

A REVIEW ON VACCINATION AGAINST COVID-19 IN THE WORLD**Ravindra C. Sutar^{1*}, Pratiksha D. Mate², Priyanka R. Bhosale³ and Srushti B. Jadhav⁴**

^{1*}Department of Pharmacology, Sanjivani College of Pharmaceutical Education and Research Kopargaon. At-Sahajanandnagar, Post-Shinganapur (Pin code-423603), Tal-Kopargaon, Dist- Ahmednagar, Maharashtra, India.

^{2,3,4}Final Year Bachelor of Pharmacy, Savitribai Phule Pune University, Student of Sanjivani College of Pharmaceutical Education and Research Kopargaon, Maharashtra, India.

Article Received on
21 Dec. 2021,

Revised on 11 Jan. 2022,
Accepted on 31 Jan. 2022

DOI: 10.20959/wjpr20222-23004

Corresponding Author*Dr. Ravindra C. Sutar**

Department of
Pharmacology, Sanjivani
College of Pharmaceutical
Education and Research
Kopargaon. At-
Sahajanandnagar, Post-
Shinganapur (Pin code-
423603), Tal- Kopargaon,
Dist- Ahmednagar,
Maharashtra, India.

ABSTRACT

The Coronavirus pandemic has caused adverse consequences across the globe; mortality and dismalness being the principle sway. After WHO, named the sickness a pandemic in March 2020, they gave in wellbeing rules to keep to control the spread of the illness. The wellbeing business, the scholarly community, and various states are joined to create and test different immunizations at an extraordinary speed to battle the pandemic completely and take the world back to its feet. A portion of the antibodies created incorporate Pfizer, Moderna, and AstraZeneca. Be that as it may, very much like other infections, the SAR-CoV-2 infection continues to change through transformation, as different variations, not quite the same as the first is arising. Proof shows that the three new variations; UK, Brazil, and South Africa are more serious as far as contagiousness, infection seriousness, dodging of the safe reaction, and decreasing the capacity to killed antibodies, contrasted with the first coronavirus. With such information on the presence of various strains, the emerges worries on whether the

generally accessible immunizations are compelling enough in forestalling the new COVID-19 strains. Studies are as yet immature to learn more on the virologic, epidemiologic, and clinical attributes of the steadily arising variations. The motivation behind this audit to appraise COVID-19 antibody acknowledgment rate and the level of populace inoculation according to continent.

KEYWORDS: Vaccination, COVID-19 Vaccine, Population, Continent, WHO.

INTRODUCTION

The Covid illness 2019 (COVID-19) pandemic is presently the most squeezing worldwide issue. Coronavirus has prompted 1.75 million passings around the (World Health Organization [WHO], 2021) and applied an uncommon effect across each part of life universally. Powerful mediations are vital to controlling COVID-19 spread, and immunizations are viewed as an everyday practice and compelling measure for controlling irresistible infections. As of late, a few investigations have announced the adequacy of novel COVID-19 immunizations. The adequacy of the BNT162b2 mRNA immunization has been accounted for to be 95%, that of the mRNA-1273 antibody is 94.1%, that of the Gam-COVID-Vac (Sputnik V) is 91.6%, and that of the ChAdOx1 nCoV-19 antibody is 70.4%. Generally speaking, the detailed viability is far higher than the norm (half adequacy) created by the U.S. Food and Drug Administration (Food and Drug Administration, 2020).^[1]

Not with standing the viability and wellbeing of the COVID-19 antibody, there are a couple of significant contemplations: (1) how could the immunization be fairly distributed universally? (2) and what is the populace's acknowledgment of the COVID-19 immunization? Six center moral standards (human prosperity, equivalent regard, worldwide value, public value, correspondence, and authenticity) have been proposed by the WHO to direct the dissemination of immunizations. The "Designation Mechanism for COVID-19 Vaccines Global Access (COVAX) Facility Vaccines" report recommended that, for every country, relative allotment - dependent upon country preparation and the accessibility of portions - ought to be utilized to accomplish an inoculation pace of 20% of the complete populace in stage I, and that weighted distribution (considering weakness and COVID-19 danger) ought to be utilized when past 20% of stage II.^[1]

