



# DAILY NEWS BULLETIN

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## HIV infections, AIDS

### **COVID-19 pandemic's long-term impact could lead to more new HIV infections, AIDS-related deaths: UN (The Tribune: 20201202)**

<https://www.tribuneindia.com/news/health/covid-19-pandemics-long-term-impact-could-lead-to-more-new-hiv-infections-aids-related-deaths-un-178498>

Highlighting bright spots amid the crisis, the report said leadership, infrastructure and lessons of the HIV response are being leveraged to fight COVID-19

COVID-19 pandemic's long-term impact could lead to more new HIV infections, AIDS-related deaths: UN

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The rapid spread of the novel coronavirus has created additional setbacks for the global AIDS response and there could be an estimated 123,000-293,000 additional new HIV infections and 69,000-148 000 additional AIDS-related deaths between 2020 and 2022 as a result of the COVID-19 pandemic's long-term impact, according to a new report.

The Joint United Nations Programme on HIV/AIDS (UNAIDS) said in its new report 'Prevailing against pandemics by putting people at the centre' that as COVID-19 pushes the AIDS response even further off track and the 2020 targets are missed, countries must learn from the lessons of underinvesting in health and to step up global action to end AIDS and other pandemics.

The UNAIDS is calling on countries to make far greater investments in global pandemic responses and adopt a new set of bold, ambitious but achievable HIV targets. If those targets are met, the world will be back on track to ending AIDS as a public health threat by 2030.

"The global AIDS response was off track before the COVID-19 pandemic hit, but the rapid spread of the coronavirus has created additional setbacks. Modelling of the pandemic's long-term impact on the HIV response shows that there could be an estimated 123,000 to 293,000

additional new HIV infections and 69,000 to 148,000 additional AIDS-related deaths between 2020 and 2022," the report said.

Executive Director of UNAIDS Winnie Byanyima lamented that the collective failure to invest sufficiently in comprehensive, rights-based, people-centred HIV responses has come at a terrible price.

"Implementing just the most politically palatable programmes will not turn the tide against COVID-19 or end AIDS. To get the global response back on track will require putting people first and tackling the inequalities on which epidemics thrive."

The report notes that in some low- and middle-income countries, health officials are bracing for a surge in new births due to interruptions to contraceptive access during the pandemic.

"In India, for example, it is estimated that COVID-19 interrupted contraceptive access for more than 25 million couples," it said.

The report said insufficient investment and action on HIV and other pandemics left the world exposed to COVID-19.

"Had health systems and social safety nets been even stronger, the world would have been better positioned to slow the spread of COVID-19 and withstand its impact," it said, adding that the COVID-19 has shown that investments in health save lives but also provide a foundation for strong economies. Health and HIV programmes must be fully funded, both in times of plenty and in times of economic crisis.

"No country can defeat these pandemics on its own," Byanyima said.

"A challenge of this magnitude can only be defeated by forging global solidarity, accepting a shared responsibility and mobilizing a response that leaves no one behind. We can do this by sharing the load and working together."

Highlighting bright spots amid the crisis, the report said leadership, infrastructure and lessons of the HIV response are being leveraged to fight COVID-19.

The HIV response has helped to ensure the continuity of services in the face of extraordinary challenges and the response by communities against COVID-19 has shown what can be achieved by working together.

In addition, the report underscores that the world must learn from the mistakes of the HIV response, when millions in developing countries died waiting for treatment. Even today, more than 12 million people still do not have access to HIV treatment and 1.7 million people became infected with HIV in 2019 because they did not have access to essential HIV services.

"Everyone has a right to health," which is why UNAIDS said it has been a leading advocate for a 'People's Vaccine' against COVID-19.

"Promising COVID-19 vaccines are emerging, but we must ensure that they are not the privilege of the rich. Therefore, UNAIDS and partners are calling on pharmaceutical companies to openly share their technology and know-how and to waive their intellectual

property rights so that the world can produce successful vaccines at the huge scale and speed required to protect everyone,” it said.

The report also noted that the number of countries criminalizing same-sex sexual relations has continued to decline in recent years, with Botswana and India removing previous prohibitions.

It said severe criminal penalties for same-sex sexual relations are associated with a 4.7 times higher risk of HIV infection compared with settings that lack such penalties.

