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Indian Journal of Pharmacy and Pharmacology

Journal homepage: <https://www.ijpp.org.in/>

Editorial

Corona vaccine approach

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ARTICLE INFO

Article history:

Received 20-07-2021

Accepted 10-08-2021

Available online 04-09-2021

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“ I have no special talents, I am only passionately curious
— Albert Einstein

Dear readers, effective control of COVID -19 through vaccination remains effective measure to control mass viral spread. Curiosity and integrity of researchers will strive to control this devastating disease.

Treatment of any form of illness, invokes physicians curiosity for bestowing proper remedy. The prophylactic remedy is proper vaccination.

The infectivity of the SARS-CoV-2 virus is very high compared to other corona viruses reported so far, an effective vaccine is the best way to contain the rapidly escalating proliferation of this infection.

A COVID & #8209;19 vaccine is a vaccine intended to provide acquired immunity against severe acute respiratory syndrome corona virus 2 (SARS‑CoV‑2), the virus that causes corona virus disease 2019 (COVID‑19).

Coronaviruses have a large (30 + kb) single-stranded positive sense RNA genome encased by a helical nucleocapsid (N) and an outer envelope comprised of matrix protein (M), envelope protein € and spike proteins (S). S protein was found to elicit neutralising antibody and is a major target antigen for vaccine development.

Currently, 39 coronavirus vaccines are in different stages of clinical trials globally, out of which 6 are from India, 13

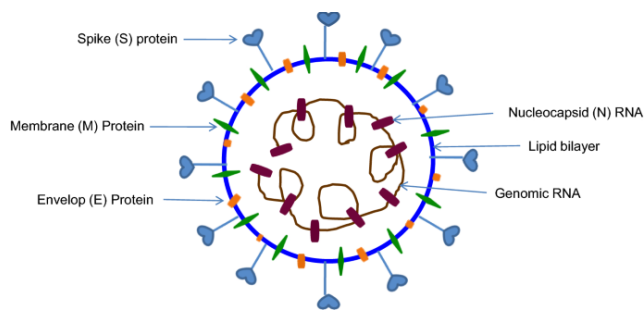


Fig. 1:

from China, and 20 from other countries. Currently available vaccines in Indian market

Covishield is the better known. It's a version of the Oxford University-AstraZeneca vaccine that was found to have an average efficacy of 70.4% in a peer reviewed study. 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. Covaxin will have to gather more data and needs to be presented at WHO so that it is marketed globally.

The most common side effect is soreness at the site of injection. Other side effects include fatigue, headache, muscle aches, chills, joint pain, and possibly some fever. Side effects were more frequent after the second dose in the vaccine trials.

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Table 1: Difference between sputnik v and the other two vaccines

| Sputnik | Covishield and covaxin |
|--|---|
| Developed by gamaleya research institute of epidemiology in association with Dr. Reddy's | Covishield is developed by the SII, Oxford university and astrazeneca whereas covaxin is developed by bharat biotech and ICMR |
| 91.6 percent effective | Covishield can be up to 90% effective and covaxin has been found to be 78-81% effective. In completed Phase III trial , Covaxin is 77.8% effective. |
| The interval between the 2 doses is likely to be 21 days up to 8 weeks. | The gap between the doses of covishield and covaxin are respectively 12-16 weeks and 4-6 weeks |

Table 2: Introduction of Pfizer/BioNTech and moderna vaccines in indian market

| Characteristics | Pfizer/ BioNtech vaccine | Moderna vaccine |
|----------------------|--|---|
| Type of vaccine | mRNA (BNT162b2) | mRNA (mRNA-1273) |
| Dose | Each dose contains 30 µg (0.3 mL) | Each dose contains 50 µg (0.5 mL) |
| Number of injections | 2 injections, given 21 days apart | 2 injections, given 28 days apart |
| Effectiveness | 95% in preventing the SARS-COV-2 infection. | 94.5% in preventing the SARS-COV-2 infection |
| Storage | Multiple dose vials are stored between -80°C and -60°C | Multiple-dose vials are stored between -25° and -15°C |

Coadministration of vaccines: If required, COVID-19 vaccine and other vaccines should be separated by an interval of at least 14 days. Interchangeability of COVID-19 vaccines is not permitted: Second dose should also be of the same COVID-19 vaccine which was administered as the first dose.

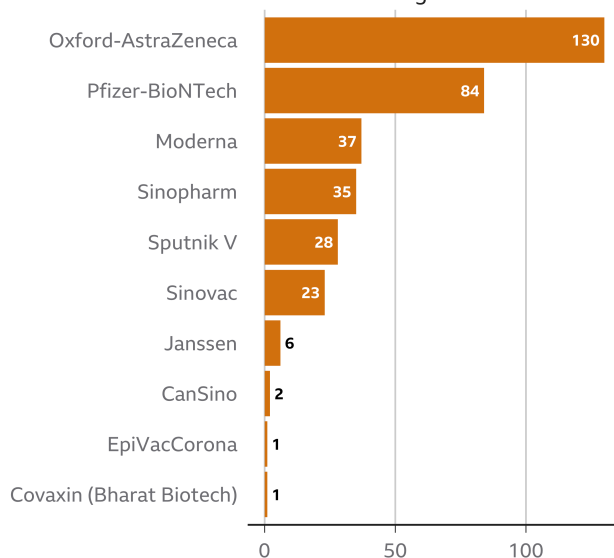
Contraindications: Persons with history of Anaphylactic or allergic reaction to a pervious dose of COVID-19 vaccine or Immediate or delayed-onset anaphylaxis or allergic reaction to vaccines or injectable therapies, pharmaceutical products, food-items etc.

The dataset tracks the total number of COVID-19 vaccinations administered in each country, broken down by first and second doses (where national data is available), and derived daily vaccination rates and population-adjusted figures

Corona vaccine dashboard: By the end of this year, India is likely to have nearly dozen vaccines. New intranasal vaccine BBV154 creates an immune response at the site of infection (in the nasal mucosa). This helps to block both infection and transmission of Covid-19. This will reduce the gap between supply and demand and also bring down the prices. On 21st august 2021, drug controller general of India (DCGI) granted emergency use approval to Zydus Cadila's needle-free vaccine, ZyCoV-D, the world's first ever DNA based vaccine against the SARs-COV-2 virus. Uses jet injector. Valid for children above 12 years.

Which vaccine has greatest global reach?

Number of countries and territories using each vaccine



Note: Only includes locations where data on doses administered is available

Source: Our World In Data, 12:00 BST on 26 Apr

**Fig. 2:**

Corona virus has crescendo and decendo pattern as the mutant strains keep appearing, leading to optimal hit at peak. Option to vaccinate more population with lead to mass immunity conferring bodys ability to fight infection.

We as responsible citizens, must abide to government's vaccination program and proper use of measures like masks, adhering to distance philosophy for long duration will make this virus extinct. Time is only solution.

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Cite this article: Chaudhry S. Corona vaccine approach. *Indian J Pharm Pharmacol* 2021;8(3):177-178.