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## A Review on Covid 19 Vaccine

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### ABSTRACT:

Worldwide, the current COVID-19 pandemic caused by the SARS-CoV-2 virus has resulted in millions of fatalities, illnesses, and financial losses. There are 21 COVID-19 vaccines from various platforms that have been authorised for use in emergencies until August 13, 2021. Later, BNT162b2 received FDA full approval. Leading vaccines including BNT162b2, mRNA-1273, Gam-Covid-Vac, Ad26.COV2.S, ChAdOx1 nCoV-19, and BBIBP-CorV have been shown to be 95%, 94.1%, 91.6%, 67%, 70.4%, and 78.1% effective against SARS-CoV-2, respectively. Additionally, BNT162b2, ChAdOx1 nCoV-19, and BBV152 each demonstrated 88%, 70%, and 65.2% efficacy, respectively, against the Delta version of SARS-CoV-2. Other than the typical side effects like fever, exhaustion, headaches, and soreness at the injection site, Bell's palsy from BNT162b2, myocarditis and pericarditis from mRNA-1273, and thrombosis from ChAdOx1 nCoV-19 have all been described, though they didn't appear very concerning. Additionally, to ensure that the immunity and protection against the virus are optimal and long-lasting, vaccine manufacture and distribution must be done globally in a fair and just manner.

**KEY WORDS:** COVID-19 vaccines, SARS-CoV-2, Immunogenicity, Effectiveness, Adverse effects, Distribution

### INTRODUCTION:

CORONAVIRUS DISEASE 2019 (COVID-19) IS a contagious disease caused by a virus the severe Acute respiratory syndrome Covid-19 is the infection disease caused by most recently discovered corona virus. This new virus before outbreak began in wuhan, china, in December 2019 most Common symptoms of covid -19 are fever, tiredness and dry cough

- 1) First case covid-19 infection present in india repoted in kerala, on january 27,2020
- 2) A 20 yr old female presented to the emergency department in general hospital, Thrissur, kerala with one day history
- 3) Coronaviruses (CoVs) have enveloped positive-sense and single-stranded RNA as genetic material with a highly diverse nature. It causes enteric, hepatic, and neurological diseases in humans and animals . The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), a novel betacoronavirus is responsible for the coronavirus disease 2019 (COVID-19), which was first found in Wuhan of China on December 2019 in a group of people connected to a seafood market[. On 11 March 2020, World Health Organization (WHO) categorized COVID-19 as a pandemic as it had already spread almost all over the world ]. According to an estimation, until 25 August 2021, around 214,126,106 cases and 4,468,112 deaths had been reported globally where the virus was found and played a devastating role incessantly
- 4) Moreover, SARS-CoV found in 2002–2003, and Middle East respiratory syndrome coronavirus (MERS-CoV) in 2012 are two other coronaviruses that cause epidemics, including severe respiratory illness along with deaths in humans since 2000 . Although some attempts have been made, there is no commercially available vaccine for SARS and MERS. Several reasons were responsible for this no commercial production of SARS and MERS vaccines, such as lack of suitable animal models during pre-clinical experimentation and deficit in investment because it was limited in a small geographical area compared to other infectious diseases such as influenza, tuberculosis, and HIV []. The development of the COVID-19 vaccines in this dire approaches.

### CAUSATIVE AGENT:

Infection with severe acute respiratory syndrome coronavirus 2, or SARS-CoV-2, causes coronavirus disease 2019 (COVID-19).

The virus that causes COVID-19 spreads easily among people. Data has shown that the COVID-19 virus spreads mainly from person to person among those in close contact. The virus spreads by respiratory droplets released when someone with the virus coughs, sneezes, breathes, sings or talks. These droplets can be inhaled or land in the mouth, nose or eyes of a person nearby.

Sometimes the COVID-19 virus can spread when a person is exposed to very small droplets or aerosols that stay in the air for several minutes or hours — called airborne transmission.

The virus can also spread if you touch a surface with the virus on it and then touch your mouth, nose or eyes. But the risk is low.

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## CLINICAL FEATURE:

The clinical features of COVID-19 are varied, ranging from asymptomatic state to acute respiratory distress syndrome and multi organ dysfunction. The common clinical features include fever (not in all), cough, sore throat, headache, fatigue, headache, myalgia and breathlessness. Conjunctivitis has also been described. Thus, they are indistinguishable from other respiratory infections. In a subset of patients, by the end of the first week the disease can progress to pneumonia, respiratory failure and death. This progression is associated with extreme rise in inflammatory cytokines including IL2, IL7, IL10, GCSF, IP10, MCP1, MIP1A, and TNF $\alpha$ . The median time from onset of symptoms to dyspnea was 5 d, hospitalization 7 d and acute respiratory distress syndrome (ARDS) 8 d. The need for intensive care admission was in 25–30% of affected patients in published series. Complications witnessed included acute lung injury, ARDS, shock and acute kidney injury. Recovery started in the 2nd or 3rd wk. The median duration of hospital stay in those who recovered was 10 d. Adverse outcomes and death are more common in the elderly and those with underlying co-morbidities (50–75% of fatal cases). Fatality rate in hospitalized adult patients ranged from 4 to 11%. The overall case fatality rate is estimated to range between 2 and 3% .

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## SYMPTOMS:

Signs and symptoms of coronavirus disease 2019 (COVID-19) may appear 2 to 14 days after exposure. This time after exposure and before having symptoms is called the incubation period. You can still spread COVID-19 before you have symptoms (presymptomatic transmission). Common signs and symptoms can include:

- Fever
- Cough
- Tiredness

Early symptoms of COVID-19 may include a loss of taste or smell.