The impact of decriminalization has been addressed in a study that modelled the effects of the criminalisation of sex work and found a roughly 40% reduction in new infections among sex workers over a 10-year period in Vancouver, Mombasa and Bellary, India, it said. — PTI

## **Cholesterol levels**

### **Maintain healthy cholesterol levels to fight Covid: Experts (The Tribune: 20201202)**

<https://www.tribuneindia.com/news/health/maintain-healthy-cholesterol-levels-to-fight-covid-experts-178439>

Maintain healthy cholesterol levels to fight Covid: Experts

Amid the rising cases of Covid-19 in Delhi-NCR, health experts on Tuesday stressed that along with a focus on overall health, taking special care of your heart's health is extremely important because the virus affects more to people with heart and its related problems.

The doctors said that the biggest risk factor of heart diseases is unhealthy cholesterol levels. So, it is important to keep a track of your lipid profile and maintain healthy cholesterol levels.

As per a survey conducted by the Indian Council of Medical Research (ICMR), 79 per cent of Indians are suffering from dyslipidaemia i.e. unhealthy cholesterol levels.

Experts suggest that managing cholesterol by taking natural antioxidants from a very young age can help keep your heart healthy by controlling high cholesterol level along with other health benefits.

The latest antioxidant which is gaining popularity in India is Gamma-Oryzanol, a natural antioxidant found in rice bran. Gamma-oryzanol is a mixture of ferulic acid esters and is an important bioactive component which is mainly found in the germinated brown rice and rice bran oil.

"For good heart health keeping high cholesterol level in check is really important, Gamma oryzanol which is a natural antioxidant has properties that lowers bad cholesterol and increases

the concentration of good cholesterol," said Dr Praveen Chandra, Head of Department, Interventional Cardiology, Medanta Hospital in Gurugram.

"It also helps in preventing heart attack by preventing platelet aggregation, a system where platelets blood gets stuck together and form clots that block arteries. So maintaining healthy cholesterol levels during Covid times is important," Chandra added.

As Gamma Oryzanol is found to be effective in controlling high cholesterol level in the body, it is registered in Japan and the US as a natural medicine to treat hyperlipidemia/dyslipidaemia (elevated cholesterol levels/unhealthy cholesterol levels).

"Gamma Oryzanol helps lower cholesterol because It helps decrease cholesterol absorption and increase cholesterol elimination," said Swapna Chaturvedi, Senior Dietician, Department of Dietetics, All India Institute of Medical Sciences (AIIMS) in New Delhi.

Recently, the Food Safety and Standards Authority of India (FSSAI) has recognised Gamma-Oryzanol as a nutraceutical and a natural antioxidant to reduce high blood cholesterol.

"During COVID times, we need to be extra careful with our heart's health and ensure healthy cholesterol levels," the experts noted.

## **Covid kids**

### **More than one-third Covid kids show no symptoms: Study (The Tribune: 20201202)**

<https://www.tribuneindia.com/news/health/more-than-one-third-covid-kids-show-no-symptoms-study-178430>

More than one-third Covid kids show no symptoms: Study  
Photo for representation only.

More than one-third of kids who have Covid-19 are asymptomatic, say researchers, adding that youngsters diagnosed with the disease may represent just a fraction of those infected.

"The concern from a public health perspective is that there is probably a lot of Covid-19 circulating in the community that people don't even realize," said study author Finlay McAlister from the University of Alberta in Canada.

For the study, published in the journal CMAJ, the research team analysed results for 2,463 children who were tested during the first wave of the pandemic--March to September--for Covid-19 infection.

All told, 1,987 children had a positive test result for Covid-19 and 476 had a negative result. Of children who tested positive, 35.9 per cent--reported being asymptomatic.

"As far as we know, kids are less likely to spread disease than adults, but the risk is not zero," McAlister said.

"Presumably asymptomatic spreaders are less contagious than the person sitting nearby who is sneezing all over you, but we don't know that for sure," he added.

The researchers also found that although cough, runny nose and sore throat were three of the most common symptoms among children with Covid-19 infection--showing up in 25, 19 and 16 per cent of cases respectively.

They were actually slightly more common among those with negative Covid-19 test results, and therefore not predictive of a positive test.

"Of course, kids are at risk of contracting many different viruses, so the Covid-specific symptoms are actually more things like loss of taste and smell, headache, fever, and nausea and vomiting, not runny nose, a cough and sore throat," McAlister said.

He added that if people have any symptoms at all, they should stay home and get tested, while even those who feel well should still be doing everything, they can to stay safe--wearing a protective mask, frequent handwashing, keeping distance, and avoiding meeting indoors.

"Some people with Covid feel well and don't realize they have it so they socialize with friends and unintentionally spread the virus, and I think that's the big issue," the author noted.

