



DAILY NEWS BULLETIN

LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE DAY
Friday 20210702

2nd wave of Covid:

2nd wave of Covid: 75+ age group sees 7% increase in deaths in Chandigarh (The Tribune: 20210702)

<https://www.tribuneindia.com/news/coronavirus/2nd-wave-of-covid-75-age-group-sees-7-increase-in-deaths-in-chandigarh-277039>

2nd wave of Covid: 75+ age group sees 7% increase in deaths in Chandigarh

People without mask at the Shastri Market, Sector 22, in Chandigarh on Thursday. Tribune photo: Pradeep Tewari

A seven per cent increase was noted in the deaths in the above 75 year age group during the second wave of the Covid-19 pandemic in the city.

In the first wave, the group had accounted for 17 per cent of the total deaths in the UT. However, in the second wave its proportion rose to 24 per cent.

At 8.80 per cent, the case fatality rate also continues to remain higher in the above 75 year age group.

The case fatality rate (CFR) refers to the proportion of Covid cases to deaths.

Though the case fatality decreased in all the age groups during the second wave, it increased 400 times in the above 75 year age group as compared to the 0.02 per cent in the 0-18 age group.

In the first wave, 0.5 per cent patients in the 0-18 year age group died of Covid. The maximum case fatality rate of 9.2 per cent was seen in the 75 plus age group.

Epidemiologist Dr Chandrakant Lahariya said, “Though the case fatality rate decreased in all age groups in the second wave, it was still higher in the above 75 years age group.”

“The government needs better reforms and healthcare practices for patients in this age group to save deaths. Due to better clinical experience and facilities in hospitals, the CFR in all age groups has reduced as compared to the first wave.”

There was a decrease of four per cent in the proportion of deaths in the 45-60 years age group during the second wave. The group accounted for 36 per cent of the total deaths during the first wave. However, in the second it accounted for 32 per cent deaths.

The proportion of deaths in the 19-45 years age group increased by 1.5 per cent during the second wave.

“Statistically, there is not much difference in deaths from the first to second wave in any age group. It rules out the perception that a lot of younger people died during the second wave,” said Dr Lahariya.

The first wave corresponds to the August-September period last year, whereas the second wave ran from April to May this year. As many as 374 Covid deaths took place in the city during the second wave. The city had reported 147 deaths in the first wave.

COVID DEATHS (FIRST AND SECOND WAVE)

Age group	First wave (Aug & Sept)	% of total deaths (147)	Second wave (April & May)	% of total deaths (374)
0-18	6	4%	1	0.2%
19-44	17	11.5%	49	13%
45-60	53	36%	118	32%
61-75	46	31%	116	31%
75 above	25	17%	90	24%

COVID-19 CASES (FIRST AND SECOND WAVE)

Age group	First wave	Second wave
0-18	10.8%	10%
19-44	52%	54%
45-60	25.4%	22.9%
61-75	8.4%	9.5%
75 & above	2.4%	3%

CASE FATALITY RATE (FIRST AND SECOND WAVE)

Age group	First wave	Second wave
0-18	0.5%	0.02%
19-44	0.20%	0.2%
45-60	1.9%	1.5%
61-75	4.9%	3.6%
75 & above	9.2%	8.8%

Covid changes blood cells: Study

Covid changes blood cells: Study(The Tribune: 20210702)

Covid-19 has the potential to significantly change the size and stiffness of red and white blood cells, a team of German scientists has found. - File photo

Covid-19 has the potential to significantly change the size and stiffness of red and white blood cells, a team of German scientists has found.

In some cases, the effect may continue for months, a possible reason why some affected people continue to complain of symptoms long after an infection. During Covid, blood circulation is often impaired and dangerous vascular occlusions can occur. — IANS

TRACKING VIRUS	
NATION	DEATHS
 US	6,19,999
 BRAZIL	5,16,119
 INDIA	3,98,913
 MEXICO	2,32,803
 UK	1,28,140

WORLD METER
TILL JUNE 30, 11 PM



India's Zydus Cadila

India's Zydus Cadila seeks emergency use approval of Covid vaccine(The Tribune: 20210702)

The candidate, if approved, would become India's second successful home-grown Covid shot and help ease the country's severe vaccine shortage

<https://www.tribuneindia.com/news/coronavirus/indias-zydus-cadila-seeks-emergency-use-approval-of-covid-vaccine-276694>

India's Zydus Cadila seeks emergency use approval of Covid vaccine

Indian drugmaker Zydus Cadila said on Thursday that it had applied to the country's drug regulator for emergency use approval of its Covid vaccine, which showed a 66.6 per cent efficacy against positive cases in an interim analysis.

