19 vaccine. More than 180 vaccine candidates are in the running with about 44 being tested in humans at the time of writing! Scientists are anticipating to deliver the vaccine by early 2021! Amongst the frontrunners are candidate vaccines developed by Oxford University-AstraZeneca, Moderna, BioNTech-Pfizer, Sinovac Biotech, CanSino Biologics-Academy of Military Medical Services, and Symvivo.

Who Should We Trust for the COVID-19 Vaccine – the Hare or the Tortoise?

Certainly, you must have heard or read Aesop's fable – The Hare & the Tortoise. How relevant do you think it is to the current scenario? The moral of the story 'Slow and Steady Wins the Race' encapsulates an illuminating truth! Putting in a nutshell, it is not always the swiftest who wins the race. A single slipup or error during the COVID-19 vaccine development may intensify public mistrust about the vaccine or vaccination as a whole. Working on these lines, the FDA has set a high bar for the approval of the vaccine – a 50% or greater reduction in the incidence or severity of the disease. Furthermore, there have to be real-time data updates and routine pharmacovigilance assessment reports open for the public to evaluate the progress.

Will There be a Fair and Equitable Distribution of the COVID-19 Vaccine?

Several countries are signing multi-million dollar deals with pharmaceutical giants to pre-book their access to the COVID-19 vaccine. Surprisingly, this is happening even before the vaccine completing its final stage of human trials. This has led to rising concerns over the affordability and accessibility of the vaccine to the underdeveloped or underprivileged nations.

As a consequence, the World Health Organization (WHO) has issued a warning to such countries. Hoarding the COVID-19 vaccines could likely deepen the pandemic. Furthermore, WHO in association with the Coalition for Epidemic Preparedness Innovations (CEPI), and Gavi has launched the 'COVID-19 Vaccines Global Access (COVAX) facility'. Their aim is to ensure there is fair and equitable distribution of the COVID-19 vaccine, especially for low and middle-income nations.

Furthermore, the huge demand and limited supply could lead to malpractices or illegal means to divert the supplies. To fight illicit distribution and falsification of medical supplies, UNICEF has recommended the use of barcodes and GS1 standards to enhance traceability and visibility.

Following the availability of the vaccine, the next challenge would involve its allocation. WHO recommends concentrating on the protection of fundamental health care workers and the vulnerable/elderly group. Although getting the pandemic under control will be given primacy, administrators need to prioritize who gets the vaccine first. Subsequently, it is important to engage in the strategic and rightful distribution of the finite supplies of the vaccine!

What are your views about the COVID-19 vaccine? Share your thoughts in the comments section below.

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Author
shwetad