## **Covid-19: What you need to know today (Hindustan Times: 20201202)**

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

On Monday, former US Food and Drug Administration (FDA) chief Scott Gottlieb said in an interview to CNBC that his estimate is that by the end of the year 30% of Americans would have been infected by the Sars-CoV-2 virus which causes the coronavirus disease. That's almost one in three Americans who will have some sort of immunity against the virus. I know there is a lot of confusing research on this, especially when it comes to those asymptomatic patients who have low viral loads, but I am going to go with the most comprehensive research – Dispatch 207 on November 19 covered it – that most infected people have at least six months of protection (of some sort) against Covid-19, with a not insignificant probability that this protection could actually last for years. Gottlieb went on to add in the interview that he believes some states may have an infection rate of up to 50%. This bodes well for 2021, he suggested – and it's easy to see why. If a third of the population is protected against the virus, there is a high chance of the chain of infection being broken before too many people are infected. "You are getting to levels where this virus is not going to circulate as readily," he told CNBC. The US ended November with 13.6 million recorded cases of Covid. It could end the year with anything between 17 million and 18 million, at the current rate of growth of recorded cases. If

Gottlieb's assessment is accurate, this number, in reality, should be 100 million – which means that for every infection recorded, the US is missing around six. That seems plausible, and also highly probable. For the purposes of this column, I have assumed it to be true.

India has seen almost 9.5 million cases of the coronavirus disease to date (it is second in terms of the number of cases after the US). A direct extrapolation of Gottlieb's constant (if it can be called that) might not make sense for a variety of reasons. India and the US are both large and have high population counts, but the differences between them on these two parameters are still stark. The US has a population of 330 million; India, 1.3 billion (1,300 million). The US has a land area of 9.8 million square km; India, 3.3 million square km. The US's population density, based on these numbers, comes to 34 per square km; India's almost 394 people per square km. Some of these factors point to the constant being higher in India; others, lower. There are also other factors at play – populations in some parts of India, like populations in parts of Africa, may have some protection against the coronavirus disease on account of previous infections by other coronaviruses; and the BCG vaccine, which almost all Indian children have received for decades now, may offer some cover against the infection or, at the least, the intensity of infection.

In Dispatch 158, on September 15, I had put forth assumptions that around 15% of the urban population in India and 5% to 7.5% of the rural population may have been infected by the virus. That number was based on antibody prevalence surveys carried out in many parts of the country. Those numbers are sure to have moved north. It is likely that the metropolitan cities, such as Delhi and Mumbai, have infection rates of around 20%; other Indian cities, 15%; and rural India 7.5%. India's top 10 cities have a population of around 110 million. At a 20% infection rate, they would have seen 22 million cases. India has a rural population of around 850 million people, and an infection rate of 7.5% translates into around 64 million cases. The remaining 340 million urban population would have seen 51 million infections at a 15% infection rate. That works out to a total of 137 million cases – which means that for every infection recorded, India is missing 15, which too is plausible. At an aggregate level, this translates into an overall infection (or exposure) rate of approximately 10%, although the number is likely to be far higher in some large cities, and much lower in some remote rural areas.

Interestingly – and I did not assume numbers with this end in mind, although it may now seem like that – at 137,000 dead (the current death toll in India), and 137 million infections, India's infection fatality rate works out to 0.1%, which some experts believe to be a reasonable estimate of the Covid-19's fatality rate. Sure, it is likely (very likely) that India's actual death toll is higher, but it is just as likely that the number of cases is as well.

**RT-PCR, positivity rate 6.85%**

**More than half of tests with RT-PCR, positivity rate 6.85 % ( Hindustan Times: 20201202)**

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

A health care worker collects a swab sample from a passenger near Anand Vihar ISBT in New Delhi : More than 30,000 RT-PCR tests were conducted in Delhi on Monday, with share of the more accurate RT-PCR and other molecular tests accounting for more than 50% of the total tests conducted for the second day in a row. On both occasions, fewer number of rapid antigen tests had been conducted because of a government holiday.

On Monday, the city reported 4,006 new cases of coronavirus disease (Covid-19) and added 86 new deaths to its tally.

Despite the higher number of RT PCR test — which is more accurate and had a positivity rate of 30% as on November 7 — the positivity rate of Delhi went down further on Tuesday to 6.85%, which is the lowest since October 23. A positivity rate of 5% or less, if maintained over two weeks, shows that the spread of the infection is under control.