Coronavirus immunization goals have been overviewed and detailed. The extent of eagerness to go through COVID-19 inoculation was 68.4% dependent on a meta-examination. Nonetheless, a few issues were not inspected or investigated, and the representativeness of the examples was indistinct. By distinguishing related indicators, legislatures and wellbeing specialists can advise the advancement regarding proof based rules and explicit immunization missions to adequately address COVID-19 antibody aversion and further develop immunization take-up.^[1]

MATERIAL AND METHODS

We gathered the COVID-19 Vaccine improvement and immunization progress information in the world according to landmass. We gathered information as on date upto December 2021, from various different sources like PubMed, Web of Science, and Google Scholar, with various watchwords. One illustration of search term is "Coronavirus Vaccine", "COVID-19 inoculation", and so on Accordingly we found a few relevant data and studies. our reality in information (our reality in information for COVID-19), Vaccine Tracker (Coronavirus immunization tracker), Statista (The COVID-19 inoculation Race on in the world).

COVID-19 VACCINE

With all that dialing back or stopping, researchers and wellbeing professionals have dug into attempting to find a long-lasting arrangement so life can return to its ordinary. Multi office endeavors on research have been worked with in quest for creating antibodies for inoculation to forestall COVID-19 contamination. These antibodies have distinctive working components to ensure people against the infection. The examination on observing an immunization and further developed identification for the illness have moved at an extraordinary speed for reasons, for example, progression in research, expanded creative antibody innovation gear, the human preliminary was done at a beginning phase, and in conclusion incredible solidarity between pertinent bodies 30. There are different immunizations created to shield individuals from the transmission and antagonistic impacts of the infection. Starter information shows support for this assertion as nations are announcing an abatement in the transmission rate. For example, Israel professes to have inoculated practically 75% of its more seasoned populace, an activity that has seen a 33% reduction in the transmission pace of the infection. Albeit, the effect of COVID-19 antibodies on the transmission of the sickness still can't seem to be completely determined. The Strategic Advisory Group of Experts (SAGE), through proof based medication, gives impermanent direction on issues to do with inoculation. Need is given to wellbeing laborers and individuals matured over 65 years since antibodies are restricted and they additionally face a higher danger of getting tainted.^[2,3,4]

There are a few protected and successful immunizations that keep individuals from getting genuinely sick or biting the dust From COVID-19. This is one piece of overseeing COVID-19 notwithstanding the vitally preventive measures. Amazing. Starting at 15 November 2021 WHO Has thought about that the accompanying antibodies in contrast to COVID-19 have met the fundamental models for wellbeing and adequacy.^[2,3,4]

1. Pfizer/BioNTech: Comirnaty

The BNT162b2 is a courier Ribonucleic Acid (mRNA) antibody implying that it conveys hereditary directions that assist the beneficiary's cells with delivering protein pieces that trigger insusceptible framework reaction.^[5,6]

On 31 December 2020, Comirnaty turned into the principal immunization to get a gesture from the WHO. It has been supported in right around 100 nations across the globe, including the USA, the UK, the UAE, Saudi Arabia, Canada and Australia.^[5,6]

2. Oxford/AstraZeneca: Vaxzevria and Covishield

The ChAdOx1 COVID-19 antibody depends on the infection's hereditary guidelines for building the spike protein, which is put away utilizing twofold abandoned DNA.

WHO supported three adaptations of the AstraZeneca immunization up to this point: one in the EU, one created by Serum Institute of India (SII) and the third by SKBio (Republic of Korea) on 15 February 2021 for crisis use just as COVAX supply. AstraZeneca is the most elevated circulated antibody on the planet, with 122 nations having remembered it. Covishield has been approved by around 46 nations, including India, Egypt, Maldives, and others fundamentally in Asia and Africa.^[5,6]

3. Johnson and Johnson: Ad26.COV2.S

The Janssen immunization use the AdVac antibody stage to design a typical cold infection to convey hereditary directions into the arm cells where they build a copy of the Covid spike, setting off the safe framework.

The oddball immunization was recorded by the WHO for crisis use and COVAX carry out on 12 March 2021. Around 70 nations, including Bahrain, South Africa, the USA and Kuwait have incorporated the Janssen pokes in their vaccination programs.^[5,6]

4. Moderna: Spikevax

The Moderna antibody fundamentally works by infusing a small portion of the COVID-19 infection's hereditary code into the body. This will trigger the body's resistant reaction, consequently, making antibodies fit for battling the infection.