The candidate, if approved, would become India's second successful home-grown Covid shot and help ease the country's severe vaccine shortage.

Coronavirus cases in India have dropped from a devastating peak in April and May; however, experts warned of a third wave and reiterated that widespread vaccination remains one of the best defences against the pandemic.

Zydus said the vaccine, which is a three-course regimen, showed safety and efficacy in a late-stage trial with more than 28,000 volunteers across the country, including about 1,000 subjects in the 12-18-year age group.

The drugmaker said it is also evaluating a two-dose regimen for the shot and the immunogenicity results of the shorter course had been found to be comparable with the three-dose regimen.

"This will further help in reducing the full-course duration of vaccination," the drugmaker said, adding that it planned to manufacture up to 120 million doses of the shot annually.

An approval for the vaccine, ZyCoV-D, would make it the fifth shot authorised for use in India. The country has already approved vaccines from Moderna, AstraZeneca and partner Serum Institute of India, Bharat Biotech, and Russia's Gamaleya Institute.

Zydus said the study was carried out "during the peak of the second wave of Covid" in India and reaffirmed the vaccine's efficacy against new mutant variants, especially, the Delta variant. However, it did not disclose efficacy rate against those variants. Reuters

Zydus seeks nod for vaccine

'Efficacy 67%': Zydus seeks nod for (Hindustan Times: 20210702)

vaccine<https://epaper.hindustantimes.com/Home/ArticleView>

A LOOK at ZYCOV-D

66.6%

Efficacy rate,
according to
interim analysis

1,000

volunteers, of the
more than 28K, in
12-18 age group

3 doses

But company also
seeking approval for
2-dose regimen

How it works: It is a DNA plasmid, delivered as a pin-prick in the skin. It instructs cells to make the spike protein of the Sars-Cov-2, helping build protection from actual virus



Drugmaker Zydus Cadila said on Thursday it has applied for emergency use approval of its three-dose Covid-19 vaccine candidate, which has shown an efficacy rate of 66.6% in an interim analysis of its phase 3 trials.

The company said that this is the first coronavirus vaccine using a DNA plasmid in advanced trials, and the first in India to be tested in a large group of adolescents. If approved, it will be India's second home-grown vaccine, and the fifth overall to be cleared for use in the country after Covishield, Covaxin, Sputnik V and Moderna.

“As the first ever plasmid DNA vaccine for human use, ZyCoV-D has proven its safety and efficacy profile in our fight against COVID-19. The vaccine when approved will help not only adults but also adolescents in the 12 to 18 years age group,” said Sharvil Patel, managing director of Cadila Healthcare, in a statement by the company.

The clinical trials included 28,000 people who were split into two groups that either received the vaccine or a placebo. Among them were 1,000 volunteers in the 12-18 age group. The company has not yet released data from its previous phases.

It also announced that the vaccine worked as well as a two-dose regimen as it did in the three-dose formulation that it was tested in, and data pertaining to that has been submitted to the regulator for scrutiny.

Zydus, which aims to produce up to 120 million doses annually, said its study coincided with the peak of India's second wave of infections and affirmed its efficacy against mutations, especially the Delta variant. It did not, however, disclose its efficacy against those variants.

According to the company, the tolerability profile among the adolescents was similar to what was seen in the adult population. Primary efficacy of 66.6% was attained for symptomatic RT-PCR positive cases in the interim analysis.

The company said there were no moderate cases of Covid-19 in the vaccine arm, though it did not disclose how many cases the interim analysis was based on.

“We are making constructs for variants for future upgrade, if needed. Interim data has been submitted, and we will submit more data as it gets analysed to the regulator in due course. We

haven't reported any major side-effects for the vaccine. In fact, side-effects are similar to the placebo arm," said Patel.

Patel added that the vaccine candidate has exhibited robust immunogenicity, and tolerability and safety profile in the adaptive phase 1/2 clinical trials carried out earlier.

On pricing, the executive said no discussions had taken place but added that this will be discussed once regulatory approvals are in place and will depend on doses, technology, etc.

ZyCoV-D is an intradermal vaccine that can be applied using a needle-free applicator, which could help significantly reduce side effects.

The vaccine is stored at 2-8°C but has shown good stability at temperatures of 25°C for at least three months, the company said.

Experts say an efficacy rate of 66.6% is "decent". "As per WHO threshold, 50% and above efficacy is approved for a respiratory vaccine," said Dr GC Khilnani, former head of pulmonology department, All India Institute of Medical Sciences, Delhi.

The company has not begun stockpiling the vaccine, as it is currently in the process of putting together a new production facility that is likely to be up and running by July end.