Even as Delhi has managed to scale up the number of RT-PCR tests —from below 15,000 to the current 30,000 tests a day — Delhi health minister Satyendar Jain said that a proposal will be sent to the Union health ministry and the Indian Council of Medical Research to allow city labs to conduct 10% fewer tests than their capacity to ensure reports are made available within 24 hours. To increase the number of more accurate RT-PCR tests, the Delhi government has pushed the labs to full capacity, resulting in delays in turn-around time, he said.

“Delhi has been utilising the full capacity of both the government and private labs to conduct more RT PCR tests. However, there have been some delays in getting test reports. If a lab says their capacity is 10,000 tests a day and they are given as many samples, the reports get delayed. We will take the issue up with ICMR and the Centre to allow the labs to conduct 10% less tests than their capacity to ensure that the reports are available within 24 hours,” said Jain.

He said that the government had been collecting up to 40,000 samples, but the labs weren't able to give the reports within a day.

He also said that the Centre needed to extend support to help Delhi in scaling up RT-PCR tests to 60,000 a day.

In a meeting with Union home minister Amit Shah in mid-November, the government had decided to double Covid-19 testing to between 100,000 and 120,000 a day, with half of the tests being the more accurate molecular ones.

“There is a need for additional support in terms of labs as promised by Central government to ensure that the reports are issued within 24 hours,” said Jain. The Union health ministry has said that it will increase the testing capacity under its labs by 10,000 and add another 1,000 in scientific institutes. Ten mobile labs were to be deployed in the city to scale up molecular testing further.

Private labs in the city however said that they either had capacity to test more samples or they would be able to scale up on government assurance of receiving more samples. “We have the capacity in case there is a need to scale up testing further,” Dr Arvind Lal, chairman of Dr Lal Pathlabs said.

Dr Deepak Sadwani from Prognosis Labs said, “When we had started we could process about 200 samples, now we do 2,000 samples a day. Yes, we have reached capacity with our current machines and manpower, but it can be scaled up further.”

Delhi has reported 2,663 deaths in November alone, with 91 deaths being reported on an average each day in the last seven days and 115 deaths reported on an average the week before. The 10-day case fatality ratio (CFR) – proportion of deaths among those who test positive – stood at 1.93% on Tuesday.

## Covid Cases (The Asian Age: 20201202)

<http://onlinepaper.asianage.com/articledetailpage.aspx?id=15257071>

### ■ Share of active cases in total +ve cases shrinks further by 4.60%

# Covid cases on decline, recovery on rise

**AGE CORRESPONDENT**  
with agency inputs  
NEW DELHI, DEC. 1

The daily new cases and India's active cases of novel coronavirus continue to be on a decline while the recoveries are on a rise. On Tuesday, the total active were almost 4.36 lakh and the share of active cases in the total positive cases has further shrunk to 4.60 per cent. India's total tally of Covid-19 is 94.63 lakh with 31, 118 fresh detections. The fatalities so far have been 1.37 lakh out of which 482 deaths occurred in the last 24 hours.

In Delhi the daily rise in high number of fresh cases has halted a bit even

though it is still reporting much higher cases than many states and UTs. Kerala and Maharashtra also have high cases.

Union health ministry officials said while some states like Kerala, Delhi, Karnataka, Chhattisgarh etc have witnessed a decline in the active caseload in the past 24 hours while Uttarakhanda, Gujarat, Assam and Goa have reported an addition to their caseload.

Meanwhile, the ICMR has said that the initial findings into an 'adverse event' allegedly suffered by an Oxford Covid-19 vaccine trial participant in Chennai did not necessitate halting of the trials and it is the role of drug

**INDIA'S TOTAL** tally of Covid-19 is 94.63 lakh with 31, 118 fresh detections. The fatalities so far have been 1.37 lakh out of which 482 deaths occurred in the last 24 hours

regulator to ascertain or refute if any causal link between the event and the intervention. On allegation of the 'adverse event' in a Serum Institute of India trial, the government said it will not affect vaccine timelines in anyway.

A 40-year-old man who was a volunteer in the third phase of the "Covidshield" vaccine trial in Chennai has alleged serious side

effects, including a virtual neurological breakdown and impairment of cognitive functions. He has sought ₹5 crore compensation in a legal notice to Serum Institute and others, besides seeking a halt to the trial. However, the SII has rejected the charges as "malicious and misconceived" and said it will seek damages in excess of ₹100 crore.

