

**‘Vaccinate! Vaccinate!’****An ardent appeal from the covid vaccinators, experiences at a covid vaccination centre, Government Medical College Nagpur**Sonali Patil<sup>1</sup>, Kavinkumar Saravanan<sup>2</sup>, Uday Narlawar<sup>3</sup>, Abhay Chavan<sup>2</sup>**ABSTRACT**

Coronavirus disease has devastated the global health systems across the borders. The spread of Covid-19 is now relentless and has affected almost all the countries of the world is causing serious public health, social and economic upheaval. India’s vaccine development has been at par with the global economies that Serum Institute of India had developed Covishield in collaboration with Oxford-AstraZeneca, UK and Bharat Biotech had developed Covaxin with the aid from Indian Council of Medical Research (ICMR). In this article we aim to review the COVID vaccination campaign and the characteristics of COVID vaccines approved in India. It is an attempt to share our experiences at the covid vaccination centre of a tertiary care hospital, the lessons learned and strategies adopted for better outcome of the campaign. A multi-disciplinary evidence-based strategies of social control measures and vaccination is the key to end this pandemic.

**Key words :** Coronavirus disease, COVID vaccine, Covaxin, review, experiences.

**Introduction :**

Coronavirus disease has devastated the global health systems across the borders. The disease presents as severe viral pneumonia caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), originated in Wuhan, China in December 2019, has infected more than 172 million people and resulted in 3.7 million deaths globally as of June 6 2021 and in India, there have been 2,88,09,339 confirmed cases of COVID-19 with 3,46,759 deaths, reported to WHO<sup>1</sup>. The spread of Covid-19 is now relentless and has affected almost all the countries of the world causing serious public health, social and economic upheaval<sup>2</sup>. “While new variants are surfacing in India, a decline in COVID-appropriate behaviour such as wearing masks and social distancing is adding to their faster spread,” says Randeep Guleria, director of the All India Institute of Medical Sciences in New Delhi.

Vaccine is one of the best armamentaria in public health especially where no effective treatment is available against a disease.<sup>2</sup> India’s vaccine development has been at par with the global economies that Serum Institute of India had developed a adenoviral vector based vaccine, Covishield in collaboration with Oxford-AstraZeneca, UK and Bharat Biotech had developed a killed virus based vaccine, Covaxin with the aid from Indian Council of Medical Research (ICMR). Ministry of health and family welfare is highly committed and closely monitored the development of vaccine in India. As planned, by 3 January, Subject Expert Committee (SEC) under the Central Drug Standards Control Organisation (CDSCO), the India’s apex drug regulator issued emergency approval for two vaccines for restricted use against covid-19. The approval was made even though phase III clinical trials for Covishield and Covaxin were still ongoing in India<sup>3</sup>.

**Largest vaccination drive in the world - the roll out :**

India began its vaccination program on 16th January 2021, by rolling out Covishield and Covaxin in around 3006 vaccination centres. The vaccine was rolled out to healthcare workers and frontline workers, later expanded to the general population.

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The COVID-19 Vaccine Intelligence Network (Co-WIN) system, a digital platform is being used to track the enlisted beneficiaries for vaccination and COVID-19 vaccines on a real-time basis. The guideline released by the Ministry of Health and Family Welfare<sup>4</sup> had described the constitution of a vaccination team which consists of one vaccinator officer and four vaccination officers. The reporting of AEFI through surveillance and action for events following vaccination (SAFEVAC) has been integrated with Co-WIN software and every AEFI to be reported at the district level and facilitate the referral mechanisms in case any AEFI needs to be put in place.

### **Covishield, Covaxin and Sputnik V - the three saviours :**

Earlier, Covishield and Covaxin were approved, followed by the Russian made vaccine, Sputnik V. Covishield is the Indian version of Oxford-AstraZeneca vaccine and manufactured by the

world's largest vaccine manufacturer, Serum Institute of India (SII) which showed an average efficacy of 70.4% in a peer reviewed study. Covaxin is the indigenously produced coronavirus vaccine developed by Bharat Biotech in collaboration with the Indian Council of Medical Research and the National Institute of Virology, which showed an efficacy of 78% to 81% in a study published in *Lancet*<sup>5,6</sup>.

With already two vaccines inducted into the National Covid Vaccination drive, one more vaccine candidate imported by Dr Reddy's Laboratory from Gamaleya National Research Centre of Epidemiology and Microbiology, Russia showed efficacy of 91.6% in an interim analysis of phase 3 trials and was found to be safe<sup>5,6</sup>. On 13th April 2021, Drug Control General of India, based on the recommendations by Subject Expert Committee (SEC), approved the vaccine for restricted use in emergency settings<sup>7</sup>.

