



# DAILY NEWS BULLETIN

LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE DA  
Monday 2020824

## Homeopathic drug

### Homeopathic drug given to half of Gujarat population since March (The Tribune: 2020824)

<https://www.tribuneindia.com/news/health/homeopathic-drug-given-to-half-of-gujarat-population-since-march-130282>

Health camps were organised with the help of NGOs to distribute this

Homeopathic drug given to half of Gujarat population since March  
Photo for representation only.

The Gujarat health department has said it distributed homeopathic drug Arsenicum Album-30 to more than half of the state's population as prophylaxis since March after the outbreak of COVID-19.

In its presentation made before the World Health Organisation on August 20 on Gujarat's COVID-19 prevention strategy, the health department said it distributed Arsenicum Album-30 to 3.48 crore people, which is more than half of the state's population of 6.6 crore.

There is no scientific evidence that the drug works against COVID-19, a fact stressed not only by medical scientists but by some homeopathic practitioners themselves.

The state government also claimed that 99.6 percent of people who availed AYUSH (Ayurveda, Yoga & Naturopathy, Unani, Siddha, and Homeopathy) remedies as prophylaxis during their quarantine period tested negative for coronavirus.

In its presentation, which was shared with the media, the health department said "AYUSH interventions have proven to be immunity boosters, and the AYUSH treatment protocol was developed and research carried out for assessing the efficacy of treatment."

"As many as 33,268 people benefited from AYUSH medicines in the quarantine period, half of whom availed homeopathic medicines," it said.

The state government claimed that 99.69 percent of people who availed AYUSH remedies as prophylaxis during their quarantine period tested negative for coronavirus.

However, a clinical trial related to the prophylaxis nature of Arsenicum Album-30 for coronavirus in the state has not yet yielded any conclusive result, an official said.

Gujarat Principal Secretary, Health, Jayanti Ravi on Sunday said the government has some reason to believe about the efficacy of Arsenicum Album-30 medicine, as out of thousands of quarantined people who were given the dosage of Arsenicum Album-30, "99.69 percent eventually tested negative for coronavirus".

"Even 0.3 percent who tested positive had only mild symptoms. We have prima facie reason to believe in some effectiveness of Arsenicum Album-30 against coronavirus. But to actually establish this, we need more rigorous analysis," Ravi said.

The government has so far distributed 3.48 crore dosages of Arsenicum Album-30 starting March, including repeat dosages as the medicine remains effective for 1.5 to two months, she said.

As per Bhavna Patel, director of state AYUSH department, the result of a clinical trial on Arsenicum Album-30 going on at a private clinic in Bhavnagar as prophylaxis has not yet shown any clear result.

Patel said the homeopathic medicine has been distributed since March on the recommendation of an expert committee, including homeopathic doctors, and a repeat order has also been given by the state health department for people who used it over a month ago.

"The AYUSH department used its channel of 272 dispensaries, and roped in officials of the local administration like TDOs (taluka development officers) and talatis (local revenue officers) to distribute the medicine.

Health camps were organised with the help of NGOs to distribute this," Patel said.

"Arsenicum Album-30 boosts immunity, but our research is not yet complete on this. We have given approval for its private clinical trial as prophylaxis in Bhavnagar, but the result is not clear because it is not complete," she said.

Ahmedabad-based homeopathic doctor and member of national executive committee of the Homeopathic Medical Association of India, Shivang Swaminarayan, said the AYUSH Ministry recommended the use of the medicine as an immunity booster after finding that it benefited people.

However, it is better to consult qualified homeopathic doctors before taking the medicine, he said.

"It is always better to consult a qualified homeopathic doctor. Immunity is not everything in any disease.

One should also look at one's general health, age, profession, how much risk he/she is exposed to...this is after all a medicine, and how to take it, and when and in how much dose, one needs to know this from qualified government or private doctors," he said. PTI

## **Heart**

### **Heart rate monitoring tool now in 60% smartwatches globally (The Tribune: 2020824)**

<https://www.tribuneindia.com/news/health/heart-rate-monitoring-tool-now-in-60-smartwatches-globally-130281>

Samsung has activated the ECG (electrocardiogram) functionality on the newly-launched (The Tribune: 2020824)

The smartwatch space remains a popular consumer device segment for tracking health and the heart rate monitoring feature is now available in 60 per cent smartwatches globally.

According to a Counterpoint Research report, fall detection and blood oxygen (SPO2) are the features that should see mass-adoption in future smartwatch models.

"The massive leaps in battery life and processing power are helping to better track overall health as continual heart rate, sleep and other monitoring can be done instead of the device sitting on a charger," said Research Director Jeff Fieldhack in the latest report.

Samsung has activated the ECG (electrocardiogram) functionality on the newly-launched Galaxy Watch3 in the US.

Taking on Apple Watch that is currently the best health wearable in the market, the Galaxy Watch3 offers blood oxygen and fall detection tools and would include blood pressure (BP) monitoring and ECG readings in markets where these features have been authorised.

According to Fieldhack, the leaps in solar charging technology will also help OEMs concentrate on better monitoring.

"We expect to continue to see a focus on fitness and wellness applications," he said.

Google WearOS continues to account for 10 per cent of the total smartwatch market, behind Apple WatchOS.

"Huawei's Lite OS and Amazfit's Amazfit OS are growing fast. Further, the cellular-capable smartwatch is becoming more popular and accounts for more than one in four smartwatches shipped, benefiting the likes of Qualcomm," the Counterpoint report said.

Square form-factor accounts for almost two-thirds of the smartwatches globally as the form factor is helping to better fit additional sensors and needed battery footprint, it added. IANS

## **Coronavirus infection**

### **Many animal species may be vulnerable to coronavirus infection (The Tribune: 2020824)**

Humans are not the only species facing a potential threat from the novel coronavirus that causes COVID-19, according to a new study which says several critically endangered primates such as the Western lowland gorilla, Sumatran orangutan, and Northern white-cheeked gibbon may be susceptible to infection with the virus.

Scientists, including those from the University of California (UC) - Davis in the US, used genomic analysis to compare the structure of the ACE2 receptor protein which the novel coronavirus uses to enter cells across 410 different species of vertebrates, including birds, fish, amphibians, reptiles and mammals.

According to the study, published in the journal PNAS, ACE2 is normally found in many different types of cells and tissues, including the cells lining the outer layer of the nose, mouth, and lungs.