"We are currently in the scale-up phase. We could produce 5 crore (50 million) doses by December, with production likely to start by mid August or early September. Afterwards we plan to have a sustained production of 1-1.2 crore (10-12 million) vaccine doses per month," said Patel.

Pandemic-hit

Relief and recompense: On ex gratia for the pandemic-hit (The Hindu: 20210702)

<https://www.thehindu.com/opinion/editorial/relief-and-recompense-the-hindu-editorial-on-ex-gratia-for-the-covid-19-hit/article35086772.ece>

The judiciary did well to assert the rights of pandemic-hit workers and families

It is a matter of relief and satisfaction that the Supreme Court has prodded the Union government to perform its statutory duty of fixing a compensation for the families of those who lost their kin to the COVID-19 pandemic. The order comes close on the heels of a slew of directions on registering the country's vast unorganised workforce and its army of inter-State labourers on a national database and ensuring that none of them went hungry. On the issue of making an ex gratia payment to those affected by the pandemic, a notified disaster under the Disaster Management Act, the Centre initially took the untenable stand that it lacked the financial resources to compensate for every COVID-19 death. However, it later admitted that it was not the adequacy of resources that made it avoid any compensation, but rather its decision to prioritise expenditure in response to the pandemic. It is indeed true that unlike more frequent disasters such as cyclones, earthquakes and floods, a pandemic that has hit every country is not a one-time calamity, but an ongoing and prolonged phenomenon. However, the Court has

rightly found that this was not reason enough for the Government to evade its duty to include ex gratia assistance on account of loss of life in its guidelines for “minimum standards of relief” to those hit by the disaster. The Court correctly did not fix a compensation amount for each death, leaving it to a policy decision by the National Disaster Management Authority and the Centre.

Vaccine shortage

BBMP struggles with vaccine shortage (The Hindu: 20210702)

While 50% of the estimated adult population in the city has received at least one shot of either Covishield or Covaxin, the Bruhat Bengaluru Mahanagara Palik

Vaccination

July 7 deadline to vaccinate college students and staff (The Hindu: 20210702)

<https://www.thehindu.com/news/national/karnataka/july-7-deadline-to-vaccinate-college-students-and-staff/article35088637.ece>

Deputy Chief Minister and Higher Education C.N. Ashwath Narayan has asked Vice-Chancellors (VCs) of all the universities to ensure that students above 18 are vaccinated by July 7.

Delta variant

Delta variant to become dominant strain of COVID-19 in coming months: WHO (The Hindu: 20210702)

<https://www.thehindu.com/sci-tech/health/delta-variant-to-become-dominant-strain-of-covid-19-in-coming-months-who/article35071265.ece>

The World Health Organization said the Delta variant of COVID-19 is now present in nearly 100 countries.

The World Health Organization (WHO) has said the Delta variant of COVID-19 is now present in nearly 100 countries as per conservative estimates, and

AstraZeneca doses

Ten month gap between AstraZeneca doses sees highest antibody boost: Oxford study (The Hindu: 20210702)

<https://www.thehindu.com/sci-tech/health/ten-month-gap-between-astrazeneca-doses-sees-highest-antibody-boost-oxford-study/article35019890.ece>

Study also reported reduced common adverse events after the second dose

Two doses of the AstraZeneca vaccine administered 44-45 weeks apart generated nearly four times the level of antibodies than when the doses were

Oral hygiene

Prolonged use of masks could affect oral hygiene, say dentists (The Hindu: 20210702)

<https://www.thehindu.com/sci-tech/health/prolonged-use-of-masks-could-affect-oral-hygiene-say-dentists/article35071244.ece>

The habit of brushing teeth fell significantly, leading to increased incidence of halitosis, according to an online survey conducted on dental treatment during the pandemic

Dentists, probably the most accustomed to wearing masks owing to their profession, say oral health may be compromised if people do not follow simple

Black carbon

Black carbon linked to premature mortality (The Hindu: 20210702)

<https://www.thehindu.com/sci-tech/health/black-carbon-linked-to-premature-mortality/article35068981.ece>

Black carbon results from incomplete burning of fossil fuel and studies have previously linked it to global warming.

Black carbon (BC), a form of particulate matter that results from carbon emissions, was most associated with premature mortality, according to a study

Covishield Jab (The Asian Age: 20210702)

<http://onlinepaper.asianage.com/articledetailpage.aspx?id=15684151>

More countries likely to lift travel restrictions soon

Nine European nations issue 'Green Pass' to Covishield jab

AGE CORRESPONDENT
with Agency Inputs
NEW DELHI, JULY 1

A day after India flexed its muscle over discriminatory practice by the European Union with regard to Indian vaccines Covishield and Covaxin, nine EU countries gave their approval to the AstraZeneca vaccine for a "green pass", allowing free travel in the region of those vaccinated with Covishield. These nine countries are Austria, Germany, Slovenia, Greece, Iceland, Ireland, Spain, Estonia and Switzerland while more EU countries are expected to join in.

