



DAILY NEWS BULLETIN

LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE DAY
Monday 20201207

Immune systems

Immune system's requirements for protection against COVID-19 decoded
The study, published in the journal Nature, shed light on the role of antibodies and immune cells in protection against SARS-CoV-2 — the virus that causes COVID-19 (The Tribune: 20201207)

<https://www.tribuneindia.com/news/health/immune-systems-requirements-for-protection-against-covid-19-decoded-180734>

Scientists have assessed the novel coronavirus infection in monkeys and found that the immune system's T cells may contribute to protection against the virus if antibody responses are suboptimal, an advance which may aid in the development of vaccines and therapeutics for COVID-19.

The study, published in the journal Nature, shed light on the role of antibodies and immune cells in protection against SARS-CoV-2 — the virus that causes COVID-19.

“In this study, we define the role of antibodies versus T cells in protection against COVID-19 in monkeys. We report that a relatively low antibody titre — the concentration of antibodies in the blood — is needed for protection,” said study co-author Dan Barouch from Beth Israel Deaconess Medical Center (BIDMC) in the US.

“Such knowledge will be important in the development of next-generation vaccines, antibody-based therapeutics, and public health strategies for COVID-19,” Barouch said.

Earlier studies had suggested that SARS-CoV-2 infection protects rhesus macaques from re-exposure, following which Barouch and his colleagues purified and collected antibodies from the monkeys that had recovered from the infection.

They administered the antibodies at various concentrations to 12 uninfected macaques and observed that protection against SARS-CoV-2 challenge was dose-dependent.

According to the researchers, animals that received higher amounts of antibodies were protected more completely, while animals that received lower amounts of antibodies were protected less well.

Similarly, when they administered various concentrations of the purified antibodies to sick monkeys with active SARS-CoV-2 infection, those given higher doses demonstrated more rapid viral control.

In another set of experiments, the scientists evaluated the role of specific immune cells — CD8+ T cells — in contributing to protection against the virus by removing these cells from animals that had recovered from the infection.

When they removed these immune cells, it left the animals vulnerable to infection after re-exposure to SARS-CoV-2.

“Our data define the role of antibodies and T cells in protection against COVID-19 in monkeys. Antibodies alone can protect, including at relatively low levels, but T cells are also helpful if antibody levels are insufficient,” said Barouch, who is also Professor of Medicine at Harvard Medical School.

“Such correlates of protection are important given the recent successful vaccine results from human trials, and the likelihood that these and other vaccines will become widely available in the spring,” he added.

Barouch believes future vaccines may need to be licensed based on immune correlates rather than clinical efficacy. PTI

**Covid-19: Vaccinate people
Covid-19: Vaccinate people with diabetes on priority, say researchers
Studies suggest that people with Type 2 diabetes are at higher risk (The
Tribune: 20201207)**

<https://www.tribuneindia.com/news/health/covid-19-vaccinate-people-with-diabetes-on-priority-say-researchers-180723>

Researchers have urged policymakers to prioritise vaccination for individuals with diabetes as such people, once infected with Covid-19, are three times more likely to have a severe illness or require hospitalisation compared with people without diabetes.

While studies have suggested that those with type 2 diabetes are at higher risk for more serious complications and being hospitalised if they get Covid-19, little is known about the risk for individuals with type 1 diabetes.

“Our data supports prioritising individuals with type 1 or individuals with type 2 diabetes for immunisation alongside other high-risk medical conditions that increase the risk of getting

very sick with Covid-19, such as heart or lung disease,” said Justin Gregory, lead investigator from Vanderbilt University Medical Center in Nashville, Tennessee.

The team of investigators identified electronic health records (EHRs) of more than 6,000 patients who had a Covid-19 diagnosis during the period from mid-March until the first week of August.

The team then closely reviewed the patients’ medical records and contacted many individuals by telephone to identify additional risk factors and gather more information on how Covid-19 had impacted their health.

They compared the overall impact of Covid-19 for three populations: individuals with type 1 diabetes, individuals with type 2 diabetes and those who did not have diabetes.

“People with type 1 diabetes don’t need to live in fear and have undue anxiety, but they need to be really diligent in doing the things we all should be doing,” Gregory said in a paper published in Diabetes Care, the journal of the American Diabetes Association.