Of the amino acid building blocks which make up ACE2, the scientists said 25 of these molecules in the protein are important for the novel coronavirus, SARS-CoV-2, to bind and gain entry into human cells.

In the study, they used the sequence of these 25 amino acid molecules, assessed how they interact with each other, and modelled its predicted protein structure.

Using this model, the researchers evaluated how many of the 25 amino acids are found in the ACE2 protein of the different species.

### **SARS-CoV-2 via ACE2,”**

**“Animals with all 25 amino acid residues matching the human protein are predicted to be at the highest risk for contracting SARS-CoV-2 via ACE2,” said Joana Damas, a co-author of the study from UC Davis. (The Tribune: 2020824)**

<https://www.tribuneindia.com/news/health/many-animal-species-may-be-vulnerable-to-coronavirus-infection-130283>

“The risk is predicted to decrease the more the species’ ACE2 binding residues differ from humans,” Damas said.

According to the researchers, about 40 per cent of the species potentially susceptible to SARS-CoV-2 are classified as “threatened” by the International Union for Conservation of Nature, and may be especially vulnerable to human-to-animal transmission.

“The data provide an important starting point for identifying vulnerable and threatened animal populations at risk of SARS-CoV-2 infection,” said Harris Lewin, lead author of the study from UC Davis.

“We hope it inspires practices that protect both animal and human health during the pandemic,” Lewin said.

The study noted that several critically endangered primate species, such as the Western lowland gorilla, Sumatran orangutan and Northern white-cheeked gibbon, are predicted to be at very high risk of infection by the novel coronavirus.

It said marine mammals such as gray whales and bottlenose dolphins, as well as Chinese hamsters are also at high risk of catching the virus.

Among domestic animals, the scientists said cats, cattle, and sheep were found to have a medium risk, while dogs, horses, and pigs have low risk for the virus binding to their ACE2 receptors.

“These species represent an opportunity for spillover of SARS-CoV-2 from humans to other susceptible animals. Given the limited infectivity data for the species studied, we urge caution not to over-interpret the predictions of the present study,” the scientists wrote.

They cautioned that it is yet to be determined how this relates to infection and disease risk, but said for the species with known infectivity data, this correlation is high.

In documented cases of SARS-COV-2 infection in cats, dogs, hamsters, lions and tigers, the virus may be using ACE2 receptors, or they may use receptors other than ACE2 to gain access to host cells, they added.

According to the scientists, a lower propensity for binding could translate to lower propensity for infection, or lower ability for the infection to spread in an animal or between animals once established.

“Zoonotic diseases and how to prevent human to animal transmission is not a new challenge to zoos and animal care professionals,” said study co-author Klaus-Peter Koepfli, senior research scientist at Smithsonian-Mason School of Conservation in the US.

“This new information allows us to focus our efforts and plan accordingly to keep animals and humans safe,” Koepfli said.

The scientists cautioned that the predicted animal risks are only based on computer simulations, and added that the actual risks can only be confirmed with additional experimental data. PTI

## Lungs

### Scientists decode how lungs are damaged in severe COVID-19 using novel imaging technique (The Tribune: 2020824)

<https://www.tribuneindia.com/news/health/scientists-decode-how-lungs-are-damaged-in-severe-covid-19-using-novel-imaging-technique-130295>

Due to the three-dimensional reconstruction of the lung tissues, the researchers said the data could also be used to simulate gas exchange in the organ

Scientists decode how lungs are damaged in severe COVID-19 using novel imaging technique

Using a novel technique which enables high resolution imaging of damaged lung tissues, scientists have found the changes caused by severe COVID-19 in the structure of the organ's blood vessels and air sacs, findings that may support the development of new treatment methods against the disease.

In the study, published in the journal eLife, the scientists developed a new X-ray technique which enables high resolution and three-dimensional imaging of lung tissues infected with the novel coronavirus SARS-CoV-2.

Using the new method, the researchers, including those from the University of Gottingen in Germany, observed significant changes in the blood vessels, inflammation, and a deposition of proteins and dead cells on the walls of the lungs' tiny air sacs called alveoli.

They said these changes make gas exchange by the organ either difficult or impossible.

According to the scientists, the new imaging approach allows these changes to be visualised for the first time in larger tissue volumes, without cutting and staining, or damaging the tissue.

They said it is particularly well suited for tracing small blood vessels and their branches in three dimensions, localising cells of the immune systems present at inflammation sites, and measuring the thickness of the alveolar walls.

Due to the three-dimensional reconstruction of the lung tissues, the researchers said the data could also be used to simulate gas exchange in the organ.

Since X-rays penetrate deep into tissue, they said scientists can use the method to understand the relation between the microscopic tissue structure and the larger function of an organ.

"Based on this first proof-of-concept study, we propose multi-scale phase contrast X-ray tomography as a tool to unravel the pathophysiology of COVID-19," the researchers wrote in the study.

The scientists believe the technique will support the development of treatment methods, and medicines to prevent or alleviate severe lung damage in COVID-19, or to promote recovery.

"It is only when we can clearly see and understand what is really going on, that we can develop targeted interventions and drugs," said Danny Jonigk, a co-author of the study from Medical University Hannover in Germany. PTI

## **Plasma treatment authorised for COVID-19**

### **Trump announces plasma treatment authorised for COVID-19(The Tribune: 2020824)**

<https://www.tribuneindia.com/news/health/trump-announces-plasma-treatment-authorised-for-covid-19-130667>

The blood plasma, taken from patients who have recovered from the coronavirus and rich in antibodies, may provide benefits to those battling the disease.

Trump announces plasma treatment authorised for COVID-19

The blood plasma, taken from patients who have recovered from the coronavirus and rich in antibodies, may provide benefits to those battling the disease.

President Donald Trump on Sunday announced emergency authorisation to treat COVID-19 patients with convalescent plasma — a move he called “a breakthrough,” one of his top health officials called “promising” and other health experts said needs more study before it's celebrated.

The announcement came after White House officials complained there were politically motivated delays by the Food and Drug Administration in approving a vaccine and therapeutics for the disease that has upended Trump's reelection chances.

On the eve of the Republican National Convention, Trump put himself at the centre of the FDA's announcement of the authorisation at a news conference Sunday evening. The authorisation makes it easier for some patients to obtain the treatment but is not the same as full FDA approval.

The blood plasma, taken from patients who have recovered from the coronavirus and rich in antibodies, may provide benefits to those battling the disease. But the evidence so far has not been conclusive about whether it works, when to administer it and what dose is needed.