The European Union Digital Covid Certificate framework, or the Green Pass, to facilitate free movement during the Covid pandemic, came into effect on July 1 under which persons vaccinated with vaccines authorised by the European Medicines Agency (EMA) will be exempt from travel restrictions within the EU.

Individual member states have the flexibility to accept vaccines that have been authorised at the national level or by the World Health Organisation. However,

▶ **THE EUROPEAN** Union Digital Covid Certificate framework, or the Green Pass, to facilitate free movement during the Covid pandemic, came into effect on July 1 under which persons vaccinated with vaccines authorised by the European Medicines Agency (EMA) will be exempt from travel restrictions within the EU.

while AstraZeneca's Vaxzevria is approved by EU, the fate of its Indian version Covishield remains under suspense as the EMA has approved only four vaccines so far — Pfizer-BioNTech's Comirnaty, Moderna's Covid vaccine, the AstraZeneca shot manufactured and sold in Europe as Vaxzevria, and Johnson & Johnson's Janssen.

India has already asked the EU member countries to individually consider allowing Indians who have taken Covishield and Covaxin vaccines and want to travel to Europe.

There has been apprehension in India that people who took Covishield and Covaxin jabs are

▶ **A DAY AFTER INDIA** flexed its muscle over discriminatory practice by the European Union with regard to Indian vaccines Covishield and Covaxin, nine EU countries gave their approval to the AstraZeneca vaccine for a 'green pass', allowing free travel in the region of those vaccinated with Covishield. They include Germany and Switzerland.

unlikely to be eligible for travel to the European Union member states under its "Green Pass" scheme. The EU Digital Covid certificate or 'Green Pass' will be mandatory to travel to European countries and the document will serve as proof that a person is vaccinated against Covid-19.

External affairs minister S. Jaishankar on Tuesday took up the issue of inclusion of Covishield in the EU digital Covid certificate scheme during a meeting with Josep Borrell Fontelles, the High Representative of the European Union. The meeting took place on the sidelines of a G20 meeting in Italy.

UK opens work visa route for students from foreign nations

AGE CORRESPONDENT
NEW DELHI, JULY 1

Britain on Thursday announced that it has opened a "new graduation route" that will allow international students, including those from India, to stay longer in the UK after they have finished their studies there. The Graduate route visa, announced last year by UK home secretary Priti Patel, offers overseas students the option to apply for the right to stay in the country for job experiences at the end of their university courses.

The graduate route visa, open for applications from this week, is for international graduates who have been awarded their degree from a recognised UK university to stay on and look for work for at least two years, or three years for Doctoral PhD students.

Applicants do not need a job offer to apply and, crucially, there are no

■ Turn to Page 4

Vaccine Drive (The Asian Age: 20210702)

<http://onlinepaper.asianage.com/articledetailpage.aspx?id=15684173>

Harsh Vardhan targets critics of vaccine drive

48,786 new cases, 1,005 deaths in 24 hrs in India

AGE CORRESPONDENT
with agency inputs
NEW DELHI, JULY 1

Union health minister Harsh Vardhan on Thursday hit out at his political rivals, saying state leaders should spend more energy in planning vaccination and not in creating panic. "If vaccine supply is still an issue, it's the fault of the states. I'm seeing irresponsible statements from various leaders regarding (the) largest vaccine drive. After Govt provided 75 per cent of vaccines for free, vaccination speed picked up and 11.50 crore doses were given in June," the health minister said.

Dr Harsh Vardhan added that 12 crore doses of vaccines will be given to states and UTs in July and information in this regard was shared with them two weeks in advance. He said the allocation of vaccines for private hospitals will be done separately.

India on Thursday recorded 48,786 fresh cases of Covid-19 and 1,005 deaths.

Meanwhile, Zydus Cadila has requested emergency use approval for its ZyCoV-D vaccine



Doctors celebrate National Doctors' Day at Masina Hospital in Mumbai on Thursday.

— PTI

for children. The three-dose vaccine is the "world's first Plasmid DNA vaccine" which is needle-free and termed safe for children.

"Data has been submitted to the DCGI for the world's first plasmid DNA-based Covid-19 vaccine. The vaccine has undergone testing that is among the country's largest of such clinical trials," the company said in a statement. Another pharma company, Dr Reddy's Laboratories, said that the Russian safety data for the single-dose Sputnik Light vaccine can be submitted before DCGI for approval in India.