ICMR director general Balram Bhargava said that adverse events occur with drugs or vaccines or any other health intervention. "If any adverse event warrants hospitalisation then it is called a serious adverse event. It is the role of the drug regulator, after collating all the data, to

ascertain or refute whether there is a causal link between the event and intervention. That causal link whether it has to be ascertained or refuted has to be done by the DCGI and all the papers in connection to the five parameters have been submitted to him accordingly for review," he said.

It is done purely on a scientific basis and the assessment is done with very objectively-based criteria and initial causality assessment findings did not necessitate stoppage of these trials, he added. Union health ministry secretary Rajesh Bhushan said, "The adverse event will not affect timelines in any manner whatsoever".

## **Slow progress: On WHO's assurance?**

### **Slow progress: On WHO assurance to uncover origin of COVID-19 (The Hindu: 20201202)**

<https://www.thehindu.com/opinion/editorial/slow-progress-on-whos-assurance-to-uncover-origin-of-covid-19/article33224849.ece>

WHO must work alongside China in quickly uncovering the origins of the virus

In 2003, a WHO team was able to identify the animal source of SARS coronavirus within weeks despite its arrival in China nearly three months after the initial outbreak. In the case of MERS coronavirus, the intermediate host was identified more than a year after the first human case was reported. However, in the case of the novel coronavirus (SARS-CoV-2), its source is still unknown even 11 months after WHO reported the first case. Knowing the natural reservoirs and intermediate hosts and the events that allowed the virus to jump across the species barrier are important in prevention. Soon after the virus spread around the world, there was heightened demand to identify its origin in China's Wuhan where the first case cluster was reported. Even as the global focus shifted to therapeutics and vaccine trials, it is reassuring that the global health body is still determined to find the virus's origin. But the pace of investigation leaves much to be desired. Efforts began in February but it was only in early August that WHO completed the mission to lay the groundwork for joint efforts to identify the origin; its two-member team did not visit Wuhan, the epicentre of the outbreak. It was only in late October that China began early studies for the two-phase investigation. In the first phase, short-term studies will be undertaken to better understand how the virus might have begun circulating in Wuhan. Longer-term studies will follow based on these results. It is only then that a WHO-led team can operate in China to collaborate with Chinese scientists.

If China failed to alert WHO immediately after a Wuhan cluster was reported, its reluctance to quickly and earnestly investigate the source can partly be explained by U.S. President Donald Trump's attempt to politicise the issue. The reluctance has only increased after mounting international ire over its reporting the outbreak and the huge economic cost of the pandemic globally. There is strong evidence that the virus originated in bats and probably spread to humans through an intermediate species. One way to find this out is to know the susceptibility of different animal species. Already, many animals including cats have been found susceptible to the virus in the lab and outside. With the virus spread so wide, zeroing in on the intermediate host becomes more difficult as the possibility of humans having spread the virus to animals cannot be ruled out. Hence, a multi-pronged approach with an emphasis on investigating China's wildlife farms becomes crucial. This highlights the importance of working alongside China to uncover the virus's origin.

## **Overweight or obese**

### **Overweight or obese adults often don't recognise they have a weight problem (New Kerala: 20201202)**

<https://www.newkerala.com/news/2020/208771.htm>

A cross-sectional analysis of NHANES (National Health and Nutrition Examination Survey) data found that more than 40 per cent of US adults were overweight and nearly 10 per cent with obesity did not consider themselves to be overweight.

This trend has increased over the last two decades and was especially true of non-Hispanic Blacks and persons with low socioeconomic status. The findings are published in the Annals of Internal Medicine.

The researchers from the University of Chicago Medicine analyzed NHANES data to investigate the trends of overweight and obesity self-awareness among US adults with overweight or obesity.

They also looked at factors associated with obesity self-awareness and weight loss attempts among adults with obesity. Survey participants were asked about self-perception of weight using the question "Do you consider yourself to be overweight, underweight, or about the right weight?" They found that more than a significant proportion of those overweight or obese did not recognize the issue.

The authors say that as BMIs of Americans increase, people adjust their views on normal weight range to promote positive body images and suggest the use of varying BMI cutoffs to define overweight and obesity may be necessary when comparing varying demographic subsets. The authors still emphasize that this study data showed persons with obesity who did not view their weight to be overweight were less likely to try to lose weight and this may contribute to increasing obesity rates in the United States.

The authors also found that health professional-guided education on weight improved both obesity self-awareness and attempts to lose weight among persons with obesity. However, having health insurance did not affect obesity self-awareness, suggesting health professionals are not routinely providing weight counselling to patients with obesity.