The WHO approved Moderna for crisis use on 30 April 2021. The American antibody has gotten endorsement in 76 nations, including the USA, France, Germany, Israel, Qatar, and Singapore.^[5,6]

5. Sinopharm: BBIBP-CorV

Sinopharm depends on the more established yet tried innovation, which includes taking an inactivated type of the infection to animate the body's insusceptible reaction.

The Chinese drug got the green sign from the WHO on 7 May 2021. Up until this point, 65 nations, including Argentina, China, Lebanon, Pakistan, and Vietnam.^[5,6]

6. Sinovac: CoronaVac

Sinovac, as well, is an inactivated infection antibody, which implies it is produced using viral particles delivered in a lab, which are then inactivated so they can't contaminate with COVID-19.

It was supported by the WHO on 1 June 2021 and is at present being utilized and endorsed in around 40 nations including Brazil, Indonesia, the Philippines and Thailand.^[5,6]

7. Bharat Biotech: Covaxin

Covaxin is an inactivated infection based COVID-19 immunization created by Bharat Biotech as a team with the Indian Council of Medical Research – National Institute of Virology.

In all age bunches 18 and up, the WHO's Strategic Advisory Group of Experts on Immunization (SAGE) suggests utilizing the antibody in two portions with a four-week hole between them. Covaxin was found to have a 78 percent adequacy against COVID-19 of any seriousness 14 days or more after the subsequent measurements, and is great for low-and center pay countries in light of the fact that to its straightforward stockpiling needs.

The WHO's Strategic Advisory Group of Experts on Immunization (SAGE) has endorsed Covaxin for crisis utilize early November 2021. The antibody is presently acknowledged in a few nations including Mexico, Nepal, Philippines and India.^[5,6]

The COVID-19 antibodies are alright for a great many people. Much of the time minor aftereffects are ordinary. Normal incidental effects after immunization which show that a people body is building security to COVID-19 disease incorporate

1. Arm irritation
2. Gentle fever
3. Sluggishness
4. Cerebral pain
5. Muscle or joint hurts

Indeed, even after inoculation individuals need to go to preventive lengths.

CONTINENT WISE VACCINATION RATE

On 7 December, 2021 COVID-19 Vaccine Doses Administered by Continent

Africa 281.53 million dosages

Asia 2.61 billion dosages

Europe 985.72 million dosages

North America 765.41 million dosages

South America 605.13 million dosages

Oceania 50.87 million dosages

Each continents country wise COVID-19 Vaccination

AFRICA

As of December 5, 2021 Seychelles was the African country with the most elevated Covid (COVID-19) vaccination rate. There around 181 dosages were directed per 100 people. Since the number of inhabitants in Seychelles is just under 100,000 occupants, the nation figured out how to inoculate a huge piece of the populace in a restricted period. Morocco had an immunization pace of around 131 portions for each 100 people groups, enlisting the largest number of vaccinations. In South Africa, the most impacted country on the landmass, the immunization rate stretched around 43.8 per 100 populace.^[7]

Antibodies are utilized in Africa mainland: COVAX, Oxford/AstraZeneca, Pfizer/BioNtech.

AFRICA CONTINENT COUNTRY WISE COVID-19 VACCINATION RATE
TABLE^[7,8]

Sr.no	Location	Doses given	Fully vaccinated	% of population vaccinated
1	Seychelles	1.79L	77,951	79.2%
2	Mauritius	18.8L	9.15L	72.3%
3	Morocco	4.9Cr	2.28Cr	61.8%
4	Cape Verde	5.5L	2.5L	45.0%
5	Tunisia	1.08Cr	52.8L	44.6%
6	Rwanda	94.4L	34.5L	26.7%
7	Botswana	14.3L	5.09L	21.6%
8	Comoros	5.23L	2.41L	27.7%
9	Zimbabwe	68.3L	29.3L	19.7%
10	South Africa	2.66Cr	1.51Cr	25.5%
11	Egypt	4.3Cr	1.65Cr	16.1%
12	Mauritania	17.6L	6.84L	14.7%
13	Libya	24.4L	7L	10.2%
14	Mozambique	1.08Cr	41.1L	13.2%
15	Equatorial Guinea	4.47L	1.99L	14.2%
16	Angola	1Cr	32.8L	10.0%
17	Lesotho	6.18L	5.72L	26.7%
18	Algeria	1.23Cr	53.9L	12.3%
19	Eswatini	3.06L	2.61L	22.5%
20	Namibia	6.75L	3.08L	12.1%
21	Togo	19.3L	6.49L	7.8%
22	Guinea-Bissau	3.89L	20,202	1.0%
23	Guinea	24.9L	8.13L	6.2%
24	Kenya	77.9L	30.6L	5.7%
25	Gabon	3.29L	1.42L	6.4%
26	Liberia	5.98L	4.76L	9.4%
27	Senegal	19.2L	9.3L	5.6%
28	Ghana	34.9L	8.42L	2.7%
29	Gambia	2.71L	2.26L	9.4%
30	Sierra Leone	8.69L	3.61L	4.5%
31	Djibouti	1.04L	26,087	2.6%
32	Uganda	47.5L	9.13L	2.0%
33	Central African republic	4.37L	3.35L	6.9%
34	Ethiopia	1.02Cr	14.5L	1.3%
35	Malawi	14.9L	6.21L	3.2%
36	Zambia	11.8L	7.73L	4.2%
37	Somalia	9.94L	5.65L	3.6%
38	Nigeria	1.09Cr	37.9L	1.8%
39	Mali	9.4L	3.48L	1.7%
40	Niger	9.72L	4.64L	1.9%
41	Sudan	16.6L	5.82L	1.3%
42	Cameroon	9.7L	6.12L	2.3%