The cumulative num-

ber of Covid-19 vaccine doses administered in the country has crossed 35 crore, according to the Co-WIN dashboard.

More than 9.61 crore vaccine doses have been administered to beneficiaries in the age group of 18-44 years, the the Union health ministry said.

It added that more than 38.17 lakh (38,17,661) vaccine doses were administered on Thursday, according to a provisional report compiled at 7 pm.

The ministry said 21,80,915 beneficiaries in the 18-44 age group received the first dose, while 84,107 were administered the second dose of the vaccine on Thursday.

Corvid Impact (The Asian Age: 20210702)

<http://onlinepaper.asianage.com/articledetailpage.aspx?id=15684091>

Covid's impact, WFH has hit India's women harder



Patralekha
Chatterjee

Dev 360

What does being a homemaker and a mother really mean for the vast majority of Indian women? In an essay in *The Atlantic* last year, Helen Lewis, journalist and author of *Difficult Women: A History of Feminism in 11 Fights*, pointed out some home truths which resonate with millions of women across the world. "When people try to be cheerful about social distancing and working from home, noting that William Shakespeare and Isaac Newton did some of their best work while England was ravaged by the plague, there is an obvious response: Neither of them had child-care responsibilities."

For millions of people in many parts of the world, things have not changed that much.

In India, the situation is particularly stark as a new analysis from the Centre for Global Development reconfirms. The Global Childcare Workload from School and Preschool Closures During the Covid-19 Pandemic, by Charles Kenny and George Yang of the US-based think tank, estimates that women around the world each provided as much as an additional 173 hours in childcare for free during the pandemic. This is about three times more than men (59 hours). The figures from India are even more extreme.

According to the study, which draws on published data from multiple sources including Unesco and OECD, the estimated additional unpaid childcare burden per woman because of pandemic-related care burdens between January and October 2020 in India

come as a huge surprise to anyone in India not totally removed from ground realities.

Everyone, including Bollywood, pays tribute to motherhood. Think of Shashi Kapoor's iconic line from that 1975 blockbuster *Deewar* — "Mere paas Ma Hain". A noble sentiment. But pedestalising mothers can lead to motherhood being rarely unpacked in terms of the extra hours of unpaid work in the popular discourse.

Women's unpaid care work has emerged as a big issue among progressive economists in recent years. But millions of women in India, as in many other countries, are still socialised into accepting the notion that it is "natural" for women to be tasked with unpaid domestic work. And they should not complain.

But when we talk about women's "natural" role in the context of unpaid work, what is traded off, and at what cost?

The first-of-its-kind pan-India time use survey (TUS), released by the ministry of statistics and programme implementation last year, tossed up some telling data. The survey, that covered 4.5 lakh persons aged six years and above, across 1.4 lakh households in India, offers valuable information about the activities performed by every individual and the time spent in each of these activities during January-December 2019. The respondents were asked to recall what they did during the last 24 hours of the day of the survey.

Unsurprisingly, Indian men were found to have spent a lot more time in remunerated work. Their participation in paid employment was found to be around 57.3

after children or adults, women were way ahead. Every day, women spent nearly five hours in unpaid domestic work; for men, the corresponding figure was one hour and 37 minutes.

Sona Mitra, a feminist economist, associated with the Initiative for What Works to Advance Women and Girls in the Economy (IWWAGE), has drawn attention to related troubling issues in her public presentations; according to OECD (2014) data, women in India spent an average of 5.6 hours a day in unpaid work, compared to 52 minutes a day for men (same source); ILO 2018 shows on an average women in India spent 297 minutes per day on unpaid care work, as against 31 minutes by men (in paid work, women spend only 160 minutes, compared to 360 minutes by men).

Ms Mitra points out the multiple implications of unpaid care work for women — it means increased stress and less time for many other things which women may want to do; it means reduced income earning potential, missed opportunities for upgrading skills, education, socialisation, and also leisure and entertainment.

Most important, it means entrenching the sexual division of labour, furthering gender inequalities and creating an intergenerational cycle of "unpaid work" for girls and women. The bottomline — it leaves women with fewer options and choices in life, with all attendant consequences.

While working from home may open up more opportunities for a small section of middle class and upper middle class women, for millions of others, including large numbers of not-so-poor women, the closure of schools and childcare

centres, etc., during the pandemic has made things much tougher.

In an article in the *Economic and Political Weekly* in May 2020, Ashwini Deshpande, professor of economics at Ashoka University, presciently flagged these issues. "South Asia, India and Pakistan in particular, have among the most unequal norms of sharing domestic chores and housework. Will the WFH (work from home) regime, where middle class families have to manage without helpers, propel men to share the domestic work burden more equitably than they have done in the past? Will the pandemic shift the social norms of sharing of domestic work? Only time will tell."