“All of us should be washing our hands and staying six feet apart. We should be conscientious about limiting the time spent with people outside our household. I’m not asking people with type 1 diabetes to do anything that all of us shouldn’t already be doing. I just think they need to be the most diligent about doing it day in and day out,” said Gregory. IANS

Pfizer's COVID-19 vaccine

**Britain gets ready for roll-out of Pfizer's COVID-19 vaccine this week
In total, Britain has ordered 40 million doses — enough to vaccinate 20 million people in the country of 67 million (The Tribune: 20201207)**

<https://www.tribuneindia.com/news/health/britain-gets-ready-for-roll-out-of-pfizers-covid-19-vaccine-this-week-180692>

Britain gets ready for roll-out of Pfizer's COVID-19 vaccine this week
Photo for representational purpose only. Reuters file

Britain is preparing to become the first country to roll out the Pfizer/BioNTech COVID-19 vaccine this week, initially making the shot available at hospitals before distributing stocks to doctors' clinics, the government said on Sunday.

The first doses are set to be administered on Tuesday, with the National Health Service (NHS) giving top priority to vaccinating the over-80s, frontline healthcare workers and care home staff and residents.

Britain gave emergency use approval for the vaccine developed by Pfizer and BioNTech last week - jumping ahead in the global race to begin the most crucial mass inoculation programme in history.

In total, Britain has ordered 40 million doses — enough to vaccinate 20 million people in the country of 67 million.

About 8,00,000 doses are expected to be available within the first week.

Initial doses that have arrived from Belgium are being stored in secure locations across the country, where they will be quality checked, the health ministry said.

The Pfizer/BioNTech vaccine has onerous storage requirements. It needs to be kept at -70C (-94F) and only lasts five days in a regular fridge.

For that reason, the health ministry said the vaccine would first be administered in 50 hospitals. It said it would take a few hours to defrost each vaccine and prepare it for use.

NHS England has written to general practitioners, telling them to get ready to start giving vaccinations through local doctors' services from Dec. 14.

Rather than run clinics in individual surgeries, groups of local doctors will operate more than 1,000 vaccination centres across the country, the government said.

Boxes of the vaccine contain five packs of 975 doses, but special regulatory approval is needed to split them up. A senior medical official has said that while he was hopeful it would be possible to split the packs and deliver straight to care homes, it was not guaranteed.

Britain is among the first nations to roll out vaccinations outside the context of a clinic trial, raising hopes that the tide could soon turn against a virus that has killed nearly 1.5 million people globally and hammered the world economy.

Russia began distributing its Sputnik V COVID-19 vaccine through 70 clinics in Moscow on Saturday, although the shot has not finished its final trials. Reuters

Fatty liver disease

Researchers develop sensor to detect fatty liver disease

Fatty liver disease occurs when liver cells store too much fat (The Tribune: 20201207)

<https://www.tribuneindia.com/news/health/researchers-develop-sensor-to-detect-fatty-liver-disease-180447>

Researchers have developed a diagnostic tool, based on nuclear magnetic resonance (NMR), that could be used to detect fatty liver disease or liver fibrosis.

"Since it's a non-invasive test, you could screen people even before they have obvious symptoms of the compromised liver, and you would be able to say which of these patients had

fibrosis," said study author Michael Cima from the Massachusetts Institute of Technology in the US.

The device, which is small enough to fit on a table, uses NMR to measure how water diffuses through tissue, which can reveal how much fat is present in the tissue.

This kind of diagnostic, which has thus far been tested on mice, could help doctors catch the fatty liver disease before it progresses to fibrosis, the study published in the journal Nature Biomedical Engineering said.

Fatty liver disease occurs when liver cells store too much fat. This leads to inflammation and eventually fibrosis, a build-up of scar tissue that can cause jaundice and liver cirrhosis, and eventually liver failure.

Fibrosis is usually not diagnosed until the patient begins to experience symptoms that include not only jaundice but also fatigue and abdominal swelling.

To create an easier way to check for this kind of liver disease, the research team had the idea of adapting a detector that they had previously developed to measure hydration levels before and after patients undergo dialysis.

That detector measures fluid volume in patients' skeletal muscle by using NMR to track changes in the magnetic properties of hydrogen atoms of water in the muscle tissue.

In a study of mice, the researchers showed that their detector could identify fibrosis with 86 per cent accuracy, and fatty liver disease with 92 per cent accuracy.