In a letter describing the emergency authorisation, the chief scientist for the FDA, Denise Hinton, said: “COVID-19 convalescent plasma should not be considered a new standard of care for the treatment of patients with COVID-19. Additional data will be forthcoming from other analyses and ongoing, well-controlled clinical trials in the coming months.” But Trump had made clear to aides that he was eager to showcase good news in the battle against the virus, and the timing allowed him to head into his convention with momentum.

He and aides billed it as a “major” development and used the White House briefing room to make the announcement.

Trump also displayed some rare discipline in the evening news conference, sticking to his talking points, deferring to the head of the FDA, Stephen Hahn, and only taking three questions from reporters.

The White House had grown agitated with the pace of the plasma approval. The accusations of an FDA slowdown, which were presented without evidence, were just the latest assault from Trump's team on what he refers to as the “deep state” bureaucracy.

White House chief of staff Mark Meadows did not deal in specifics, but said that “we've looked at a number of people that are not being as diligent as they should be in terms of getting to the bottom of it.”

“This president is about cutting red tape,” Meadows said in an interview Sunday on “This Week” on ABC.

“He had to make sure that they felt the heat. If they don't see the light, they need to feel the heat because the American people are suffering.”

During Sunday's 18-minute press conference, Trump said he thought there had been a “logjam” at the FDA over granting the emergency authorisation.

He alleged there are people at the FDA “that can see things being held up ... and that's for political reasons.” Dr Joshua Sharfstein said the statement, and Hahn's silence while Trump said it, “was disgraceful.”

“The FDA commissioner basically allowed the president to mischaracterise the decision and attack the integrity of FDA employees. I was horrified,” said Sharfstein, a vice dean at Johns Hopkins University's school of public health who was a top FDA official during the Obama administration.

“This is a promising therapy that has not been fully established,” he said.

The push-on Sunday came a day after Trump tweeted sharp criticism on the process to treat the virus, which has killed more than 175,000 Americans and imperilled his reelection chances.

The White House has sunk vast resources into an expedited process to develop a vaccine, and Trump aides have been banking on it being an “October surprise” that could help the president make up ground in the polls.

“The deep state, or whoever, over at the FDA is making it very difficult for drug companies to get people in order to test the vaccines and therapeutics,” Trump tweeted.

“Obviously, they are hoping to delay the answer until after November 3rd. Must focus on speed, and saving lives!” Earlier this month, Mayo Clinic researchers reported a strong hint that blood plasma from COVID-19 survivors helps other infected patients recover. But it wasn't considered proof.

More than 70,000 patients in the US have been given convalescent plasma, a century-old approach to fend off flu and measles before vaccines. It's a go-to tactic when new diseases come along, and history suggests it works against some, but not all, infections.

The Mayo Clinic reported preliminary data from 35,000 coronavirus patients treated with plasma, and said there were fewer deaths among people given plasma within three days of diagnosis, and also among those given plasma containing the highest levels of virus-fighting antibodies.

But it wasn't a formal study. The patients were treated in different ways in hospitals around the country as part of an FDA program designed to speed access to experimental therapy. That "expanded access" program tracks what happens to the recipients, but it cannot prove the plasma — and not other care they received — was the real reason for improvement.

Administration officials, in a call with reporters Sunday, discussed a benefit for patients who were within three days of admission to a hospital and were not on a respirator and were given 'high-titer' convalescent plasma containing higher concentrations of antibodies. --AP

## **Injectable HIV drug**

### **Scientists develop injectable HIV drug with fewer side effects (The Tribune: 2020824)**

<https://www.tribuneindia.com/news/health/scientists-develop-injectable-hiv-drug-with-fewer-side-effects-129813>

Scientists develop injectable HIV drug with fewer side effects

The drug could eventually replace or supplement components of combination drug 'cocktail' therapies currently used to prevent or treat the virus.

Researchers have developed an injectable new drug that blocks HIV from entering cells which offers long-lasting protection from the infection with fewer side effects.

The drug, which was tested in non-human primates, could eventually replace or supplement components of combination drug "cocktail" therapies currently used to prevent or treat the virus.

"This is an exciting new HIV therapeutic option for both prevention and treatment, with a unique mechanism of action compared to other approved drugs," said study author Michael S. Kay from the University of Utah in the US.

"It has great potential to help patients who suffer from drug resistance as well as those who would benefit from a longer-acting, injectable anti-HIV drug cocktail," Kay added.

In this new study, published in the journal Proceedings of the National Academy of Sciences (PNAS), the researchers tested a unique drug called CPT31, based on a D-peptide that targets a critical pocket on HIV's fusion machinery that rarely mutates.

D-peptides are mirror images of naturally occurring peptides.

"To imagine it, think of right and left hands. The building blocks and overall structure of natural peptides are analogous to our left hand versus our right hand for D-peptides," the researchers said.

Because of that, CPT31 and other D-peptides are not degraded in the body. Therefore, they last much longer than natural peptides, making them especially suitable for a long-acting injectable formulation.

To see if CPT31 could prevent HIV infection, the research team first injected the drug into healthy macaque monkeys starting several days prior to exposure to a hybrid simian-human form of HIV called SHIV.

The monkeys were completely protected from this very high SHIV exposure, much higher than what humans typically encounter, and never developed signs of infection.

Subsequently, the scientists identified the minimum dose of CPT31 needed to confer complete protection, information that will help inform clinical trials.

"We think this drug could be used by itself to prevent HIV infection because initial HIV exposure typically involves a relatively small amount of virus," Kay said.

This study showed that the vast majority of circulating HIV strains from around the world are potently blocked by CPT31.

"But what about later stages of the disease when there are billions of copies of the virus circulating in the body?" the team asked.

To find out, the researchers gave CPT31 to monkeys with untreated SHIV infections and high viral loads. Over the course of 30 days, the drug significantly lowered the presence of SHIV in their bloodstreams.

In this study, CPT31 by itself effectively kept the virus at an undetectable level for months (until drug administration was discontinued).

"Upcoming human trials, scheduled for later this year, will help determine whether CPT31 is safe and effective in humans," the team noted.

## WHO

### **Covid pandemic could be over within 2 years: WHO (The Tribune: 2020824)**

Tedros also said the pandemic has given new impetus to the need to accelerate efforts to respond to climate change

Covid pandemic could be over within 2 years: WHO

Director-General of the World Health Organisation Tedros Adhanom Ghebreyesus. PTI File Photo

Tedros Adhanom Ghebreyesus, Director-General of the World Health Organisation (WHO), said the ongoing global coronavirus pandemic could be over within two years.

