

VACCINES AT A GLANCE

A vaccine is a biological preparation that provides an active acquired immunity to a particular infectious disease. Vaccination or rather immunization is done using vaccines; which simply means a simple, safe and effective way of protecting people against harmful diseases before they come into contact with them.

Vaccines train your immune system to create antibodies just as it does when it is exposed to a disease. However, because vaccines contain only killed or weakened germs like viruses or bacteria, they do not cause the disease or put you to a risk of its complications. Most vaccines are administered by an injection but some are given orally by mouth or sprayed into the nose. Vaccines are the greatest success stories of public health.

Through use of vaccines we have eradicated small pox and nearly eliminated wild polio virus. The number of people who experience the devastating effects of preventable infectious diseases like measles, diphtheria and whooping cough is at all time low. To ensure continued success of vaccines, it is crucial to make sure that vaccines are safe. Currently we have vaccines to prevent more than 20 life threatening diseases helping people of all ages live longer. Immunization currently prevents 2-3 million deaths yearly from diseases.

Vaccines have evolved since the 17th century with different scientists/people coming up with experiments and trials on vaccines on different diseases. Buddhist monks drank venom to confer immunity to snake bites. Edward Jenner is one of the founders of vaccinology in the West. In 1796 he inoculated a 13-year-old boy with vaccinia virus (cowpox) and demonstrated immunity to small pox. Louise Paster spearheaded the development of cholera vaccine and anthrax vaccines in humans in 1897 and 1904 respectively.

This led to continuous inventions as years passed. In the late 1940s recommended vaccines had so far increased to small pox, diphtheria, tetanus and pertussis which were given in combinations as DTP. Polio vaccine was licensed in 1955 with celebrations because parents were scared of the polio epidemics that occurred each summer. More vaccines followed in 1960s which included measles, mumps

and rubella. Yet in 1970s smallpox vaccine was eliminated because of its successful eradication efforts. In the 1980s hepatitis B and Haemophilus influenza type B were invented which were recommended for high-risk groups such as infants whose mothers were hepatitis B positive. Between 1995 to 2010 more vaccines evolved with annual updates to the immunization schedule in respect of which ages to receive, number of doses time between doses etc.

The updates on vaccines have continued to be given till currently in the 2020s where scientists have come up with pneumococcal influenza, rotavirus. In late 2020s the first COVID-19 vaccines were approved for use in response to the COVID-19 pandemic. This marks a successful evolution of vaccines which have given the society hopes to fight diseases effectively.

Vaccines have not come on a silver platter. There has been a lot of resistance from humanity globally on the safety of the vaccines despite the vigorous research that is done on them by scientists globally. This resistance has become real because of many factors about human beliefs, culture, rights, religion, politics, economics, inequality etc.

This has adversely affected the process of achieving the desired results of a disease-free society. Suspicion and apprehension about vaccination is common. One of the most striking instances of vaccine suspicion in Africa has concerned the polio vaccine.

In 1999, British journalist Edward Hooper wrote "The River"; a Journey to the Source of HIV/AIDS. He speculated that the virus that causes AIDS transitioned from monkeys to humans via a polio vaccine. He argued that the polio vaccine was made from the cells of chimpanzees infected with the primate form of HIV (Simian immune deficiency virus, or SIV) , which adapted in humans and caused the disease, and that there were coincidences in the sites where the polio vaccine was first administered and where the first cases of HIV originated.

Divergent cultural perspectives and opinions toward vaccination, including oppressive and religious objections as well as vaccine suspicion, signal the need for continued communication and collaboration between medical and public health

officials and the public regarding acceptable and effective immunization policies. Humans have also come up with myths about the vaccines. That vaccines may cause death or sterility, autism, sclerosis, diabetes etc.