**Table 1 : Characteristics of Covishield, Covaxin and Sputnik V\***

<b>Characteristic</b>	<b>Covishield</b>	<b>Covaxin</b>	<b>Sputnik V</b>
Type	Adenoviral vector vaccine (ChAdOx1)	Killed / inactivated virus	Adenoviral vector vaccine (AD26 & AD5)
Developed by	Oxford-AstraZeneca, UK	Bharat Biotech in collaboration with ICMR, India	Gamaleya National Research Centre of Epidemiology and Microbiology, Russia
Manufacturer	Serum Institute of India (SII)	Bharat Biotech International Ltd.	Dr Reddy's Laboratory
Efficacy	70.4%	78% to 81%	91.6%
Dose	0.5 ml	0.5 ml	0.5 ml
No. of doses	2 doses	2 doses	2 doses
Interval between 2 doses	12 - 16 weeks	4 - 6 weeks	21 days
Side effects	Pain at injection site, redness, moderate or high fever, drowsiness, lethargy, arm stiffness, body ache and pain	Pain at injection site, redness, swelling, fever, sweating, chills, malaise, sweating, chills, malaise, nausea, vomiting, Headache, itching and rashes.	Fever, headache, fatigue, pain at injection site and flu like illness.
Price including GST (in private sector)	₹ 780	₹ 1410	₹ 1145

While Covishield, Covaxin and Sputnik V comes with its own benefits and disadvantages, there is no head-to-head comparison between them. All are equally safe and are recommended by Government of India. In light of this pandemic, everyone should get vaccinated at the earliest regardless of the vaccine brand rather than waiting for a better one.

\*COVID-19 pandemic is evolving in a dynamic manner. Hence, it is advised to visit the MOHFW website for more recent evidence and information.

#### **Experiences at the COVID vaccination centre :**

Covid vaccination was the most awaited campaign. Vaccination sites were established at ward 49, Government Medical College and Hospital, Nagpur according to the norms given by the MOHFW which included an infrastructure with a waiting room, injection room and observation room provided with handwashing, washroom facilities and a separate entry and exit.

With the nation-wide roll out of Covid-19 vaccination program, Covaxin was made available at our centre which was the only centre in Nagpur district. On 16th January 2021, the session was open to healthcare workers and first dose was administered to a faculty from the department of physiology with lot of media coverage. She was little bit nervous about taking the vaccine but she was fine after vaccination. She was very positive and advocated all healthcare workers to get vaccinated. The total target for the day was 100 healthcare workers, out of them 56 turned out for vaccination.

The administration had already sent the list of beneficiaries affiliated to our tertiary care centre to Nagpur Municipal Corporation (NMC). Based on the list, each day around 100 healthcare workers were listed as beneficiaries and text messages were sent to the beneficiaries mentioning their name, vaccine session (date) scheduled for them and details of the centre. For each beneficiary, the details of the Covaxin were explained, a printed factsheet was provided along with the adverse event monitoring form. The vaccine was provided only after signing the informed consent form. After vaccination, the beneficiary had to wait for 30

minutes in the observation room which was to observe for any adverse events and anaphylactic reactions under the supervision of faculties and residents from the department of general medicine and anaesthesia.

Initially, the vaccine was rolled out to healthcare workers. But very few faculties opted for it. The vaccination team was helping out all the beneficiaries for the pre-vaccination procedures such as filling the consent form, adverse reaction monitoring form and counselling for every beneficiary regarding the contraindications, adverse events, information about whom to contact in case of any adverse event following immunization (AEFI), and also clarified the queries. These activities consumed a lot of time and many beneficiaries were satisfied and happy with these systematic proceedings whereas some felt it was a waste of time.

We got a good response from the pre and para clinical faculties however the response from the residents, nursing staff and clerical staff was not very positive. To increase the response, we called each and every health worker over the phone from the list sent to us by the NMC and tried to motivate them to take the vaccine. Some of the faculties were in a dilemma to take the vaccine as they were obliged to fill the consent form. Our professor and head of the department also volunteered and took the vaccine and motivated other faculties by posting the pics on social media. He also gave interviews to promote vaccination and removed the myths regarding the same. Apart from some minor technical difficulties, vaccination campaign went in a smooth manner.

Later, by the 1st of March 2021, the vaccination was made available to people aged > 60 years and people aged > 45 years with comorbidity. This led to an overwhelming response and a sudden surge in the number of beneficiaries. At the beginning of the session, hundreds of people lined up in the front of vaccination centre and it was difficult to manage. So, we decided to start a coupon system in that 100 coupons were distributed to the beneficiaries in the morning and they were instructed to come in

batches. This helped a lot in streamlining the vaccination process and it was convenient for the beneficiaries and also helped in preventing arguments and quarrels. As this phase was meant for senior citizens, every beneficiary was accompanied with one or two persons adding to the crowd. Another problem was that the senior citizens had difficulties with hearing and reading, they had to be assisted to fill the consent forms which again consumed a lot of time. A lot of efforts were taken by interns, residents, social superintends, the guards who assisted the senior citizens. After vaccination, the beneficiaries had to wait for half-an-hour for observation. This was strictly followed as the time of entry to the observation room was noted on the factsheet given to them and they were allowed to go only after the observation period. We had to be very cautious in maintaining the vaccine stock and repeated reminders were sent to NMC to procure the vaccine. From 6th of March 2021, the session timings were extended from 8 am to 10 pm and we had to function in two batches from 8 am to 3 pm and 3 pm to 10 pm.