Addressing a virtual press briefing from Geneva on Friday, the WHO chief said the Spanish flu of 1918 had also taken two years to overcome but the current advances in technology could enable the world to halt the COVID-19 pandemic “in a shorter time”, the BBC reported.

“Of course with more connectiveness, the virus has a better chance of spreading,” he said.

“But at the same time, we have also the technology and the knowledge to stop it,” he said, stressing the importance of “national unity, global solidarity”.

During the briefing, Tedros also responded to a question about corruption linked to personal protective equipment (PPE), which he described as “criminal”.

“Any type of corruption is unacceptable,” he said.

“However, corruption related to PPE... for me it’s actually murder. Because if health workers work without PPE, we’re risking their lives. And that also risks the lives of the people they serve,” the BBC quoted the Director-General as saying.

Tedros also said the pandemic has given new impetus to the need to accelerate efforts to respond to climate change, Xinhua news agency.

“Throughout history, outbreaks and pandemics have changed economies and societies, this one will be no different,” he said, noting that the global health crisis “has given us a glimpse of our world as it could be: cleaner skies and rivers... Building back better means building back greener”.

In May, the WHO published its manifesto for a healthy recovery from COVID-19, with six policy prescriptions for a healthy and green recovery — protecting nature, investing in water and sanitation, promoting healthy food systems, transitioning to renewable energy, building liveable cities, and stopping subsidies on fossil fuels.

Since then, over 40 million health professionals from 90 countries have sent a letter to G20 leaders, calling for a healthy recovery from the pandemic.

The WHO chief reiterated that “COVID-19 is a once-in-a-century health crisis. But it also gives us a once-in-a-century opportunity to shape the world our children will inherit — the world we want”.

As of Saturday, the overall number of global coronavirus cases stood at 22,864,873, while the fatalities rose to 7,97,787. IANS

**1,450 fresh infections in Capital:**

**1,450 fresh infections in Capital: Are cases on the up once more?  
(Hindustan Times: 2020824)**

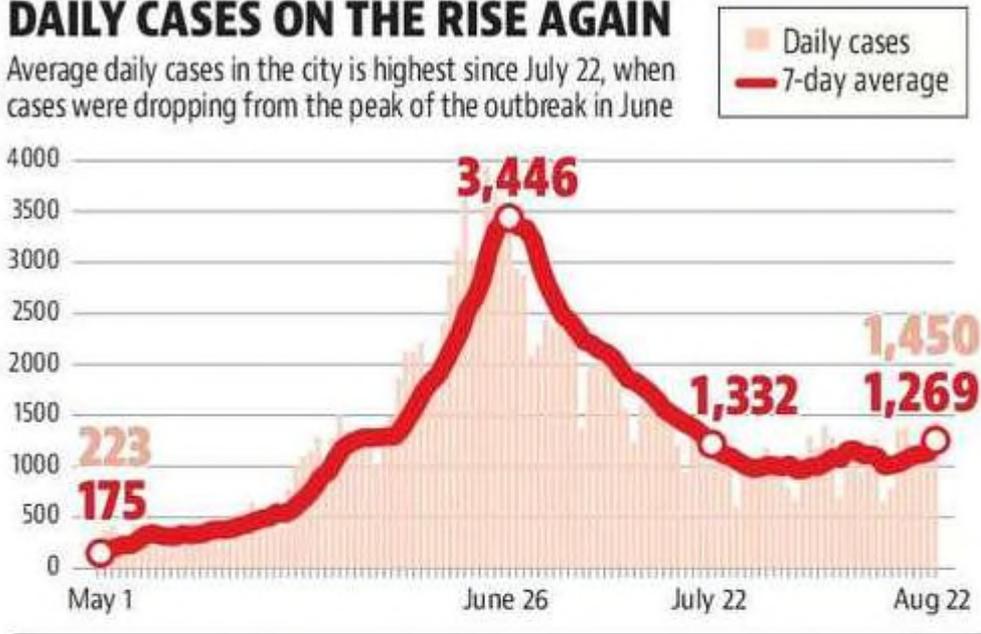
<https://epaper.hindustantimes.com/Home/ArticleView>

# Trajectory rising again?

Sunday marks the highest single-day cases recorded since July 18, when the city had logged 1,475 cases

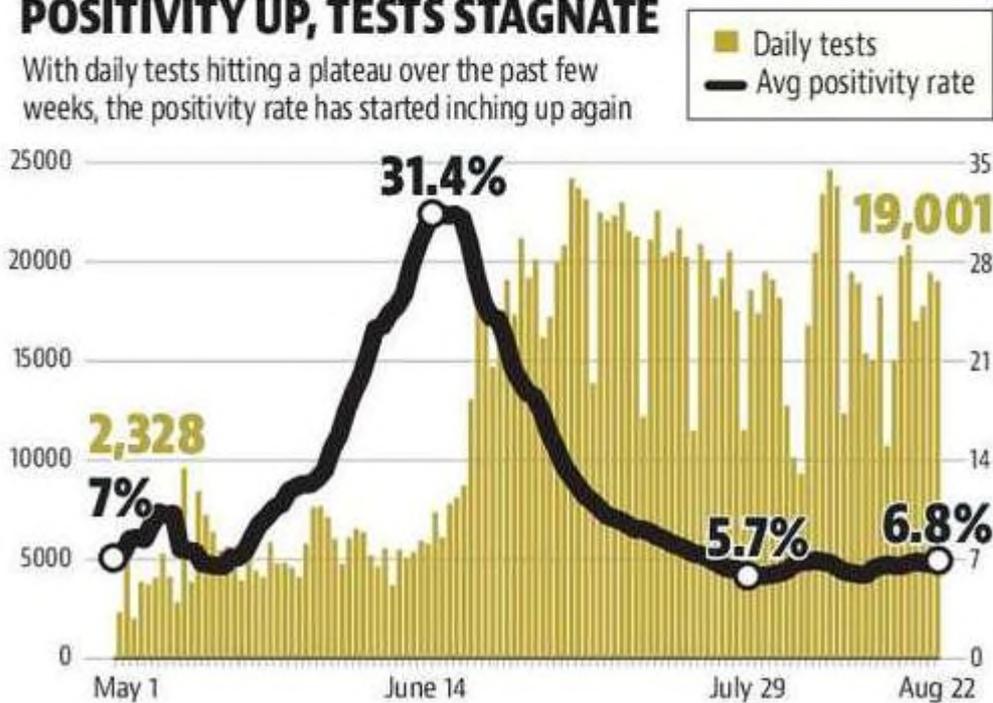
## DAILY CASES ON THE RISE AGAIN

Average daily cases in the city is highest since July 22, when cases were dropping from the peak of the outbreak in June



## POSITIVITY UP, TESTS STAGNATE

With daily tests hitting a plateau over the past few weeks, the positivity rate has started inching up again



**New Delhi :** Delhi on Sunday recorded 1,450 new cases of Covid-19, the highest single-day jump in over a month, amid concerns that infections could be on the rise in the Capital, which became the first major hot spot in the country to largely control the outbreak last month.