"Going forward", wrote Prof. Deshpande, "we should use this crisis to overhaul the current system that prevents women from entering the workforce and when they do, by not rewarding them enough".

We can do this, she added, "by recognising the myriad facets of women's work, the need for adequate compensation, putting support structures in place that allow for an equitable sharing of domestic chores and care work, and most important, creating favourable opportunities for work and livelihoods within a conscious anti-discriminatory policy framework".

In India, less than a quarter of women are a part of the labour force. Globally, India has amongst the lowest rates of female labour force participation, with only parts of the Arab world lagging behind us. Worryingly, this trend shows scant signs of reversal. India's workforce continues to rapidly masculinise.

This must change, so that not only Indian women, but India realises its true potential. We must have an honest discussion about what being a mother and homemaker really mean in the India of 2021.

Unpaid care work means entrenching the sexual division of labour, furthering gender

Covid Ex gratia (The Asian Age: 20210702)

<http://onlinepaper.asianage.com/articledetailpage.aspx?id=15684093>

THE ASIAN AGE

2 JULY 2021

SC nudge on Covid ex-gratia exposes govt sloth, red tape

The Supreme Court's directives to the National Disaster Management Authority (NDMA) to frame guidelines for paying ex gratia compensation to victims of Covid-19 and to the governments to simplify the process of certification of deaths due to the pandemic have come as a big relief for a large number of people. The directives also expose the sloth that has become part of the character of the government even in the face of a national crisis and the love for red tape while dealing with the lives of worst-affected people in a given point of time.

The court's decision has come against the government's position that it did have the money but its focus is on providing food, medical care, oxygen, vaccination and on supporting the economy and not to pay compensation to the kin of four lakh odd people who have lost their lives due to the pandemic. The court, however, did not buy the argument and told the government that the relevant section of the National Disaster Management Act, 2005, says that the NDMA shall recommend guidelines for the minimum standards of relief to be provided to persons affected by disaster, which shall include ex gratia assistance on account of loss of life. The government cannot run away from its responsibility, the court reminded it.

The court's decision has come against the government's position that it did have the money but its focus is not on helping the kin of the four lakh people who have lost their lives

The government's argument not only sounded specious but also revealed its disdain for the legal responsibilities when it comes to bringing succour to the most vulnerable sections of people during a national disaster. The government conveniently forgot the fact that it had invoked the appropriate sections of the Act while dealing with the pandemic but chose to ignore those that talked of compensation. The court refused to accept the government interpretation of the law dealing with compensation as "recommendatory"; it is instead mandatory and statutory, the court said.

The judges who chastised the NDMA, the statutory body headed by the Prime Minister and vested with the power and responsibility to form a national strategy to face disasters, saying it failed to perform its duty but refrained from fixing the quantum of the compensation and instead left it to the wisdom of the executive. The court, in fact, limited itself to interpreting the law and reminding the government of its duty; it did not transgress the boundaries that separate the two branches of government.

The court's direction to streamline the process of certifying Covid deaths has not come a day earlier. Several state governments have been following a pattern that did not count a death as a Covid death if it comes after the victim tested negative for the virus. This is in fact not in conformity with the international practice and has two inimical impacts. One is that several deaths, which had indeed been caused by the virus, would not be counted, resulting in the denial of compensation to the relatives. The second is that it would deny the decision-makers the advantage of reliable and accurate data to analyse and take decisions on the ways to resist the pandemic. A simplified and transparent death certification process would hopefully reverse the practice.

Covid-19 antibody test works

Explained: How the Covid-19 antibody test works, and how accurate it is (The Indian Express: 20210702)

<https://indianexpress.com/article/explained/how-covid-19-antibody-test-works-how-accurate-is-it-7384463/>

There are two types of tests that can determine if one has developed antibodies against a virus: a laboratory test, requiring a healthcare professional to take a blood sample from the patient, which is sent to a lab for results; or a rapid point-of-care test, which uses finger-prick blood and can be taken at home.

Since one of the most puzzling things about the coronavirus is how differently it affects individuals, testing is the best way to determine whether or not you have Covid-19. (Photo: AP)

Has the Covid-19 vaccine worked for me? Do I have antibodies to tackle coronavirus for a second time? These are some of the questions on peoples' minds when they go ahead and book themselves an antibody test.

As countries start re-opening, people are making sure they are 100% secure before stepping out into the new normal. As such, many have been seen falling back on antibody tests to ascertain their immunity against the novel coronavirus. While many nations have made an antibody test mandatory to determine whether vaccinated travellers need to get quarantined, there are offices which are asking for similar reports before allowing people to rejoin work.