43	Benin	8.27L	6.52L	5.4%
44	Burkina Faso	6.62L	2.97L	1.4%
45	Madagascar	7.42L	5.41L	2.0%
46	South Sudan	2.18L	1.33L	1.2%
47	Tanzania	8.86L	8.86L	1.5%
48	Chad	2.75L	76,504	0.5%
49	Democratic of Republic of Congo	1.97L	57,268	0.1%
50	Burundi	1,438	564	-

ASIA

Coronavirus inoculation has begun all through the world. The inoculation program has additionally begun in most Asian nations. This paper dissected the Asian-beginning COVID-19 antibodies and inoculation program status in Asia till april 2021.

We found that a sum of 8 Asian COVID-19 antibodies started and got endorsement from three nations: China, India, and Russia.

We observed that China and India inoculated the maximal number of individuals. Toward the end, we compute the variables influencing the COVID-19 immunization program in Asia, for example, antibody reluctance, fundamental multiplication numbers (R_0) and inoculation crusades, and the cost of the immunizations.

Our examination will help the execution of the COVID-19 inoculation program effectively in Asia. Various phases of coordinated effort between the colleagues engaged with the improvement of COVID-19 immunizations. The World Health Organization (WHO) has approved the first of China's COVID-19 immunizations for crisis use, and one more could be recorded before very long, making the way for wide dispersion in lower-pay countries through the COVID-19 Vaccines Global Access (COVAX) drive. Around one out of five individuals in Asia have gotten a solitary antibody portion, multiplying since early May, yet behind the 37% in Europe and 40% in North America, as indicated by Our World in Data's latest figures. Almost 3/4 of the world's every day inoculations are currently regulated in Asia, up from generally half only weeks prior. Having Asia at last fire up, following a long time of deficiencies as the underlying stock generally went toward the West, has supported some worldwide rollout projections. Some Asian states' rollouts were postponed by restricted antibody endorsements. Japan had approved just an immunization made by Pfizer Inc. what's more BioNTech SE, yet lately additionally has given endorsement to dosages from Moderna Inc. what's more AstraZeneca PLC.^[9,10]

ASIA CONTINENT COUNTRY WISE VACCINATION RATE^[8,9]