With the new-case trajectory at a month's high, clinicians and public health experts said violations of recommended protection protocols such as social distancing and wearing masks in public places, and further relaxation of movement could be reasons behind the rise in cases.

On Thursday, the results of Delhi's second serological survey found that 29.1% of the city's population may have developed antibodies against Covid-19. Epidemiologists say that this means over 70% of Delhi's population remains susceptible to infections and the Capital cannot afford to lower its guard.

Sunday's new cases took the total positive cases recorded till date to 161,466. With 16 fresh deaths, the death toll climbed to 4,300. More than 145,000 people have recovered from the disease, the Delhi government said in its health bulletin.

"Delhi has done quite well in terms of testing, surveillance, containment measures, contact tracing, and scaling up health infrastructure that led to the drop in overall numbers, but people's lack of caution is preventing a further drop in cases. There's laxity in people's behaviour as far as adopting preventive measures is concerned, which is extremely important along with surveillance and other epidemiological measures, to bring down the rate of infection," said Dr VK Paul, member (health), Niti Aayog.

In the last week, 1,269 new cases have been reported every day on an average. This is the highest this number has touched since July 22, when it was 1,333 – when cases were dropping from the peak so far (see chart).

"There is still at least 1.38 crore population that's susceptible going by Delhi's sero survey results, and there is direct correlation between vulnerable population and rate of infection. The disease transmission is still there, so cases will not stop being reported completely. No matter how much you increase testing, it is just a supportive measures, what will work eventually is non-pharmacological measures such as physical distancing, cough etiquette, wearing mask/face covers, etc. There is a need to be careful for at least four-five months," said Dr Sujeet K Singh, director, National Centre for Disease Control (NCDC). NCDC had supported the Delhi government in conducting the first sero-survey around late June and early July.

Delhi's health minister Satyendar Jain told HT: "The numbers have witnessed fluctuations but it is not sufficient to conclude that there is a change in trend. As of now, the situation of Covid-19 in Delhi is under control. The number of cases recorded every day should not be seen in isolation. One should also consider the increasing recovery rate, reducing positivity rate and decreasing rate of deaths."

Testing, meanwhile, appears to have dropped from its peak levels. Delhi conducted 21,660 daily tests on average for the week ending July 10, the city's highest recorded rate of testing till date. Since then, this number has dropped to 17,494 in the past week — down by about 15%.

Experts have also raised questions about Delhi's heavy reliance on antigen tests, which they say are not as reliable as gold-standard RT-PCR tests. Over the past month, around seven of every 10 tests conducted in Delhi have been an antigen test (on Sunday, 66% of the total tests were antigen). A high dependence on antigen tests, which throw up more false negatives, can lead to under-detection of cases and tilting crucial data metrics such as positivity rate and case distribution, experts said.

With daily tests hitting a plateau, the average positivity rate — the fraction of tests that return positive — has started inching up as well. The number, which had dropped from a peak of 31.4% in mid-June to 5.7% at the end of July, was at 6.8% in the past week.

“Unlike how it was in the beginning of the pandemic, our health care infrastructure is comfortably placed to handle the current patient load. We have enough ICU beds, and ventilators, as the number of critically ill patients is low. As I see it, the rate of rise has decreased and the recoveries have gone up,” said Dr Yatin Mehta, chairman, critical care department, Medanta Hospital, Gurugram.

Dr Sandeep Budhiraja, clinical director, Max Healthcare, said: “The numbers aren’t as bad as they were a couple of months ago. A total of about 1,000-1,200 new cases that we see these days will keep hovering around that number because the disease obviously is not going to go away overnight.”

## **Depression**

### **Study suggests social connection is strongest protective factor for depression (New Kerala: 2020824)**

<https://www.newkerala.com/news/2020/149077.htm>

Social connection may be termed as the strongest protective factor for depression, suggests a recent study by a team of researchers. The study suggested that reducing sedentary activities such as TV watching and daytime napping could also help lower the risk of depression.

Researchers have identified a set of modifiable factors from a field of over 100 that could represent valuable targets for preventing depression in adults.

The study was published in The American Journal of Psychiatry.

"Depression is the leading cause of disability worldwide, but until now researchers have focused on only a handful of risk and protective factors, often in just one or two domains," says Karmel Choi, Ph.D., an investigator in the Department of Psychiatry and the Harvard T.H. Chan School of Public Health, and lead author of the paper. "Our study provides the most comprehensive picture to date of modifiable factors that could impact depression risk."

To that end, researchers took a two-stage approach. The first stage drew on a database of over 100,000 participants in the UK Biobank -- a world-renowned cohort study of adults -- to systematically scan a wide range of modifiable factors that might be associated with the risk of developing depression, including social interaction, media use, sleep patterns, diet, physical activity, and environmental exposures.

This method, known as an exposure-wide association scan (ExWAS), is analogous to genome-wide association studies (GWAS) that have been widely used to identify genetic risk factors for disease. The second stage took the strongest modifiable candidates from ExWAS and

applied a technique called Mendelian randomization (MR) to investigate which factors may have a causal relationship to depression risk. MR is a statistical method that treats genetic variation between people as a kind of natural experiment to determine whether an association is likely to reflect causation rather than just correlation.

This two-stage approach allowed the MGH researchers to narrow the field to a smaller set of promising and potentially causal targets for depression. "Far and away the most prominent of these factors was the frequency of confiding in others, but also visits with family and friends, all of which highlighted the important protective effect of social connection and social cohesion," points out Jordan Smoller, MD, ScD associate chief for research in the MGH Department of Psychiatry, and senior author of the study. "These factors are more relevant now than ever at a time of social distancing and separation from friends and family." The protective effects of social connection were present even for individuals who were at higher risk for depression as a result of genetic vulnerability or early life trauma.