However, with a lot of debate going on regarding the efficacy of such tests and whether these can be an indicator of one's immunity towards coronavirus infection, we explain what these tests are and how they work.

Newsletter | [Click to get the day's best explainers in your inbox](#)

What are antibodies?

Antibodies are proteins created by the body's immune system to fight a particular virus, such as SARS-CoV-2. With these being very specific for their intended target, antibodies directed towards one virus would not protect the body from another. In other words, if you have had the

measles, your body has antibodies for the measles virus, but measles antibodies will not protect you from catching a coronavirus

The antibody test, hence, isn't checking for the virus itself. Instead, it looks to see whether your immune system — your body's defense against any illness — has responded to the infection.

How does the antibody test work?

Of the five main types of antibodies that would be produced after an infection, a test looks for just three — immunoglobulins A (IgA), M (IgM) and (IgG).

White blood cells — specifically B lymphocytes — first produce IgM antibodies after being presented with a foreign antigen, but later switch to producing IgG or IgA antibodies. IgG antibodies are the most common type to be found in the blood and have the largest part to play in conferring immunity to bacteria or viruses, while IgA antibodies tend to be found in bodily secretions such as saliva.

According to the Centers for Disease Control and Prevention, IgM and IgG antibodies for SARS-CoV-2 antigens are usually produced between two and three weeks after infection, but it is not yet known as to how long these remain in the blood.

A positive antibody test result shows that one may have antibodies from a previous infection. One may test positive for antibodies even if they have never had symptoms of Covid-19. This happens when one has had an asymptomatic infection.

Sometimes a person can test positive for SARS-CoV-2 antibodies when they do not actually have those specific antibodies. This is called a false positive.

Also Read | [Antibody test type and timing key in gauging Covid immunity](#)

However, a negative result means that either one has not been exposed to the coronavirus, or even if one were, the time of your test was too soon for one's body to produce antibodies or the level of antibodies present at the time of the test were below the test's limit of detection. It typically takes one to three weeks after infection for your body to make antibodies.

How many types of antibody tests are there and how accurate are they?

There are two types of tests that can determine if one has developed antibodies against a virus: a laboratory test, requiring a healthcare professional to take a blood sample from the patient, which is sent to a lab for results; or a rapid point-of-care test, which uses finger-prick blood and can be taken at home.

A Cochrane review of 38 antibody test accuracy studies from four countries found that tests which looked for IgG/IgM antibodies had low sensitivity — the ability of the test to correctly identify samples with antibodies — during the first week since the onset of symptoms (30.1%). Sensitivity increased by the second week (72.2%) and peaked in the third week (91.4%).

The reviewers concluded that “antibody tests are likely to have a useful role for detecting previous Sars-CoV-2 infection if used 15 or more days after the onset of symptoms”.

However, a report written by the Scientific Pandemic Influenza Group on Behaviours in April 2020 for the Scientific Advisory Group for Emergencies, expressed concern that even with a specificity rate of 98%, if 5% of a population had Covid-19, 28% who test positive for antibodies may not have actually ever been infected.

This is a question that researchers are eager to answer. In some diseases, the presence of antibodies means you are immune, or protected against future infection. Your body has learned to recognize that virus and has created antibodies to fight it.

However, for others, the immunity may fade over time. Researchers hope that having some antibodies to the coronavirus might protect you from a more severe case of Covid-19. More research will help clarify the relationship between having antibodies and being immune or protected from future SARS-CoV-2 infection.

The US Food and Drug Administration, on the other hand, believes the tests are unnecessary and unreliable, and should not be used to determine how much protection someone gains from Covid-19 vaccines. “If antibody test results are interpreted incorrectly, there is a potential risk that people may take fewer precautions against SARS-CoV-2 exposure,” the FDA says.

Since one of the most puzzling things about the coronavirus is how differently it affects individuals, testing is the best way to determine whether or not you have Covid-19. Whether or not your antibody test is positive or negative, you should remember that you might still be able to catch Covid-19 or unknowingly spread the disease to someone else, regardless of whether you have any symptoms.

How ZyCov-D vaccine works

Explained: How ZyCov-D vaccine works, how it is different (The Indian Express: 20210702)

<https://indianexpress.com/article/explained/explained-how-zycov-d-works-how-it-is-different-7385000/>

ZyCov-D vaccine: If approved by the regulator, ZyCov-D will be the world's first DNA vaccine against infection with SARS-CoV-2.

zycov-d vaccine, zydu cadila vaccine, zydu cadila vaccine india, zydu cadila dna vaccine ZyCov-D has been developed with the support of the central government's Department of Biotechnology and the Indian Council of Medical Research. (File)

Ahmedabad-based Zydus Cadila has applied to Central Drugs Standard Control Organisation (CDSCO), the national drugs regulator, seeking emergency use authorisation (EUA) for ZyCov-D, its Covid-19 vaccine.