From 1st of April 2021, the vaccination had been opened for all persons aged > 45 years. To accelerate the vaccination process, the Government of India declared that the vaccination should be carried out on all the days of April including holidays. Unfortunately, during this phase we started experiencing the shortage in the supply of vaccine and the number of beneficiaries had increased. It was very hard to deny the vaccine to the people who came forward to take the vaccine. At the same time, phase III trial results were out and the number of healthcare workers & doctors demanded for Covaxin which added to the crisis. Because of shortage of vaccine, the Maharashtra government directed us to stop administration of first dose. It was difficult to deny the first dose of vaccine to the healthcare workers for which we had to take special permission from higher authorities.

Vaccination of people of age above 18 years was to commence from 1st of May 2021, but the Government of Maharashtra had declared that it would divert the first dose for 18 - 44 year age group

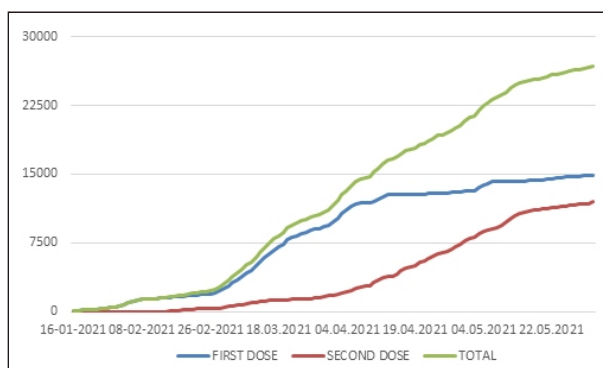
to administer second dose for people aged above 45 years. Vaccination of first dose for people above 45 years has been resumed on 15th June 2021.

Another salient feature of this campaign is the Cowin application through which an individual can register for vaccination. This is a very useful app through which a person gets a message regarding the time and place of vaccination site, also the person gets the provisional certificate after the first dose, reminder for the second dose and final certificate after completion of the second dose. In initial days, the cowin app had several bugs such as crashing, server issues, etc. At times, we had to do offline registration and then later, we had to upload the details online after the end of session. We had several issues with network connectivity, the residents had to use their own internet and laptops for the registration.

The media was instrumental in motivating people by publishing the daily vaccination data in a transparent manner and the need for the vaccination was reinforced again and again. Apart from this, there was constant support from the administration of the institute and the Nagpur Municipal Corporation in establishing the session sites and they also provided a lot of IEC materials to be displayed at the centre. Moreover, the team from regional WHO office had provided valuable criticisms in the procedures and improving the efficiency of the vaccination sessions.

As on 31st May 2021, a total 26,804 Covaxin doses have been administered. Number of first doses given were 14,821 and number of second doses given were 11,983 as depicted in the *Figure 1*. During the month of February and March, vaccination sessions were sluggish. In view of fear of second wave and enhance the coverage of vaccines, the Government of India announced vaccination on all the days in the month of April including holidays. With the advent of second wave in the month of April, the general population rushed to the centre to avail the vaccine because of fear of contracting COVID as seen by sudden surge in the curve.

**Figure 1 : Cumulative doses of Covaxin administered at COVID Vaccination Centre, GMCH Nagpur**



“Vaccinate! Vaccinate! Vaccinate” was the appeal from the covid vaccination team at our centre. We had an enthusiastic team which consisted of Professor & Head, Department of Community Medicine who led the team with faculties and residents from the Department of Community Medicine, General Medicine and Anaesthesia, interns, staff nurse, data entry operators, medical social superintendent, police personnel, ward attendants and security guard. We always believed and continue to believe in team-based approach, transparent communication, and timely adoption of the newer strategies for the success in this COVID vaccination campaign.

### Conclusion :

Vaccines made available in a short span of time is a boon to the community. Thanks to science and researchers over the world. Equitable vaccination is the key to end this pandemic. Though the vaccine

helps in the prevention and stopping of the pandemic, a single-strategy of vaccination alone will not end the pandemic. We might have to follow general hygienic measures including, hand wash, wearing mask, cough and sneeze etiquette and social distancing for some more time before the pandemic of Covid-19 gets over on its own. Thus, a multi-disciplinary evidence-based strategies of social control measures and vaccination is the key to end this pandemic.

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