On the other hand, factors associated with depression risk included time spent watching TV, though the authors note that additional research is needed to determine if that risk was due to media exposure per se or whether time in front of the TV was a proxy for being sedentary. Perhaps more surprising, the tendency for daytime napping and regular use of multivitamins appeared to be associated with depression risk, though more research is needed to determine how these might contribute.

The MGH study demonstrates an important new approach for evaluating a wide range of modifiable factors and using this evidence to prioritize targets for preventive interventions for depression.

"Depression takes an enormous toll on individuals, families, and society, yet we still know very little about how to prevent it," says Smoller. "We've shown that it's now possible to address these questions of broad public health significance through a large-scale, data-based approach that wasn't available even a few years ago. We hope this work will motivate further efforts to develop actionable strategies for preventing depression."

The study's two-stage approach could also be used to inform the prevention of other health conditions.

## **Nitrate supplementation**

### **Study finds nitrate supplementation could help in breathing, lung clearance in elderly (New Kerala: 2020824)**

<https://www.newkerala.com/news/2020/149054.htm>

Improving the function in the diaphragm, recent research in mice has shown that nitrate can help the muscle involved in coughing and breathing, by enhancing its power.

The study that was done on old mice, if replicated in humans, could provide a strategy for helping elderly people clear the lungs more effectively and avoid infection.

The recent study was published in The Journal of Physiology.

Previous studies showed nitrate was helping muscles by improving the use of calcium in the muscle. This finding that it's additionally affecting power is significant, especially in the context of COVID-19, because the diaphragm is the primary inspiratory muscle used for breathing and coughing, the latter being relevant for clearing the lungs.

The research team at the University of Florida found that dietary nitrate supplementation elicited a pronounced increase in contractile function (power) of the diaphragm, a respiratory muscle, of old mice.

They made their measurements during maximal activation, so the effects observed seem to be caused by an improvement in the function of contractile proteins rather than calcium handling. Few short-term interventions have such a profound impact on muscle contractile function, as was observed in this study.

Dietary nitrate is readily available for humans and could be used, under proper supervision, to improve respiratory muscle dysfunction that contributes to shortness of breath and morbidity in the elderly.

The researchers gave sodium nitrate to old mice in their drinking water daily for 14 days. The control group received regular water. Diaphragm muscle contractile function cannot be assessed directly in live animals or humans. Thus, they tested diaphragm function in muscle tissues under controlled conditions for muscle stimulation and oxygenation.

The main limitations are that mouse and human diaphragm have different percentages of fast and slow muscle cells. Mouse diaphragm consists of 90% fast muscle cells; the human diaphragm consists of 25-50% fast muscle cells depending on several factors that include age and sex.

Dietary nitrate seems to exert a greater impact on the contractile function of fast muscle cells. Thus, the benefits to the human diaphragm may not as pronounced as was observed in mice. They also only tested male mice, and the benefits for females is unknown.

Leonardo Ferreira, senior author of the study said "Our findings are especially important in light of the current COVID-19 pandemic as they suggest that, if replicated in humans, dietary nitrate is useful to improve respiratory muscle dysfunction that contributes to difficulty in weaning patients from mechanical ventilation."

## **Nasal vax**

### **Nasal vax prevents Covid infection in mice (New Kerala: 2020824)**

<https://www.newkerala.com/news/2020/148998.htm>

Unlike other Covid-19 vaccines, scientists have developed a nasal vaccine that targets the novel Coronavirus, and it can be given in one dose via the nose and has been found to be effective in preventing infection in mice susceptible to the virus.

The researchers found that the nasal delivery route created a strong immune response throughout the body, but it was particularly effective in the nose and respiratory tract, preventing the infection from taking hold in the body.

According to the study, published in the journal Cell, the research team next plan to test the vaccine in non-human primates and humans to see if it is safe and effective in preventing Covid-19 infection.

"We were happily surprised to see a strong immune response in the cells of the inner lining of the nose and upper airway -- and profound protection from infection with this virus," said study senior author Michael S Diamond from the Washington University.

"These mice were well protected from disease. And in some of the mice, we saw evidence of sterilizing immunity, where there is no sign of infection whatsoever after the mouse is challenged with the virus," Diamond added.

To develop the vaccine, the researchers inserted the virus' spike protein, which coronavirus uses to invade cells, inside another virus - called an adenovirus - that causes the common cold.

But the scientists tweaked the adenovirus, rendering it unable to cause illness.

The harmless adenovirus carries the spike protein into the nose, enabling the body to mount an immune defence against the SARS-CoV-2 virus without becoming sick.

In another innovation beyond nasal delivery, the new vaccine incorporates two mutations into the spike protein that stabilize it in a specific shape that is most conducive to forming antibodies against it.

The researchers compared this vaccine administered to the mice in two ways -- in the nose and through intramuscular injection.

While the injection-induced an immune response that prevented pneumonia, it did not prevent infection in the nose and lungs.

Such a vaccine might reduce the severity of Covid-19, but it would not totally block infection or prevent infected individuals from spreading the virus.

In contrast, the nasal delivery route prevented infection in both the upper and lower respiratory tract -- the nose and lungs -- suggesting that vaccinated individuals would not spread the virus or develop infections elsewhere in the body.

The researchers said the study is promising but cautioned that the vaccine so far has only been studied in mice.

"In these mouse models, the vaccine is highly protective and we're looking forward to beginning the next round of studies," the study authors wrote.

## **Pregnancy**

### **Covid infection during pregnancy essentially asymptomatic, doesn't worsen: AIIMS experts (New Kerala: 2020824)**

<https://www.newkerala.com/news/2020/148670.htm>

An expert from the All India Institute of Medical Sciences (AIIMS) here has claimed that coronavirus infection during pregnancy is essentially asymptomatic and does not worsen much, while warning that there could be a small risk of giving preterm birth.

According to K. Aparna Sharma, Additional Professor at the Department of Obstetrics and Gynaecology in AIIMS, there has not been much evidence to suggest that pregnant women are more susceptible to coronavirus, unless there are comorbidities.

"We have seen that the coronavirus infection in pregnancy is essentially asymptomatic and does not really worsen a lot. There are no reports of an increase in the risk of miscarriage or early pregnancy loss. But there might be a small risk of preterm birth, i.e., birth before time," Sharma said.

