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DOI: http://ijmer.in.doi./2021/10.06.170

INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY EDUCATIONAL RESEARCH
ISSN:2277-7881; IMPACT FACTOR :7.816(2021); IC VALUE:5.16; ISI VALUE:2.286
Peer Reviewed and Refereed Journal: VOLUME:10, ISSUE:6(9), June:2021
Online Copy of Article Publication Available: www.ijmer.in
Digital certificate of publication:http://ijmer.in/pdf/e-Certificate%20of%20Publication-IJMER.pdf
Scopus Review ID: A2B96D3ACF3FEA2A
Article Received: 10th June - Publication Date:30th June 2021

COVID-19 VACCINE: RACE AMONG THE NATION STATES

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Abstract

"Vaccination is one of the world's most successful health interventions, saving as many as 3 million lives every year".
– Douglas Broom.

The Covid-19 Pandemic has brought the world to a standstill and poses a huge threat to public health and to the world society and has leaved no inequity in infecting people regardless of class, religion and region sweeping the borders across the world and had made itself the centre of attraction in a very pessimistic way. From the year march 2020 the entire world was waiting for the development of vaccine for this life-threatening virus and many countries have brought forth the successfully developed vaccines of their respective states. And as second waves and third waves blowing the nations to serious extent it resulting in great challenges to the medical industries. Vaccine is a means of hope for now, which can ease or relax the kind of regulations which were imposed in the name of lockdown or partial lockdowns out of which livelihood could get back to its normalcy. Vaccinating the masses is also a herculean task.

According to Oxford Dictionary in layman's language "A vaccine is a substance used to stimulate the production of antibodies and provide immunity against one or several diseases, prepared from the causative agent of a disease, its products, or a synthetic substitute, treated to act as an antigen without inducing the disease". The Covid-19 pandemic has in reality highlighted the significance of immunization but producing the vaccine is not a simple process or the development of vaccine is nor flexible in a very less duration of time.

This paper tries to focus on the competitive approach which is adopted by the Nations states in developing a vaccine in a very short timeframe. In reality vaccine is a long, complex process which include the pre-clinical studies, observations and tests on animals in the phase wise trials.

According to the History of Vaccines website claims that from 20th century standardized methods were adopted for formulating a vaccine.

Thus, Nations are indulged in the politics of vaccination to the Covid-19 vaccine development and are rushing to promising claims of the success of phase wise clinical trials and have already vaccinated half of their countries population especially Israel, USA, Canada, UK, etc., Of course Politics and economic factors have been the driving force behind the successful claims of clinical trials and mass vaccination drives conducted in their respective states Yes, the come about of a vaccine is a hope to mankind in this perilous time but any vaccine should be expected to be safe and cautious without side effects and its potency alone can determine its standards and also till when a person can safe around the mutations of this virus.

Keywords: Covid-19, Power vaccum, Politics of Vaccination, Efficacy, Potency.

Introduction

The horrible event that ever happened to mankind in this century is the covid-19 the novel corona virus after the Second World War. This life-threatening sickness originated in the Wuhan city, Hubei province in China was been identified with mild symptoms in the initial stages like fever, cough, cold and body pains ranging to severe acute respiratory illness infecting the lungs with lumps of thrombosis and been famously addressed as corona virus 2(SARS- CoV-2) by International Committee on Taxation of Viruses(ICTV). There are speculations regarding the origin of this virus and how quickly it is infecting people was been lately realized. This issue was battled quiet months within the state of china and by the end of December 2019 the severity of the conditions wasn't been hidden. The observation of the rapid transmission of virus in person to person has alarmed the nations at large. On March 11, 2020 the WHO (World Health Organization), Director Tedros Ghebreyesus stated "In the past two weeks, the number of cases COVID-19 outside china has increased 13-fold, and the number of affected countries has tripled. WHO has been assessing the outbreak around the clock and we are deeply concerned both by the alarming levels of spread and severity, and by the alarming levels of inaction? We have therefore made the assessment that COVID-19 can be characterized as a pandemic."

Ever since this pandemic has been affected the world states all sections of society have been deeply influenced through the lockdown which were been placed by the governments of respective states. Covid-19 has halted the activities of the people around the globe and stands to pose a great threat even after one year, posing a continuous problem in terms of Social, Political, Economic, trade, business, Education and sports etc., Even though the states are easing the restrictions of lockdown the world would take some time to get back to normalcy from the new normal. This virus is having long term effects and implications on the society. The first half of the

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year 2020 and had been so crucial especially for the medical industry trying to cure the virus affected patients with various anti-viraldrugs which at least helped patients with no complications got cured to possible extent even with that couldn't prevent the number of deaths during the second wave especially in India.

Vaccine: The ray of hope

- The history of vaccines and vaccination started with an intention to prevent diseases in the society. Smallpox was well known since ancient times. Thucydides in 430 BC and in 910 AD who reported that people affected by smallpox were protected from the future infections. Based on this observation, inoculation with smallpox virus material called variolation preceded smallpox vaccination and was one of the accepted approaches to protect from the disease in early 18th century. The famous proverb "Prevention is better than cure" is a true reality so and getting vaccinated is very important key to live a healthy life. Vaccination decreases the risk of being vulnerable to various infectious diseases. Getting vaccinated is prime aspect of life. Vaccination is the most effective medical invention ever initiated along with good hygiene practices and sanitation is a key to reduce the mortality rate, a healthy life from infectious diseases.