It takes about 10 minutes to obtain the results, but the researchers are now working on improving the signal-to-noise ratio of the detector, which could help to reduce the amount of time it takes.

The current version of the sensor can scan to a depth of about six millimetres below the skin, which is enough to monitor the mouse liver or human skeletal muscle.

The researchers are now working on designing a new version that can penetrate deeper below the tissue, to allow them to test the liver diagnosis application in human patients. — IANS

Oxford Covid vaccine in India

Serum Institute seeks emergency use authorisation for Oxford Covid vaccine in India (The Tribune: 20201207)

<https://www.tribuneindia.com/news/nation/serum-institute-seeks-emergency-use-authorisation-for-oxford-covid-vaccine-in-india-181080>

Serum Institute seeks emergency use authorisation for Oxford Covid vaccine in India
Photo for representation only.

The Serum Institute of India on Sunday became the first indigenous company to apply to the Drugs Controller General of India (DCGI) seeking emergency use authorisation for the Oxford COVID-19 vaccine in the country citing unmet medical needs due to the pandemic and in the interest of the public at large, official sources said.

A day earlier, the Indian arm of US pharmaceutical giant Pfizer became the first to seek a similar approval from India's drug regulator for its own COVID-19 vaccine in the country, after securing such clearance in the UK and Bahrain.

The phase-three clinical trial of the Oxford COVID-19 vaccine, Covishield, is being conducted by the Pune-based Serum Institute of India on Sunday (SII), co-sponsored by Indian Council of Medical Research (ICMR), in various parts of the country in addition to clinical studies being carried out by Oxford-AstraZeneca in the UK and Brazil.

Based on phase two and three clinical trial results, the SII with the help of the ICMR will pursue early availability of the vaccine for India, the country's apex health research body had said last month.

According to the ICMR, the SII has already manufactured 40 million doses of the vaccine under the at-risk manufacturing and stockpiling license it obtained from the DCGI.

Official sources, citing the SII application, said the firm has stated that data from four clinical studies, two in the UK and one each in Brazil and India, shows that Covishield is highly efficacious against symptomatic and most importantly against severe COVID-19 infections.

The results are in line with other anti-coronavirus vaccines and because of the huge disease burden, Covishield is predicted to alleviate substantial COVID-19 mortality and morbidity, the firm is learnt to have said.

"In terms of safety, Covishield was well tolerated with respect to solicited adverse events and was not associated with an increased number of SAEs and deaths. A majority of solicited reactions were mild in severity and resolved without any sequelae.

"Therefore, Covishield is safe and well-tolerated and can be used effectively for prevention of COVID-19 in the targeted population. Thus, the benefit to risk ratio strongly supports the widespread use of Covishield," a source said quoting the application.

In order to introduce an urgently needed vaccine against COVID-19 in India, SII, the world's largest vaccine manufacturer, has entered into a collaboration with the University of Oxford and AstraZeneca to manufacture the vaccine.

The SII has also submitted 12 batches of the vaccine to the Central Drugs Laboratory (CDL) in Kasauli for testing, a source said.

"In line with our philosophy we assure you that for COVID-19 vaccines also, we are committed to make our country 'aatmanirbhar' (self-reliant) and fulfil our prime minister's clarion call of

'vocal for local' and 'making in India' for the world," stated the application signed by Prakash Kumar Singh, Additional Director, Government and Regulatory Affairs at Serum Institute of India (SII).

In view of all these facts and unmet medical needs in the interest of the public at large to save millions of people in the country and across the globe, early availability of a vaccine against COVID-19 is a necessity, it stated.

"So, in the national interest, we request you to grant us emergency use authorisation of Covishield based on our application and in view of immediate need for a safe, effective, programmatically suitable and affordable vaccine for our country," the application read.

According to sources, this vaccine is logistically feasible for distribution in the country's both urban and rural parts as it can be stored at two to eight degrees Celsius, which is an ideal temperature for being kept in cold storages in the country.

As a rapid regulatory response, the DCGI on August 2 had given nod to SII for conducting the combined phase two and three human clinical trials of the Oxford COVID-19 vaccine in the country. PTI

Covid-19: What you need to know today (The Tribune: 20201207)

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

Last week, as several instalments of this column had pointed out, was going to be crucial for India in terms of how the trajectory of the coronavirus disease would play out in the country. It was to show whether India too would see the holiday effect seen in almost every other country where mass festivities and celebrations resulted in a spike in cases weeks later. Diwali, perhaps the biggest festival in India, was in mid-November, and if daily case numbers were going to rise on account of the parties, family gatherings and travel associated with the celebrations, last week is when this would have shown up. The week has come and gone. We are now on December 7, and India appears to have escaped the holiday effect.