Sr no	Location	Doses given	Fully vaccinated.	% of population fully vaccinated.
1	India	129cr	48.7cr	35.7%
2	China	252cr	111cr	-
3	Indonesia	24.3cr	9.98cr	36.5%
4	Pakistan	12.8cr	5.3cr	24.0%
5	Bangladesh	10.4cr	3.85cr	23.4%
6	Japan	19.8cr	9.78cr	77.7%
7	Philippines	9.28cr	3.87cr	35.3%
8	Vietnam	12.9cr	5.5cr	56.7%
9	Turkey	12.1cr	5.57cr	69.1%
10	Iran	10.8cr	5.07cr	60.2%
11	Thailand	9.54cr	4.25cr	60.9%
12	Myanmar	2.81cr	1.16cr	21.3%
13	South korea	8.73cr	4.15cr	80.1%
14	Iraq	1.26cr	48.6L	12.1%
15	Afghanista	52.3L	35.7L	9.2%
16	Saudi arabia	4.78cr	2.27cr	65.2%
17	Uzbekistan	3.51cr	58.8L	17.2%
18	Malaysia	5.42cr	2.54cr	78.6%
19	Yemen	7.86L	3.67L	1.2%
20	Nepal	1.87cr	84.4L	29.0%
21	North korea	-	-	-
22	Sri lanka	2.97cr	1.38cr	62.8%
23	Kazakhstan	1.7cr	82L	43.7%
24	Syria	14.2L	7.39L	4.2%
25	cambodia	2.88cr	1.34cr	80.2%
26	Jordan	79.9L	37.9L	37.2%
27	Azerbaijan	1.07cr	46L	45.5%
28	United arab Emirates	2.15cr	88.8L	89.3%
29	Tajikistan	55.8L	25.6L	26.8%
30	Isreal	1.63cr	57.9L	62.8%
31	Laos	68.4L	31L	42.6%
32	Lebanon	36.9L	17.2L	25.2%
33	Kyrgyzstan	20.7L	9.23L	14.0%
34	Turkmenistan	75.8L	32.1L	53.2%
35	Singapore	1.01cr	50.1L	88.2%
36	Oman	59.3L	28.3L	55.4%
37	State of palestine	31.2L	13.9L	28.9%
38	Kuwait	65.9L	31.7L	74.1%
39	Georgia	22.6L	10.3L	27.7%
40	Mongolia	44.2L	21.5L	65.7%
41	Armenia	13.5L	5.17L	17.4%
42	Qatar	50.3L	22.2L	77.0%
43	Bahrain	30L	11.6L	68.4%
44	Timor-leste	11.1L	4.65L	35.3%
45	Cyprus	13.6L	5.88L	48.7%

46	Bhutan	11.5L	5.64L	73.1%
47	Maldives	7.76L	3.65L	67.5%
48	Brunei	7.62L	3.58L	81.7%

EUROPE

As of December 1, 2021 Iceland had the most elevated COVID-19 immunization rate in Europe having managed 188.9 portions per 100 individuals in the nation, while Malta had directed 185.99 dosages per 100. The UK was the primary country in Europe to support the Pfizer/BioNTech immunization for far reaching use and started vaccinations on December 8, 2020 thus far have directed 170.07 dosages per 100. At the most recent information, Denmark had done 169.09 dosages of antibodies per 100 populace. Russia turned into the principal country on the planet to approve an immunization – named Sputnik V-for use in the battle against COVID-19 in August 2020. As of December 1, 2021 Russia had managed 87.41 dosages per 100 individuals in the country.

As indicated by the information gave by the European community to Disease Prevention and Control (ECDC) at present, all of the European nations perceive the four antibodies that have been supported for use by the European Medicine 2021 Agency (EMA) - AstraZeneca (Vaxzevria), Pfizer/BioNTech (Comirnaty), Moderna (Spikevax), Johnson and Johnson (Janssen).^[11,12]

EUROPE CONTINENT COUNTRY WISE VACCINATION RATE^[8,11]

Sr.no	Location	Dose given	Fully vaccinated	% of population vaccinated
1	Iceland	6.74L	2.82L	76.9%
2	Malta	9.79L	4.33L	82.5%
3	United Kingdom	11.9Cr	4.66Cr	69.3%
4	Denmark	1.01Cr	44.8L	76.8%
5	Ireland	84.7L	38.1L	76.2%
6	Portugal	1.8Cr	90.1L	87.4%
7	Spain	7.75Cr	3.77Cr	79.6%
8	Italy	10Cr	4.42Cr	74.2%
9	Norway	89.1L	38.6L	71.8%
10	France	11Cr	4.76Cr	70.7%
11	Sweden	1.64Cr	72.3L	69.3%
12	Austria	1.48Cr	61L	68.4%
13	Finland	83.6L	40.6L	73.4%
14	Germany	13Cr	5.75Cr	69.1%
15	Hungary	1.49Cr	58.8L	60.3%
16	Belgium	1.95Cr	87.3L	75.5%