If approved by the regulator, ZyCov-D will be the world's first DNA vaccine against infection with SARS-CoV-2.

What is the ZyCov-D vaccine, and how does it work?

ZyCov-D is a “plasmid DNA” vaccine — or a vaccine that uses a genetically engineered, non-replicating version of a type of DNA molecule known as a ‘plasmid’.

The plasmids in this case are coded with the instructions to make the spike protein of SARS-CoV-2, the coronavirus that causes Covid-19. Vaccination gives the code to cells in the recipient's body, so they can begin making the spiky outer layer of the virus. The immune system is expected to recognize this as a threat and develop antibodies in response.

Most Covid-19 vaccines currently are given in two doses, with a couple of single-shot ones also available. ZyCov-D by contrast, will be given in three doses, with an interval of 28 days between the first and second and second and third shots.

The other unique thing about the vaccine is the way it is given. No needle is used — instead, a spring-powered device delivers the shot as a narrow, precise stream of fluid that penetrates the skin.

ZyCov-D has been developed with the support of the central government's Department of Biotechnology and the Indian Council of Medical Research (ICMR).

How safe and effective is the vaccine

How safe and effective is the vaccine? (The Indian Express: 20210702)

ZyCov-D has been tested in phase 1, 2 and 3 clinical trials involving over 28,000 participants in all. A thousand of these participants were of ages between 12 and 18 years.

In December 2020, Zydus Group chairman Pankaj R Patel had said that the first two phases of the trial showed that the vaccine was “safe and immunogenic”.

According to trial data so far, the vaccine has been able to bring down symptomatic cases of Covid-19 in those who received doses by nearly 67 per cent compared with those who did not get a vaccine. This is based on 79 to 90 RT-PCR confirmed cases of Covid-19 from those vaccinated in the phase 3 trials, Zydus Cadila managing director Dr Sharvil Patel said.

Two doses of the vaccine seem to be enough to prevent people from developing severe symptoms of Covid-19 and to prevent death, while three doses keep even moderate symptoms at bay, according to trial data.

How does this vaccine fare against the Delta variant?

The large-scale phase 3 trial of ZyCov-D was conducted at 50 clinical trial sites across the country “during the peak of the second wave of Covid-19”, and the company believes that this “reaffirms” the vaccine’s effectiveness against the Delta variant of the coronavirus.

“You know that 99 per cent of all strains that have been found in sero (surveillance) tests have been the Delta variant... Our data was in the peak of April, May, and June,” Dr Patel said.

He said the company can “upgrade” ZyCov-D “if needed” to target other variants of concern and variants of interest that become more infectious or virulent in nature. The company is currently “making the constructs” to study the current effectiveness of the vaccine in neutralizing these variants.

How ZyCov-D vaccine works, how it is different

How the antibody test works, and how accurate it is

Role of ventilation in preventing Covid transmission

Are there any concerns with the vaccine?

According to Dr Patel, the company has submitted data from phase 1 clinical trials of ZyCov-D, and this is “almost” ready to be published on a preprint server for peer review. It is preparing the phase 2 data for publication as well — but data from the phase 3 trial, which is still underway, will take another four to six months.

Public health activists have pointed out that little scientific evidence from the human clinical trials has been published so far on the vaccine’s safety and immunogenicity (ability to prompt an immune response).

Historically, some safety concerns have been raised about DNA vaccines, including their potential, theoretically, to integrate into cellular DNA or cause auto-immune diseases.

However, physician and vaccine researcher Dr Margaret A Liu wrote in a 2019 article published in MDPI that “To date, both pre-clinical testing and careful clinical monitoring have shown DNA vaccines to not induce or to worsen auto-immunity...”.

ZyCov-D’s Dr Patel said DNA vaccines are “non-infectious” by nature. They do not involve the use of other potentially harmful particles like viral vectors, which minimises the risk of vaccine-enhanced diseases, he said.

What happens here onward?

The regulator will go through Zydus Cadila's application for restricted emergency use permission (known as EUA in other countries) to check for any missing information. Thereafter, a meeting of the Subject Expert Committee (SEC) of the CDSCO will be convened. During this meeting, the company will present the data and make its case for an EUA.

Based on the data submitted and presented to them, the SEC will decide whether the vaccine should be recommended for an EUA. It will also look into details such as whether there is sufficient data to back the use of this vaccine in adolescents between the ages of 12 and 18 years, and whether there is merit to the company's findings that two doses of the vaccine prompt an immune response that is "equivalent" to a three-dose regimen.