Daily case numbers through the first six days of last week, Monday to Saturday, were: 31,182; 36,421; 35,414; 36,653; 36,212; and 36,439. That works out to a six-day average of 35,387. All these numbers are from the HT dashboard. The average is the lowest India has seen in four-and-a-half months. That would take us back to the third week of July.

These numbers lead to two interesting questions.

The first question is why did India not see the spike the US and countries in Europe saw after similar celebrations and gatherings?

The obvious answer — and because it is obvious there is also a strong likelihood of it being the wrong answer but more on this shortly — is that Diwali coincided with the end of the first wave of infections in India (or the beginning of the second), and because of this, it did not see

a spike in cases two weeks later, despite people flouting social distancing norms or taking more risks by travelling.

This doesn't add up because if nothing really changed in the virus's ability to infect people (it didn't; for instance, there wasn't a sudden mutation that made it less virulent), and if people actually took more risks than they previously did, there should have been a spike in infections. This is exactly what happened in the US after Labor Day and which experts say is now happening after Thanksgiving. And this is exactly what happened in European countries.

This suggests that the answer could lie in the chain of infection being broken more often and more easily than it was previously, and despite violations of social distancing norms — something that is possible only if the virus, as it seeks to jump from person to person, encounters more people who are immune to it. It's difficult to say this for sure in the absence of regular, widespread tests for SARS-CoV-2 antibodies — blood tests that are popularly called sero-surveys — but the answer seems to lie in that direction.

The reason for the absence of a post-Diwali surge, then, could be a combination of two complementary factors: masking, social distancing and other safety protocols that some still followed (and continue to); and a relatively high level of exposure to the virus in the population, resulting in an equally high level of protection.

This is not to suggest that India has achieved herd immunity or is close to doing so. Nor is this an endorsement of any approach that focuses on achieving herd immunity. It is merely scientific conjecture that seeks to explain why India has not seen a post-Diwali surge.

The second question (which, in some ways, derives from the first) is about the waves in which the coronavirus disease affects populations. We know that a wave starts waning when testing, tracing, and isolation start reducing the possibility of infection, and waxing as life returns to normal, as business and recreational and social activities increase, but there is also a natural trajectory to the infection. For instance, at a certain level of infection (or exposure), the number of new infections will start falling, gradually at first and then sharply. So, based on an understanding of these (the level of activity, and the infection rate), can one predict the timing of the next wave?

That is for the experts to answer.

Post Script: with India escaping the post-Diwali surge, if its current coronavirus disease trajectory stays in the plateau in which it finds itself till the end of the month, it is likely (a low but significant probability) that the second wave in India will be less intense — not just when compared to that in the US and Europe, but when compared to the country's own first wave — because if all goes well, India could start vaccinating the people in the first of its six priority groups (prioritised in terms of when they will be administered the vaccine) early next year.

Vaccine (The Asian Age: 20201207)

<http://onlinepaper.asianage.com/articledetailpage.aspx?id=15267120>

UK readies for huge vaccine rollout

London, Dec. 6: The coronavirus vaccine developed by American drugmaker Pfizer and Germany's BioNTech was being sent to hospitals across the UK in super-cold containers on Sunday, two days ahead of the kickoff of Britain's biggest-ever immunization program, one being closely watched around the world.

Around 800,000 doses of the vaccine are expected to be in place for the start of the rollout on Tuesday, a day that British health secretary Matt

AROUND 800,000 doses of the vaccine are expected to be in place for the start of the rollout on Tuesday

Hancock has reportedly dubbed as "V-Day," a nod to triumphs in World War II.

"Despite the huge complexities, hospitals will kickstart the first phase of the largest scale vaccination campaign in our country's history from Tuesday," said Professor Stephen Powis, NHS

England's national medical director.

"The first tranche of vaccine deliveries will be landing at hospitals by Monday in readiness."

Last week the UK became the first country to authorise the Pfizer-BioNTech vaccine for emergency use. In trials, the vaccine was shown to have around 95 per cent efficacy.

Vaccinations will be administered starting Tuesday at around 50 hospital hubs in England, Scotland, Wales and

Northern Ireland will also begin their vaccination rollouts the same day.