She clarified that there is no increase in the risk of intrauterine fetal infection, congenital malformations, effect on fetal growth, vertical transmission or transmission through genital fluids to babies from a coronavirus positive mother.

Sharma insisted that vaginal deliveries can be carried out as vaginal secretion does not infect the baby. She further said that there is not enough evidence to conclude vertical transmission of virus through breast feeding or even placenta to infants.

"While breastfeeding, the mother should wear a mask, not sneeze or cough onto the baby, regularly disinfect the surfaces, and wash hands before and after touching the baby," Sharma said in a webinar organised by AIIMS.

Substantiating Sharma's point, Anu Sachdeva, Assistant Professor at the Department of Pediatrics in AIIMS, said that there is no doubt that the advantages of breastfeeding surpasses the risk of possible vertical transmission.

"If a baby is born from a mother who is Covid positive, there are two major concerns. First, if the neonate is stable, then it remains with the mother and how she practises rooming-in, observes hand hygiene and wears masks and continues breastfeeding. Second, if the baby is unstable, he/she has to go to a defined isolation facility."

She added, "If the condition of an unstable baby is ready to accept feeds, then the mother should send breast milk to the baby."

Alluding to the drugs which can be administered to coronavirus positive pregnant women, Neeraj Nischal, Assistant Professor at the Department of Medicine in AIIMS, said that except plasma therapy and Remdesivir, other therapies should be preferably avoided.

"Plasma therapy can be used, but we have to remember that the role of this therapy is still controversial and the data is still emerging. So we have to assess the risks and benefits before considering it for any pregnant patient," Nischal said.

He further added that Remdesivir has been found to be safe for pregnant patients. Besides this, he said that pregnant patients should avoid getting immuno-modulators unless it is a matter of life and death, while also pressing for the judicious use of steroids.

## **COVID-19 sample collection**

### **Gargled water may be alternative to swabs for COVID-19 sample collection: ICMR(New Kerala: 2020824)**

<https://www.newkerala.com/news/2020/148270.htm>

A study published by the Indian Council of Medical Research (ICMR) has revealed that gargle lavage may be a feasible alternative to swabs for sample collection for the detection of SARS-CoV-2.

The primary objective of this study was to assess agreement between gargle lavage and swab as an appropriate respiratory sample for the detection of SARS-CoV-2, said ICMR. The secondary objective was to assess the patient acceptability of the two sampling methods.

The top researchers at ICMR conducted a cross-sectional study at AIIMS hospital in Delhi from May-June on 50 COVID-19 patients.

The ICMR study pointed out that whether the risk of aerosol generation was similar to swab collection (commonly leads to coughing and sneezing) or higher was not clear.

"To minimize the risk of transmission due to aerosols and to maximize the benefits of this method of collection, it would be best to employ it for home collection. Furthermore, it cannot be used in patients who are critically ill as well as in young children/patients who may not be able to follow instructions/perform gargle," it said.

"Preliminary results of the study show that the gargle lavage may be a viable alternative to swabs for sample collection for the detection of SARS-CoV-2. Adoption of gargle lavage for sample collection will have a significant impact as it will enable easy self-collection, relieve healthcare workers and also lead to substantial cost savings by reducing the need for swabs and personal protective equipment," concluded the findings of the study.

According to the study, all gargle samples were positive and comparable to their corresponding swab samples irrespective of the symptoms and duration of illness.

"The cycle threshold (C ) values for gargle samples were slightly higher but comparable to those of swabs. The majority (72%) of the patients reported moderate to severe discomfort with swab collection in comparison to 24 per cent reporting only mild discomfort with gargle collection," it said adding that bland-altman plot showed good agreement between the two methods.

According to ICMR, swab collection has several drawbacks also as it requires training, exposes the healthcare workers (HCWs) to the virus-containing aerosols and has poor patient acceptability and is resource-intensive.

"An alternative sample collection method that could overcome most of these limitations without compromising the yield of the test is the need of the hour. One such method is the collection of gargle lavage. Although the use of gargle specimens is not new, at present, there is little published information on the suitability of gargle specimens to diagnose SARS- CoV-2 infection," the study highlighted.

"Paired Nasopharyngeal and oropharyngeal swab (NPS and OPS) and gargle samples were taken within 72 hours of their diagnosis. Samples were processed by reverse transcription-polymerase chain reaction (RT-PCR) for detection of SARS-CoV-2. Post-sample collection, a 10-point scale was administered to assess the level of discomfort with either of the collection methods," stated the study published in the Indian Journal of Medical Research (IJMR).

## **Corona vaccine**

**Corona vaccine news: रूसी कोरोना वैक्सीन को भाव नहीं दे रही दुनिया, क्या हैं विकल्प? Navbharat Times: 2020824)**

<https://navbharattimes.indiatimes.com/india/russia-coronavirus-vaccine-not-in-demand-due-to-safety-concerns/articleshow/77714379.cms?story=4>

Russia Covid vaccine news: रूस ने इसी महीने धूमधाम से कोरोना वायरस की वैक्सीन Sputnik V लॉन्च की थी। मगर सुरक्षा को वजह बताकर अधिकतर देश इससे कन्नी काट रहे हैं।

russia coronavirus vaccine not in demand due to safety concerns

Corona vaccine news: रूसी कोरोना वैक्सीन को भाव नहीं दे रही दुनिया, क्या हैं विकल्प?

Corona vaccine news: रूसी कोरोना वैक्सीन को भाव नहीं दे रही दुनिया, क्या हैं विकल्प? रूस ने कोरोना वायरस का टीका (Russia Covid vaccine) Sputnik V के नाम से लॉन्च किया था मगर उसे अच्छा रेस्पांस नहीं मिल रहा है। कई देश इसकी सुरक्षा को लेकर शक जाहिर कर चुके हैं। हेल्थ एक्सपर्ट्स ने चेतावनी दी है कि रूस ने वैक्सीन का पर्याप्त ट्रायल किए बिना ही उसे बाजार में उतार दिया है। इससे लोगों की जान खतरे में पड़ सकती है। रूस ने इन सब बातों को खारिज करते हुए इसे 'जलन' करार दिया है। रूस के वैज्ञानिकों ने अमेरिका के टॉप हेल्थ एक्सपर्ट डॉ एंथनी फाउची का मजाक भी बनाया है। वहीं, रूस ने कोरोना की एक और वैक्सीन तैयार करने का दावा किया है। अगर रूस का डेवलप टीका नहीं इस्तेमाल होता तो फिर विकल्प क्या हैं, आइए जानते हैं।  
भारत में वैक्सीन के तीन विकल्प