However, despite all these resistance on vaccines, there are facts about vaccines which we all must know. That vaccines have possible side effects. Most, however, are mild and temporary. E.g. headaches low grade fevers, joint pain, nausea etc. Adverse side effects from vaccine are monitored thoroughly via multiple reporting systems. In theory, nearly any infectious disease for which an effective vaccine exists should be eradicable.

With sufficient vaccination levels and coordination between public health organizations, a disease can be prevented from gaining a foothold anywhere, eventually, without anyone to infect, it must die off. It should also be noted that vaccines may not be 100% safe. Herd immunity has proven also to protect people from disease especially those who may not be fit for vaccination due to underlying conditions.

Vaccines have a bright future. Health organizations like the WHO has the task of ensuring safety of vaccines through engagements with other scientific organizations like the Food and Drug Administration (FDA) and the Centre for Disease Control (CDC).

They should also ensure that there is success in vaccine formulation. For example Sharing of information globally will improve the health of most people which is particularly relevant to preventing new diseases such as Covid-19 Pandemic and ensuring old ones don't re-emerge, rapid development of new vaccines within a shorter time unlike the traditional way which took decades to come up with a vaccine will be handy in responding to an emergency situations like the one of the Covid-19 and inventing syringeless vaccines which are friendly to the population thus accelerating uptake of the vaccines.

Finally vaccines, have proven to be the best medium of fighting infectious diseases because the benefits of vaccine-acquired immunity extraordinarily outweigh the serious risks of natural infection.

‘Let us embrace them.’

CORONAVIRUS AND TYPES OF VACCINES

The Government of Kenya is committed to fully vaccinate the entire population of adults (18 Years and above) by the end of the year 2021. Receiving the vaccine is very critical for Kenya and the world at large to respond to the negative impacts of the Covid-19 diseases and to protect the lives of the most vulnerable in the Society.

Vaccines prepare our immune system to recognize and fight off the virus that causes Covid-19.

Vaccines are designed to teach the body’s immune system to safely recognize and block the virus that causes covid-19.

The Covid-19 vaccine uses a form of the virus that has been inactivated or weakened so that it does not cause disease but still generate the immune response.

Approved COVID -19 vaccines

The Government of Kenya through the Ministry of Health (MoH) urges all those eligible to get vaccinated to protect their lives. The approved vaccines by the World Health Organization (WHO) and the Ministry of Health (MoH) are now locally available and ready for uptake even in the various Counties.

The following types of vaccines are now readily available in Kenya:

1. AstraZeneca Vaccine
2. Moderna Vaccine
3. Johnson & Johnson Vaccine
4. Pfizer Vaccine

AstraZeneca

This was the first vaccine to reach Kenya. The first phase of AstraZeneca vaccination began on 5th March 2021. AstraZeneca is a two dose covid-19 vaccine. One needs to take two doses at an interval of between 4-12 weeks as recommended by WHO to be counted as fully vaccinated.

The AstraZeneca vaccine is safe and effective in protecting people from extremely serious risks of Covid-19 including death, hospitalization and severe disease.

Moderna Vaccine

Moderna Vaccine is from United States. It is the second vaccine to be deployed in Kenya after AstraZeneca. Moderna arrived in Kenya on 23rd August 2021 and it is also being administered as a two dose covid-19 vaccine.

Johnson & Johnson Vaccine

Johnson & Johnson vaccine is the third vaccine in Kenya's programme. It is easily stored between 2 and 8 degrees centigrade during administration and can also be frozen at 20 degrees to ensure there is lengthening of shelf-life.

Johnson & Johnson covid-19 vaccine requires only one dose for full protection. Data has confirmed that it is strong and has long - lasting protection.

Pfizer vaccine

Pfizer is another vaccine being administered in Kenya.

Kenya received the first batch of the Pfizer vaccine amounting to 795,600 doses from the United States on 17th September, 2021. It requires storage of 70 degrees. The second donation of 210,600 doses arrived in the Country on 28th September, 2021.

The Pfizer doses require specialized needles and syringes. It is also a two dose Covid-19 vaccine.