## **Mental health**

### **Spending long time on phone not bad for mental health: Study (New Kerala: 20201202)**

<https://www.newkerala.com/news/2020/208638.htm>

: If your kids are spending hours on smartphone, don't panic. In a new study, researchers have found that time spent on the smartphone was not related to poor mental health.

According to the findings, published in the journal 'Technology, Mind, and Behavior', general smartphone usage is a poor predictor of anxiety, depression or stress when it comes to digital detoxes.

"A person's daily smartphone pickups or screen time did not predict anxiety, depression, or stress symptoms," said study lead author Heather Shaw from the Lancaster University in the UK.

In the study, the research team measured the time spent on smartphones by 199 iPhone users and 46 Android users for one week.

Participants were also asked about their mental and physical health, completing clinical scales that measure anxiety and depression symptoms.

They also completed a scale which measured how problematic they perceived their smartphone usage to be.

Surprisingly, the amount of time spent on the smartphone was not related to poor mental health.

Additionally, those who exceeded clinical 'cut off points' for both general anxiety and major depressive disorder did not use their phone more than those who scored below this threshold.

Instead, the study found that mental health was associated with concerns and worries felt by participants about their own smartphone usage.

Previous studies have focussed on the potentially detrimental impact of 'screen time', but the study shows that people's attitudes or worries are likely to drive these findings.

According to the researchers, mobile technologies have become even more essential for work and day-to-day life during the Covid-19 pandemic.

"Our results add to a growing body of research that suggests reducing general screen time will not make people happier," said study author said David Ellis from the University of Bath.

"Instead of pushing the benefits of digital detox, our research suggests people would benefit from measures to address the worries and fears that have grown up around time spent using phones," Ellis added.

## **Cardiometabolic risk**

### **Plant-based diet improves cardiometabolic risk factors: Study (New Kerala: 20201202)**

<https://www.newkerala.com/news/2020/208623.htm>

A plant-based diet boosts after-meal burn, leads to weight loss and improves cardiometabolic risk factors in overweight individuals, say researchers.

"Over the course of years and decades, burning more calories after every meal can make a significant difference in weight management," said study author Hana Kahleova from the Physicians Committee, U.S.

The study published in the journal JAMA Network Open assigned participants -- who were overweight and had no history of diabetes -- to an intervention or control group in 1:1 ratio.

For 16 weeks, participants in the intervention group followed a low-fat, plant-based diet which included fruits, vegetables, whole grains and legumes with no calorie limit.

The control group made no diet changes. Neither group changed exercise or medication routines unless directed by their personal doctors.

Researchers used indirect calorimetry to measure how many calories the participants burned after a standardised meal both at the beginning and end of the study.

The plant-based group increased after-meal calorie burn by 18.7 per cent on an average after 16 weeks. The control group's after-meal burn did not change significantly.

Within 16 weeks, participants in the plant-based group lowered their body weight by 6.4 kg (nearly 14 pounds), on an average, compared to an insignificant change in the control group.

The plant-based group also saw a significant drop in the fat mass and visceral fat volume -- the dangerous fat found around the internal organs.

The researchers teamed up with Yale University researchers to track intramyocellular lipid and hepatocellular lipid -- the accumulating fat in muscle and liver cells -- in a subset of participants using magnetic resonance spectroscopy.

Those in the plant-based group reduced the fat inside the liver and muscle cells by 34 per cent and 10 per cent, respectively, while the control group did not experience significant changes.

Fat stored in these cells has been linked to insulin resistance and Type-2 Diabetes, the researchers said.

The plant-based group also reduced total and low-density lipoprotein (LDL) cholesterol or bad cholesterol, with no significant changes in the control group.

"Not only did the plant-based group lose weight but they experienced cardiometabolic improvements that will reduce their risk to Type-2 Diabetes, heart disease and other health problems," the authors wrote.

## **Cancer cells**

### **AI predicts which drug combinations kill cancer cells (New Kerala: 20201202)**

<https://www.newkerala.com/news/2020/208565.htm>

A team of researchers have developed a machine learning model that accurately predicts how combinations of different cancer drugs kill various types of cancer cells. The new AI model was trained with a large set of data obtained from previous studies, which had investigated the association between drugs and cancer cells.

'The model learned by the machine is actually a polynomial function familiar from school mathematics, but a very complex one,' says Professor Juho Rousu from Aalto University. The study was led by researchers at Aalto University, the University of Helsinki, and the University of Turku in Finland. The research results were published in the prestigious journal Nature Communications.