भारत में कोविड के तीन टीकों का ट्रायल चल रहा है। इसमें से दो भारतीय कंपनियों ने ही डेवलप की है। ऑक्सफर्ड यूनिवर्सिटी-असत्राजेनेका की वैक्सीन का फेज 3 ट्रायल भी देश में हो रहा है। सीरम इंस्टिट्यूट ऑफ इंडिया इस टीके की डोज भी बना रही है। देसी टीको में भारत बायोटेक-ICMR की बनाई Covaxin और जायडस कैडिला की ZyCov-D फिलहाल फेज 1/2 ट्रायल में हैं।

ऑक्सफर्ड की वैक्सीन पर बहुतांश को 'भरोसा'

ब्रिटेन की ऑक्सफर्ड यूनिवर्सिटी में जो वैक्सीन डेवलप हुई है, वह ग्लोबल रेस में सबसे आगे मानी जा रही है। कई देश असत्राजेनेका के साथ वैक्सीन की करोड़ों डोज का सौदा कर चुके हैं। सीरम इंस्टिट्यूट ऑफ इंडिया ने वैक्सीन की कीमत करीब 225 रुपये तय की है।

मॉडर्ना 2020 के अंत तक बना लेगी वैक्सीन!  
-2020-

अमेरिकी फार्मा कंपनी मॉडर्ना का कोविड टीका भी डिमांड में है। इसका तीस हज़ार से ज़्यादा लोगों पर फेज 3 ट्रायल चल रहा है। मॉडर्ना का कहना है कि वह 2021 की शुरुआत से हर साल वैक्सीन की 500 मिलियन डोज डिलिवर करने की तैयारी में है। शुरुआती फाइंडिंग्स में यह वैक्सीन एंटीबॉडीज डेवलप करने और टी-कोशिकाओं से रिएक्शन लेने में कामयाब रही है।

चीन बना रहा कोरोना के कई टीके

चीन की कई फार्मा कंपनियों कोरोना के टीके तैयार कर चुकी हैं और ट्रायल कर रही हैं। Sinovac Biotech Ltd और CanSino Biologics Inc की वैक्सीन को मंजूरी मिल चुकी है। इन दोनों के बड़े पैमाने पर ट्रायल जारी हैं। दोनों टीके सीमित मात्रा में सेना और हेल्थ वर्कर्स को लगाए जा रहे हैं।

दिसंबर तक वैक्सीन लॉन्च कर देंगे Pfizer-BioNTech  
-pfizer-biontech

अमेरिका की Pfizer और जर्मनी की BioNTech ने मिलकर जो mRNA वैक्सीन बनाई है, उसके ग्राहकों की कमी नहीं। 27 जुलाई से इस वैक्सीन का कम्बाइंड फेज 2-3 ट्रायल शुरू हो चुका है। अमेरिका, ब्राजील, अर्जेंटीना और जर्मनी में 30 हज़ार लोगों पर ट्रायल चल रहा है। कंपनी अक्टूबर तक रेगुलेटरी अप्रूवल लेने की तैयारी में है ताकि दिसंबर तक वैक्सीन लॉन्च करने का टारगेट पूरा हो सके। कंपनी 2021 के आखिर तक 1.3 बिलियन डोज सप्लाई करने की उम्मीद लगाए है।

पुतिन की बेटी भी मर गयी वैक्सीन लेकर... तुमसे नहीं हो पाएगा रूस...

## Corona Virus (Hindustan: 2020824)

[https://epaper.livehindustan.com/imageview\\_271127\\_74349068\\_4\\_1\\_24-08-2020\\_3\\_i\\_1\\_sf.html](https://epaper.livehindustan.com/imageview_271127_74349068_4_1_24-08-2020_3_i_1_sf.html)

# कोरोना मरीज दस गुना तक बढ़े पर दो तिहाई से ज्यादा बेड खाली

## हिन्दुस्तान विशेष

नई दिल्ली | हिन्दुस्तान व्यू

दिल्ली-एनसीआर समेत कई राज्यों में कोरोना के मरीज मई से अगस्त के बीच पांच से दस गुना तक बढ़े हैं, लेकिन अप्रत्याशित रूप से अस्पतालों में दो तिहाई से ज्यादा बेड खाली हैं। दो-तीन माह में राज्यों की बेहतर तैयारियों से अस्पतालों पर दबाव घटा है। मई के अंत में 8-10 हजार के

मुकाबले अगस्त में रोजाना औसतन 60-65 हजार केस सामने आ रहे हैं। तब कुल मामले दो लाख से भी कम थे। अब 30 लाख पार हो गए हैं।

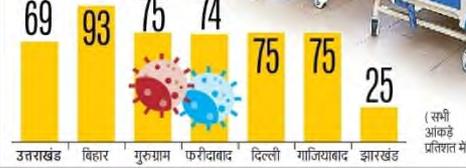
**होम आइसोलेशन में ज्यादातर मरीज:** दिल्ली के अस्पतालों में अभी कुल कोरोना के 14124 बेड हैं। इनमें से 3600 बेड ही भरे हैं, यानी लगभग 74.5% खाली हैं। अभी भी 5791 मरीज घरों में आइसोलेशन में हैं, यानी अस्पतालों से ज्यादा घरों में होम आइसोलेशन में हैं। 700 मरीज कोविड केयर केंद्रों में हैं।

➤ **गुपी-बिहार में 85 फीसदी होम आइसोलेशन में** पृष्ठ 13

## 700

मरीज हैं दिल्ली के कोविड केयर केंद्रों में

कहां-कितने बेड खाली



## दिल्ली-एनसीआर का हाल

गाढ़	मरीज	कुल बेड	भरे बेड	
दिल्ली	मई	2305	6500	38%
	22 अगस्त	3600	14124	25%
गुरुग्राम	मई	478	500	95.6%
	अगस्त	322	1313	24%
फरीदाबाद	मई	371	1200	30%
	अगस्त	251	1200	20%
गाजियाबाद	मई	239	176	100%
	अगस्त	374	1466	25%



दिल्ली जैसे राज्यों में जहां बेड खाली हैं, वहां शुरू में ही काफी तैयारियां कर ली गईं। मई के बाद युद्धस्तर पर की गई तैयारी का नतीजा है कि मरीज कम हैं।

— प्रोफेसर नवल किशोर विक्रम, मंडिसिन विभाग, एस दिल्ली