17	Cyprus	13.8L	5.9L	48.8%
18	Luxembourg	9.42L	4.18L	66.2%
19	Netherland	2.6Cr	1.27Cr	72.9%
20	Greece	1.51Cr	67.1L	62.6%
21	Lithuania	38.2L	18L	64.3%
22	Switzerland	1.23Cr	57.4L	66.4%
23	Slovenia	27.4L	11.6L	55.4%
24	Czechia	1.41Cr	64.5L	60.2%
25	Latvia	22.4L	12.2L	64.1%
26	Serbia	80.2L	31.5	45.6%
27	Estonia	14.9L	7.98L	59.9%
28	Poland	4.35Cr	2.06Cr	54.3%
29	Croatia	42.9L	20L	49.4%
30	Slovakia	50.3L	23.6L	43.2%
31	Russia	13.3Cr	5.96Cr	41.3%
32	Romania	1.52Cr	74.4L	38.6%
33	Bulgaria	36.2L	18.2L	26.3%

NORTH AMERICA

The greater part of the US populace has been inoculated and supply of portions is ample. Pfizer and BioNtech's antibody and Moderna's shot both require two portions required a little while separated. Johnson and Johnson's immunization need just one portion. Extra supporter shots might be needed to improve security after some time. Up to this point 237 huge number of Americans have gotten no less than one portion of immunization 92% of the grown-up populace. No less than 200 million individuals have finished their inoculation routine. The USA is sending a portion of its overabundance supply to other hard hit districts Of the world. In US most recent immunization rate is around 2,029,960 portions each day which incorporates 526,902 individuals having their first chance.

With close to 29 million doses Cuba was the Latin American country with the highest covid-19 vaccination rates. As of December 13 2021 the South American country reported having administered 25 5.29 doses per hundred inhabitants. Meanwhile Haiti registered 1.6 doses per 100 population. Latin America and the Caribbean region particularly hard hit and that surpassed 1.5 million covid deathd in October 2021 is working to keep pace. As of December 8, 55% of people in the region were fully vaccinated.^[13]

Vaccination used - Pfizer, Johnson & Johnson vaccine

NORTH AMERICA COUNTRY WISE COVID-19 VACCINATION RATE^[8,13]

Sr. no	Location	Doses given	Fully vaccinated	% of population vaccinated
1	USA	47.3Cr	19.8Cr	60.1%
2	Mexico	13.4Cr	6.54Cr	50.7%
3	Canada	6.24Cr	2.19Cr	76.7%
4	Cuba	2.87Cr	92.9L	82%
5	Gutemala	1.03Cr	42.1L	25%
6	Dominica republic	1.39Cr	56.3L	51.9%
7	Costa Rica	72.2L	32.8L	64.4%
8	Honduras	90.3L	38.9L	39.3%
9	Trinidad and Tobaggo	13L	6.5L	46.4%
10	Greenland	77,821	37,547	66.6%
11	Caribbean Nerherland	35,45	16,736	64.4%
12	Antiguan and Barbuda	1.19L	57,345	58.6%
13	Nicaragua	63.8L	23.2L	35.1%
14	Bahamas	2.8L	1.38L	35.2%
15	Cayman Island	1.26L	56,187	85.5%
16	Grenada	75,154	34,593	30.7%
17	Turks and Caicos	56,343	27,133	70.1%
18	St. kitts & Nevis	52,924	24,997	47%
19	EI Salvador	92.8L	40.9L	63.1%
20	Jamaica	11.4L	5.26L	17.8%
21	Sint marten	51,856	24,912	61.1%
22	Belize	4.12L	1.95L	49.1%
23	Barbados	2.92L	1.38L	48.1%
24	Aruba	1.62L	78,277	73.3%
25	Dominica	55,760	26,852	37.3%
26	Bermuda	1.01L	47,365	74.1%
27	Anguilla	19,914	9,213	61.0%
28	British virgin island	34,992	16,704	55.2%
29	Montserrat	2,949	1,417	28.4%
30	St. Lucia	1.02L	47,342	25.8%
31	St. Vincent and Grenadines	55,950	23,388	21.1%

SOUTH AMERICA

In August 2021 Latin American countries begin to administer booster doses. Early recipients varied by country but frequently included Frontline workers, vulnerable population and those who receive less efficacious vaccines like Sinopharm. Booster dose count as either second or third dose depending on the original vaccine.