When healthcare professionals treat patients suffering from advanced cancers, they usually need to use a combination of different therapies. In addition to cancer surgery, the patients are often treated with radiation therapy, medication, or both.

Medication can be combined, with different drugs acting on different cancer cells. Combinatorial drug therapies often improve the effectiveness of the treatment and can reduce the harmful side-effects if the dosage of individual drugs can be reduced. However, experimental screening of drug combinations is very slow and expensive, and therefore, often fails to discover the full benefits of combination therapy. With the help of a new machine learning method, one could identify the best combinations to selectively kill cancer cells with specific genetic or functional makeup.

The research results demonstrated that the model found associations between drugs and cancer cells that were not observed previously. 'The model gives very accurate results. For example, the values of the so-called correlation coefficient were more than 0.9 in our experiments, which

points to excellent reliability,' says Professor Rousu. In experimental measurements, a correlation coefficient of 0.8-0.9 is considered reliable.

The model accurately predicts how a drug combination selectively inhibits particular cancer cells when the effect of the drug combination on that type of cancer has not been previously tested. 'This will help cancer researchers to prioritize which drug combinations to choose from thousands of options for further research,' says researcher Tero Aittokallio from the Institute for Molecular Medicine Finland (FIMM) at the University of Helsinki.

The same machine learning approach could be used for non-cancerous diseases. In this case, the model would have to be re-taught with data related to that disease. For example, the model could be used to study how different combinations of antibiotics affect bacterial infections or how effectively different combinations of drugs kill cells that have been infected by the SARS-Cov-2 coronavirus.

## **Vaccine**

### **Vaccine will not be released for mass use unless proven immunogenic: Serum Institute (New Kerala: 20201202)**

<https://www.newkerala.com/news/2020/208538.htm>

Vaccine development company Serum Institute, India on Tuesday said the Covidshield vaccine will not be released for mass use unless it is proven immunogenic, and safe.

The company also said the serious adverse event (SAE) that happened to a city based volunteer though unfortunate was in no way induced by the vaccine.

Serum Institute which had earlier said it would claim over Rs 100 crore damage from the volunteer for damaging its reputation said it was sympathetic with the volunteer's medical condition and the incident is highly unfortunate.

"However, we would like to clarify that all the requisite regulatory and ethical processes and guidelines were followed diligently and strictly," the company said.

According to Serum Institute, the concerned authorities were informed and the Principal Investigator, Data Safety Monitoring Board (DSMB) and the Ethics Committee independently cleared and reckoned it as a non-related issue to the vaccine trial.

"Post which we submitted all the reports and data related to the incident to the DCGI (Drug Controller General of India). It is only after we cleared all the required processes that we continued with the trials," the company said.

"Taking into consideration the complexities and existing misnomers about vaccination and immunisation; the legal notice was sent therefore to safeguard the reputation of the company which is being unfairly maligned," the company added.

The 40-year-old city based volunteer, who works as a business consultant had wanted to investigate the cause of him contracting severe neurological health complications he had suffered after being vaccinated with Covidshield shots under development at Serum Institute, but the company was intimidating him with a threat of over Rs 100 crore damage suit, his advocates had said.

According to the advocates, their client was vaccinated on September 29 and developed severe neurological health complications and instead of probing the cause and stopping the trials Serum Institute and others kept silent.

"We are yet to get any reply for the legal notice sent to various parties, including Serum Institute. We have seen news reports about Serum Institute threatening our client with a suit for over Rs 100 crore," N.G.R. Prasad, Advocate, Row iamp; Reddy, told IANS.

"Our client had restricted his claim only for Rs 5 crore and wanted investigation to start as to the cause of him suffering severe neurological problems and stop the vaccine from affecting other people," Prasad added.

A family friend of the volunteer told IANS "He was a healthy young male. He had no pre-existing ailments. Not even blood pressure. But 10 days after the vaccination, he had developed severe neurological complications."