Other symptoms can include:

- Shortness of breath or difficulty breathing
- Muscle aches
- Chills
- Sore throat
- Runny nose
- Headache
- Chest pain
- Pink eye (conjunctivitis)
- Nausea
- Vomiting
- Diarrhea
- Rash

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## PREVENTION:

- Maintain a safe distance from other
- \*wear a mask in public when physical distance not possible
- \*clean your hands use soap and water or alcohol base hand rub
- \*cover your nose and mouth with your bent elbow or tissue when you cough or sneeze
- \*stay home if you feel unwell

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**TREATMENT:**[Nirmatrelvir with Ritonavir \(Paxlovid\)](#)*Antiviral*

Adults; children ages 12 years and older

Start as soon as possible; must begin within 5 days of when symptoms start

Taken at home by mouth (orally)

[Remdesivir \(Veklury\)](#)*Antiviral*

Adults and children

Start as soon as possible; must begin within 7 days of when symptoms start

Intravenous (IV) infusions at a healthcare facility for 3 consecutive days

[Molnupiravir \(Lagevrio\)](#)*Antiviral*

Adults

Start as soon as possible; must begin within 5 days of when symptoms start

Taken at home by mouth (orally)

**VACCINES:**

Corona virus vaccines,( covid-19)

- 1 \*COVISHIELD VACCINE
- \*SPUTNIK V VACCINE
- \* MODERNA VACCINE
- \*PFIZER VACCINE
- \*NOVAVAX VACCINE
- \*JOHNSON &JOHNSON VACCINE
- \*COVAXIN VACCINE

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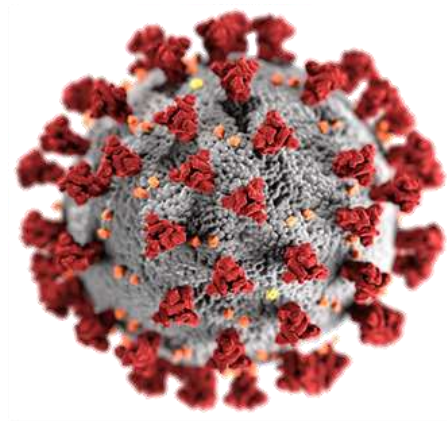
**Conclusion:**

The vaccines discussed in this study are Pfizer/BNT162b2, Moderna vaccine/mRNA1273, AstraZeneca/AZD122/ChAdOx1 n-CoV-19 and Janssen vaccine/Ad26.COV2.S. In addition, their platforms, trials, limitations and geographical distributions were also reviewed. The platforms used were mRNA and adenoviruses.

It can be seen that the efficacies of the vaccines are Pfizer—95%, Moderna—94.1%, AstraZeneca—70.4% and Janssen—66.9%, proving that these vaccines are effective at reducing the incidence and severity of SARS-CoV-2 infection among the study populations.

As of 16 May 2021, the number of countries that have approved the use of the following vaccines is Pfizer in 85, Moderna in 46, Oxford/AstraZeneca and Covishield in 139 and Janssen in 41.

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**IMAGE OF COVID-19 VIRUS:**

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**BIBLIOGRAPHY:**

- [https://www.gavi.org/covid19-vaccines?gclid=EAIaIQobChMI0-DD-mV\\_AIVCJ1LBR2UGgIwEAAYASAAEgJaAvD\\_](https://www.gavi.org/covid19-vaccines?gclid=EAIaIQobChMI0-DD-mV_AIVCJ1LBR2UGgIwEAAYASAAEgJaAvD_)
- <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/index.html>
- <https://www.hopkinsmedicine.org/health/conditions-and-diseases/coronavirus/covid-19-vaccine->
- <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/covid-19-vaccines>
- <https://www.jnj.com/johnson-johnson-covid-19-vaccine-authorized-by-u-s-fda-for-emergency-usefirst-single-shot-vaccine-in-fight>
- <https://sputnikvaccine.com/>
- [https://www.seruminstitute.com/product\\_covishield.php](https://www.seruminstitute.com/product_covishield.php)<https://www.cdc.gov/vaccines/covid-19/info-by-product/moderna/index.html>
- <https://www.bharatbiotech.com/covaxin.html>
- <https://www.cowin.gov.in/>
- <https://www.hopkinsmedicine.org/health/conditions-and-diseases/coronavirus/covid-19-vaccine-what-you-need-to-know>
- <https://www.fda.gov/emergency-preparedness-and-response/coronavirus-disease-2019-covid-19/covid-19-vaccines>
- <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/covid-19-vaccines>
- [https://epicentre.org.za/2022/04/05/bestcovidvaccine/?gclid=EAIaIQobChMI2P6uvtnc\\_AIV5JNmAh2LTwiNEAAYAAEgIyhvD\\_BwE](https://epicentre.org.za/2022/04/05/bestcovidvaccine/?gclid=EAIaIQobChMI2P6uvtnc_AIV5JNmAh2LTwiNEAAYAAEgIyhvD_BwE)
- <https://www.fda.gov/emergency-preparedness-and-response/coronavirus-disease-2019-covid-19/covid-19-vaccines>
- [https://www.mohfw.gov.in/covid\\_vaccination/vaccination/index.html](https://www.mohfw.gov.in/covid_vaccination/vaccination/index.html)
- <https://www.vaccines.gov/search/>
- <https://www.pfizer.com>