INTRODUCTION

COVAXIN®, India's indigenous ***COVID-19 vaccine*** by Bharat Biotech is developed in collaboration with the Indian Council of Medical Research (ICMR) - National Institute of Virology (NIV). The vaccine received DCGI approval (drug controller general of India) for Phase I & II Human Clinical Trials in July, 2020. COVAXIN® demonstrated **81% interim efficacy** in preventing COVID-19 in those without prior infection after the second dose.This is the 3rd phase trial going on.

What is covaxin composed of?

COVAXIN includes the following ingredients: COVAXIN contains 6µg of whole-virion (corona) inactivated SARSCoV-2 antigen (Strain: NIV-2020-770), and the other inactive ingredients such as aluminum hydroxide gel (250 µg), TLR 7/8 agonist (imidazoquinolinone) 15 µg, 2-phenoxyethanol 2.5 mg, and phosphate ® buffer saline up to 0.5 ml.

- These additional things are included along with immune-potentiators, also known as vaccine adjuvants, **which are added to the vaccine to increase and boost its immunogenicity.**

The vaccine (COVAXIN) thus has been developed by using inactivated/killed virus along with the aforementioned chemicals.

Inactivated vaccines do not replicate and are therefore unlikely to revert and cause pathological effects. They contain dead virus, incapable of infecting people but still able to instruct the immune system to mount a defensive reaction against an infection.

- It is a 2-dose vaccination regimen given 28 days apart.
- It is a vaccine with no sub-zero storage, no reconstitution requirement, and ready to use liquid presentation in multi-dose vials, stable at 2-8^{o}C.
- Pre-clinical studies: Demonstrated strong immunogenicity and protective efficacy in animal challenge studies conducted in hamsters & non-human primates

Has it been used before?

The Central Licensing Authority has granted permission for the sale or distribution of COVAXIN for restricted use in emergency situation in public interest. In Phase 1 and Phase 2

clinical trials, about 680 ® (300 in Phase 1, and 380 in Phase 2) were administered with 2-doses of COVAXIN . Phase 3 clinical trial is ongoing in 25,800 participants, with an interim analysis results **showing vaccine efficacy of 81%.**

Possible side-effects Covaxin may cause

Bharat Biotech has also defined the possible side-effects (mostly mild), that you may experience post vaccination. Have a look –

- Pain
- Swelling
- Itching
- Fever
- Malaise
- Weakness
- Rashes
- Nausea and vomiting

The other adverse effects may include –

- Severe allergic reaction
- Difficulty in breathing
- Swelling on the face
- Swelling in the throat
- Increased heartbeat
- Rashes all over the body
- Dizziness & weakness

COVISHEILD

Covishield has been prepared using the viral vector platform which is a totally different technology.

A chimpanzee adenovirus – ChAdOx1 – has been modified (its DNA is stranded with the f – factor from corona virus to enable it to carry the COVID-19 spike protein into the cells of humans) hence protecting the ACE2 to get attached to Corona virus, the mechanism through which the virus enters the body. Well, this cold virus (of chimpanzees) is basically incapable of infecting the receiver but can very well teach the immune system to prepare a mechanism against such viruses. (same principle as Ebola vaccine)

COMPARISON BETWEEN COVISHEILD &COVAXIN

The second phase of the COVID-19 vaccination drive has already begun in India, and many people are still unaware of how the **two vaccines** – Covaxin and Covishield – are different from each other.

The second phase began on March 1, in which people over the age of 60 and those above 45 with associated comorbidities can take the life-saving shots.

Currently, the government hasn't allowed people to decide which vaccine they want to get, but the result of the first phase clearly suggests that both the vaccines being inoculated in India are safe and effective.

I have compiled all the information to give you a better understanding of the formulation and every other detail about the vaccine you are going to get to **stay safe from the Coronavirus**. Have a look –

Developer

Covaxin has been developed by Hyderabad-based Bharat Biotech International Ltd in association with the Indian Council of Medical Research (ICMR) and the National Institute of Virology (NIV).

Covishield has been developed by the Oxford-AstraZeneca and is being manufactured by the Serum Institute of India (SII).

Doses

There is no difference between the two vaccines in terms of dosage. Both of them follow a two-dose regimen, administered 28 days apart.

Storage Guidelines

Both Covishield and Covaxin can be stored at 2-8 degrees Centigrade, which is a household refrigerator temperature. This makes both the vaccines most suited for Indian conditions as most of the vaccines here are kept at the same temperature range.

This also makes the transportation and storage of both vaccines easier.

Efficacy

Both the vaccines have shown more than satisfactory results ever since the inoculation started in India.

The effectiveness of the Covishield vaccine is nearly 90% as per the global reports and Covaxin's 81% according to interim 3rd phase trial results.

Age of beneficiaries

Covishield has been approved for people aged 18 years and above, while Covaxin can be given to people aged 12 years and above. There, however, isn't any assurance if the vaccine can be given to children and pregnant women.

- **The risk of contracting COVID after 2 doses of Covaxin or Covishiled is minuscule. A study has found 0.03% of people caught COVID after the 2nd dose of Covishield and 0.04% tested positive after the 2nd dose of Covaxin.**

  NB: This is probably the most important concern.