### **Vaccine (Hindustan: 20201202)**

[https://epaper.livehindustan.com/imageview\\_486931\\_83815848\\_4\\_1\\_02-12-2020\\_0\\_i\\_1\\_sf.html](https://epaper.livehindustan.com/imageview_486931_83815848_4_1_02-12-2020_0_i_1_sf.html)

# देश में सबको टीके की जरूरत नहीं

नई दिल्ली | एजेंसी

भारतीय आयुर्विज्ञान अनुसंधान परिषद (आईसीएमआर) ने मंगलवार को कहा कि देश में सबको कोरोना वैक्सीन की जरूरत नहीं है। कोविड टीका अभियान का उद्देश्य संक्रमण के प्रसार की शृंखला को तोड़ना होगा।

आईसीएमआर के महानिदेशक बलराम भार्गव ने प्रेसवार्ता में कहा, अगर हम आबादी के कुछ हिस्से का टीकाकरण करने और संक्रमण के प्रसार की शृंखला तोड़ने में सक्षम हैं तो देश की पूरी आबादी के टीकाकरण की जरूरत नहीं होगी। केंद्रीय स्वास्थ्य सचिव राजेश भूषण ने कहा कि सरकार

## यूपी में आरटीपीसीआर जांच 700 रुपये में करा सकेंगे

यूपी सरकार ने निजी लैब में कोरोना की आरटीपीसीआर जांच की कीमत 1600 रुपये से घटाकर 700 रुपये कर दी है। गुजरात सरकार ने भी जांच शुल्क 1,500 से घटाकर 800 रुपये कर दी। एक दिन पहले दिल्ली सरकार ने भी दाम घटाए थे।

ने पूरे देश की आबादी के टीकाकरण की बात कभी नहीं कही।

**मास्क की भूमिका अहम:** भार्गव ने कहा, मास्क की भूमिका भी बेहद अहम है। टीकाकरण के बाद भी यह जारी

## पोस्टर लगाना मरीजों से अछूतों जैसा सलूक :कोर्ट

सर्वोच्च अदालत ने मंगलवार कहा कि कोविड-19 के मरीजों के मकान के बाहर पोस्टर लग जाने पर उनके साथ अछूतों जैसा व्यवहार हो रहा है। यह जमीनी स्तर पर एक अलग हकीकत बयान करता है।

➤ ब्योरा पेज 15

रहेगी क्योंकि हम एक समय में आबादी के छोटे हिस्से के साथ यह शुरू कर रहे हैं। इसलिए वायरस के प्रसार की शृंखला तोड़ने में मास्क की भूमिका अहम होगी।

➤ स्पुतनिक का ट्रायल पेज 15

**Coronavirus (Hindustan: 20201202)**

[https://epaper.livehindustan.com/imageview/486938\\_84110322\\_4\\_1\\_02-12-2020\\_5\\_i\\_1\\_sf.html](https://epaper.livehindustan.com/imageview/486938_84110322_4_1_02-12-2020_5_i_1_sf.html)

# कोरोना के 4006 नए मरीज मिले, 86 की मौत

नई दिल्ली | कार्यालय संवाददाता

रिपोर्ट

राजधानी दिल्ली में मंगलवार को कोरोना के 4006 नए मरीज मिले, वहीं स्वस्थ होने वाले मरीजों की संख्या 5036 रही, जबकि एक दिन में 86 लोगों की मौत हो गई। बीते दस दिन पर आधारित मृत्यु दर 1.93 फीसदी रही।

स्वास्थ्य विभाग द्वारा मंगलवार को जारी बुलेटिन के अनुसार 58,456 सैंपल की जांच हुई, जिसमें रैपिड एंटीजन टेस्ट से 28,159 और आरटीपीसीआर से 30,297 लोगों की जांच की गई। जांच संक्रमण की दर 6.85 फीसदी रही। कोरोना को लेकर अब तक दिल्ली में 63,46,521 सैंपल की जांच हो चुकी है। होम आइसोलेशन में कोरोना के 19,400 मरीजों का इलाज चल रहा है, जबकि अस्पताल में 7777 मरीज भर्ती हैं। इसके अलावा

- 31,769 सक्रिय मरीज, जबकि अस्पताल में 7777 मरीज भर्ती
- होम आइसोलेशन में 19400 मरीजों का इलाज चल रहा है

कोविड केयर सेंटर में 457 और कोविड हेल्थ सेंटर में 129 मरीज हैं। कोविड केयर सेंटर में 486 बेड पर विदेशों से आने वाले क्वारांटाइन वाले मरीज भर्ती हैं। दिल्ली में कोरोना के 31,769 सक्रिय मरीज हैं। इसके अलावा अलग-अलग अस्पतालों में 10,911 बेड खाली हैं।

कंटनेमेंट जोन की संख्या 5,669 हो गई है। कोरोना के कुल 5,74,380 मामले अब तक सामने आ चुके हैं, जिसमें 5,33,351 मरीजों ने कोरोना को मात दी है।