Governments and health agencies around the world will be monitoring the British vaccination program to note its successes and failures and adjust their own plans accordingly.

The United States hopes to start vaccinations later this month. British regulatory authorities are also examining data on vaccines made by Moderna and AstraZeneca-Oxford University. —AP

New Cases (The Asian Age: 20201207)

<http://onlinepaper.asianage.com/article/detailpage.aspx?id=15267133>

Delhi registers 2,706 new Covid-19 cases, 69 deaths

**AGE CORRESPONDENT
NEW DELHI, DEC. 6**

Delhi recorded 2,706 fresh Covid-19 cases on Sunday with the positivity rate dipping to below 4 per cent, authorities said.

The positivity rate on Thursday, Friday and Saturday had stood at 4.96 per cent, 4.78 per cent and 4.2 per cent respectively.

The relatively low number of fresh cases on Sunday came out of 73,536 tests, including 32,023 RT-PCR tests, conducted the previous day, according to

the latest bulletin issued by the Delhi health department. Chief minister Arvind Kejriwal on Sunday tweeted: "I am glad that the third wave also seems to be getting weak. Delhi fought a v difficult war against corona."

Sixty-nine fatalities were recorded, pushing the toll in the national capital to 9,643, while the positivity rate dropped to 3.68 per cent, the bulletin said.

The active caseload on Sunday dropped to 24,693 from 26,678 the previous day.

Guidelines to check spread of COVID-19

Winter worries: On Home Ministry guidelines to check spread of COVID-19 (The Hindu: 20201207)

<https://www.thehindu.com/opinion/editorial/winter-worries-on-home-ministry-guidelines-to-check-spread-of-covid-19/article33216044.ece>

Targeted containment of COVID-19 can work, but there is no room for complacency. New Home Ministry guidelines to check further spread of COVID-19 during the winter months starting with December reflect the government's concern that the gradually reviving economic activity should remain unaffected by ongoing containment measures. The Centre has mandated that States declare containment zones online, identifying them with micro targeting to minimise the impact. It has also prohibited any lockdowns at State and city levels without prior consultation with the Ministry. Such advice might appear redundant, coming as it does after a long unlock phase that permitted the relaxation of restrictions on almost all public activities, barring regular flights and trains, and the onus having shifted to the citizen to avoid getting infected. Several States with a perceived decline in new infections have opened up even more; in Tamil Nadu, for instance, final year in-person college classes and medical courses except for fresh entrants are set to reopen on December 7. This is a time to reiterate proven safety norms, considering that India has about 4.48 lakh active cases out of a total of 94.31 lakh cases recorded thus far, and where almost three-fourths of new infections are concentrated in eight States and Union Territories including Delhi. Encouraging results from vaccine trials and the likelihood of early emergency use authorisation have weakened voluntary caution, and citizens are yielding to pandemic fatigue. Health authorities must reinforce the message that low-cost interventions such as masks, good ventilation and distancing norms cannot be abandoned.

Evidence from the lockdown in India shows that the reproductive number for COVID-19, representing the number of fresh infections caused by an individual, was indeed reduced by the severe curbs, although the outcome varied by location. At the end of April, as the lockdown rigour eased, India had over 30,000 cases and 1,153 deaths in all. But seven months later, there were 39,806 infections and 433 deaths in a single day, November 29, underscoring the continuing challenge. The prime task before health administrators is to convince the average citizen that there is much to be gained through inexpensive lifestyle modification. A study of 131 countries published in *The Lancet* estimated the benefits of restricting group gatherings to 10 people, and how reducing physical attendance at workplaces could bring down the reproductive number by 38% in one month. Universal masking, with 95% compliance, is projected to reduce deaths dramatically, in another University of Washington study. Evidently, the entire economy stands to benefit from such painless interventions, while sparing doctors and frontline health workers of deadly risk. The Central government has rightly prioritised targeted containment, but it should standardise testing protocols across States, and not dilute the message of safe behaviour by labouring over the point of recoveries and low per-million fatalities.

Threats of Z-drugs for dementia patients

By Z-Drugs Can Increase Risk of Stroke, Fractures among Dementia Patients (New Kerala: 20201207)

<https://www.newkerala.com/news/2020/211661.htm>

Washington [US], December 6 In a novel study, researchers suggest that strong sleeping pills known as 'Z-drugs' are linked with an increased risk of falls, fractures, and stroke among people with dementia.