Country	1st vaccination	Vaccine
Chile	December 24, 2020	Pfizer
Argentina	December 29, 2020	Sputnik V
Brazil	January 18, 2021	Sinovac
Bolivia	January 29 , 2021	Sputnik V

Peru	February 9, 2021	Sinopharm
Colombia	February 17, 2021	Pfizer
Venezuela	February 18, 2021	Sputnik V
Paraguay	February 22, 2021	Sputnik V
Uruguay	March 1, 2021	Sinovac

COUNTRY WISE COVID-19 VACCINATION RATE^[8]

Sr. no	Location	Doses given	Fully vaccinated	% of population vaccinated
1	Brazil	31.7Cr	13.8Cr	64.9%
2	Colombia	5.9Cr	2.54Cr	49.9%
3	Argentina	7.02Cr	3.02Cr	67%
4	Peru	4.3Cr	1.89Cr	57.3%
5	Venezuela	2.63Cr	98.6L	34.7%
6	Chile	4.16Cr	1.62Cr	84.9%
7	Ecuador	2.53Cr	1.15Cr	65.2%
8	Bolivia	88L	42.4L	36.3%
9	Paraguay	62.2L	27L	37.9%
10	Uruguay	68.3L	26.6L	76.6%
11	Guyana	6.86L	2.83	35.9%
12	Suriname	4.81L	2.22L	37.8%

OCEANIA

There have been approximately 51,430,017 vaccine doses administered for COVID-19 in Oceania. Currently at a rate of about 1.08 per second or 93,182 each day. That is about 119.4 doses per 100 people. At this rate Oceania could have 70% of people vaccinated (two doses) in 95 days (or by March 19 2022).^[14]

People vaccinated: 26,019,030

% of population : 60.42%

Completed vaccination: 24,498,562

% of population: 56.89%

Vaccination used in Oceania : Vaxzevria (Astrazeneca), Pfizer, Moderna

COUNTRY WISE COVID-19 VACCINATION RATE TABLE^[8,14]

Sr.no	Location	Doses given	Fully vaccinated	% of population fully vaccinated
1	Australia	3.98cr	1.91cr	74.4%
2	Papua New Guinea	4.67L	1.98L	2.2%
3	New Zealand	77.9L	37.1L	73.0%
4	Solomon Island	2.08L	46,525	6.8%
5	Fiji	12.5L	5.98L	65.7%
6	Vanuatu	1.41L	45,349	14.8%

7	Samoa	2.49L	1.09L	54.9%
8	Kiribati	86,167	22,675	19.0%
9	Tonga	1.2L	46,239	43.7%
10	Federated states of Micronesia	90,594	46,664	37.1%
11	Palau	3,109	-	-
12	Marshall Islands	47,805	22,345	37.7%
13	Tuvalu	12,114	5,884	49.9%
14	Nauru	14,863	7,251	66.9%

CONCLUSION

Fortunately, few COVID-19 Vaccines have been developed within a year, and the inoculation programs have begun across a few nations to stop the pandemic. In any case, simultaneously, critical preparation and great execution are needed to inoculate the whole population of every country to end the pandemic.

Over 56% of the total population has got not less than one portion of a COVID-19 Vaccine. 8.47 billion dosages have been managed around the world, and 34.09 million are currently directed everyday. Just 7.1% of individuals in low pay nations have got at least one dose.

REFERENCES

1. <https://www.sciencedirect.com/science/article/pii/S0091743521002632>
2. https://www.researchgate.net/publication/350001496_COVID-19_Vaccination_Efficacy_and_Safety_Literature_Review
3. <https://pubmed.ncbi.nlm.nih.gov/33691913/>
4. <https://maplespub.com/article/COVID-19-Vaccination-Efficacy-and-Safety-Literature-Review>
5. <https://blog.wego.com/who-ema-approved-vaccine-lists/>
6. <https://www.tandfonline.com/doi/full/10.1080/25765299.2021.1903144>
7. <https://www.statista.com/statistics/1221298/covid-19-vaccination-rate-in-african-countries/>
8. <https://www.google.com/search?q=covid+19+vaccination+rate+in+world&oq=&aqs=chrome.6.35i39i362111j69i59i450l4.-1j0j7&client=ms-android-oppo-rvo3&sourceid=chrome-mobile&ie=UTF-8>
9. <https://www.statista.com/statistics/1226683/asia-coronavirus-covid-19-vaccination-rate/>
10. <https://covid19.who.int/>

11. <https://www.statista.com/statistics/1196071/covid-19-vaccination-rate-in-europe-by-country/>
12. <https://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-covid-19/covid-19-vaccines-and-vaccination>
13. <https://www.statista.com/statistics/1194813/latin-america-covid-19-vaccination-rate-country/>
14. <https://covidvax.live/continent/oceania>