Vaccination boosts the immune system and helps fight against the infection. Vaccines made the world to forget the most worst illness like Polio, measles, diphtheria, whooping cough, rubella and mumps etc., the importance of getting vaccinated is not just the individual alone gets protected travel much long as this is known as herd immunity but there is a huge risk if people won't get vaccinated the herd immunity gets breaks up.

The researchers and pharmaceutical industries all around the globe have accelerated their efforts in developing a vaccine and successfully vaccinated at least minimum percent of their country's population.

Ideal timeframe for the development of vaccine

The procedural methods for the production of vaccine take nearly 10-15 years which includes certain stages which are considered to be mandatory. Long story short,

- Before the pre- clinical stage certain studies and observations will be carried out to identify to desired possible effects
- The next stage consists of testing on animals such as rats and monkey and how they are being responded in terms of their immune system.
- The following stage comprises of three steps method, firstly a small cluster of healthy people are taken as volunteers to be tested which also includes the safety of the candidate vaccine.
- In the second phase of the clinical trials large groups of people are categorized as per age groups and its effects on the stratified groups and will be recorded how they are been responding to the vaccination, further changes will be noted. Simultaneously candidate vaccine safety is also observed.
- The third stage trials contain the thousands of people who will get vaccinated, here in this stage the researchers will be able to identify the variation between those who are vaccinated and those who didn't and any possible side effects.

Once the tested vaccine tends to be free from side effects and being potential for the purpose it's been developed it is ready to be manufactured.

Driving forces behind the successful claims of clinical trials

Did Politics become the driving force behind the successful claims of clinical trials and by conducting mass vaccination drives.

Are the same techniques used by the old rivals of cold war like?

- Space Race (First landing of Humans on moon of Apollo, space launch of Artificial satellites, space exploration of the moon,sun, and mars.
- Nuclear arms race(during II World war)
  This time the COVID-19 pandemic is taken as a challenge and as an opportunity not just by these two powers, but even the developing countries have developed the vaccine of their own country and are already distributing the supply to other countries.
- Nations are indulged in the politics of vaccination. States have rushed to promising claims of the success of phase wise clinical trials of the development of the COVID-19 vaccine
- The Politics and economic factors have become the driving force behind the successful claims of clinical trials.
- Pharmaceutical companies race for huge profits?
- Potential covid-19 vaccine is a relief to the entire world but power vacuum can be filled with this vaccine intervention.

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Retrospective Regard

Timeframe for the development of various vaccines were developed for non-curable diseases like

- **Polio**: The first outbreak was in America in the year 1789 and it was identified as epidemic by 1894 and was considered to be viral in the year 1908, so it took 6o long years to develop a vaccine and annihilate the polio infection by 1979.
- **Ebola:** The breakout of this disease started first in 1976 and in 2005 Canada published first vaccine and following with a largest started in West Africa and passing through the clinical trials in 2019 Ervebo approved vaccine came into existence.
- **SARS-CoV-1:** The first cases of SARS outbreak noted in 2002 in Guangdong, China. First clinical trial started in 2005 and its been 17 years till now there is no vaccine which is available to prevent this virus.
- **MERS-CoV**: Middle East Respiratory syndrome was first identified in the Saudi Arabia with symptoms related to viral respiratory illness. The outbreak started by 2014 and first clinical trials begin in 2016 so it's nearly 6 yrs as there is no approved vaccine till date.
- **SARS-CoV-2:** Identified in Wuhan, China and rapid human transmission not been ignorable and first vaccine batch started in February 2020 and WHO declared it as Pandemic in March 2020 by evaluating the severity of the infecting cases within and outside china. More than 100 countries and multiple candidate vaccines have been involved in developing a vaccine for Covid-19. Many claim to be successful in fighting against the virus but the question is are these vaccines able to fight the different mutants and variants.

Efficacy

The development of the vaccine requires stringent efforts to improve efficacy and lower the complications. Vaccine efficacy corresponds to the direct protection to vaccinated individuals provided by the vaccine under optimal conditions, and usually focuses on the prevention of clinically apparent outcomes.

It is well established that environmental factors such as climate, poverty, nutrition and diseases take a great toll in the efficiency of vaccines. These circumstances can have a big impact on underprivileged populations, especially in developing nations. It can be argued that many healthcare solutions, most of which were originally developed to address the needs of higher income nations, are inadequate to the realities faced in developing countries.

Potency

Despite all of the developments in vaccine technology, no vaccine can provide life-long absolute protection of all individuals vaccinated. Herd protection may prevent people who are not fully protected, or not vaccinated at all, from developing disease, but the magnitude of the herd effect depends on numerous factors, and in particular on vaccine coverage. Immunisation coverage may be influenced by public health cuts following financial crises, social inequalities, intensification of travel and global trade, migration, population aging, scepticism towards public health programme.

COVID 19 Vaccine: Truly a race against the Time

However, the vaccine intervention will definitely relieve people to get life back to normalcy and also from the fear of infection thus it can fill the power vacuum in global platform but in ideal situations, the Vaccine development requires more than a decade for its safety and efficacy evaluation. However, this COVID 19 pandemic is panicking the entire planet earth with different variants and as well as pushing the Pharma and Policy makers for ready to vaccinate people with a COVID-19 Vaccine. Time only can truly telecast the therapeutic options.

- Wearing masks
- Physical distancing
- Proper hygiene
- Sanitation

Maintaining the above principles along with balanced dietary habits (Hippocrates, Father of Medicine credited "Food as medicine" is the best solution till we analyze and come to conclusion which vaccine can be safe, efficient and potential.

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Scopus Review ID: A2B96D3ACF3FEA2A
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