Sleep disturbance is common among people with dementia and the impact on patients and their families are significant. To date there are no proven effective treatments available, however, people with dementia are often prescribed Z-drugs (zopiclone, zaleplon, and zolpidem)

The new study published in the journal BMC Medicine reveals that stronger doses of these drugs are linked with an increased risk of adverse effects.

These adverse effects were found to be similar or greater than those for higher dose benzodiazepines or 'benzos' - which are also used to treat sleep disturbance, and are known to have several adverse effects. The team say that patients already taking higher doses of Z-drugs should not stop taking their medication suddenly, however they should seek a review with their GP.

Prof Chris Fox, from UEA's Norwich Medical School, said "As many as 90 per cent of people with dementia suffer sleep disturbances and it has a big impact on their mental and physical health, as well as that of their carers." "Z-drugs are commonly prescribed to help people sleep - however, these medicines were never licensed for dementia and they have been associated with adverse events such as falls and fracture risks in older people." "We wanted to find out how they affect people with dementia, who are frequently prescribed them to help with sleep disturbance."

The team analysed data from 27,090 patients in England diagnosed with dementia between January 2000 and March 2016. The average age of the patients was 83 and 62 per cent were women. They looked at the adverse events for 3,532 patients who had been prescribed Z-drugs and compared them to people suffering sleep disturbance who had not been prescribed sedatives, and patients who had been prescribed benzodiazepines.

They also looked to see whether Z-drug dosage played a part in adverse outcomes.

Prof Fox said "We studied a range of adverse outcomes including fractures, falls, deep vein thrombosis, stroke and death - over two years. And we were particularly interested to see whether higher doses led to worse outcomes."

"For patients prescribed Z-drugs, 17 per cent were given higher doses. And we found that these patients on higher doses were more at risk of falls and fractures, particularly hip fractures, and stroke - compared with patients who were not taking any medication for sleep disturbance," said Prof Fox. Those on lower doses, however (3.75mg zopiclone or equivalent, were not found to have an increased risk of adverse outcomes.

And there were no differences in adverse events for Z-drugs compared to benzodiazepines, except lower mortality rates with Z-drugs.

Prof Fox said "This research shows us that higher dose Z-drugs should be avoided, if possible, in people living with dementia, and non-pharmacological alternatives preferentially considered.

"Patients already taking higher dose Z-drugs should not stop taking their medication, but we recommend that they should make an appointment to see their GP for a review," he added.

Prof Clive Ballard, of the University of Exeter Medical School, who collaborated on the study, said "Our findings serve an important caution regarding the harms of sleeping tablets in people with dementia. This research is a very timely and unfortunately necessary reminder that sedative medications are not a helpful way to manage social isolation during COVID-19."

Dr Ian Maidment, Reader in Clinical Pharmacy at Aston University and lead pharmacist on the study stated "Z-drugs are widely used to treat insomnia in people living with dementia, but are only recommended as a short-term treatment for the maximum of four weeks. Our work shows the importance of clinicians including GPs and pharmacists reviewing patients on long-term Z-drugs."

Obesity

Genetic variant in children may reduce leptin production resulting in obesity: Study (New Kerala: 20201207)

<https://www.newkerala.com/news/2020/211580.htm>

Children of African ancestry are at a higher risk of developing obesity if they possess a genetic variant that reduces their ability to produce the hormone, leptin, a recent study has found.

Leptin plays a stronger role in weight control amongst children than adults.

The study suggests that adults with the genetic variant do not have the same risk.

The findings are of an international study by scientists at the University of Copenhagen, University of Exeter, Icahn School of Medicine at Mount Sinai, and others, who investigated the role of genetics in controlling the leptin levels.

Associate Professor Tuomas Kilpelainen from Novo Nordisk Foundation Center for Basic Metabolic Research at the University of Copenhagen said, "Our findings suggest that young children might be particularly sensitive to the effect of leptin in controlling their body weight."

It's been long established that the hormone leptin is released by the body fat tissue and tells the brain how much fat is stored in the body. The more body fat a person has, the more leptin will be released in the body. This information is used by the brain to regulate a person's appetite and food intake.

Leptin levels vary among individuals, however, around 10 to 20 per cent of obese people have been found to have the same leptin levels as those with normal weight. This variation raises questions about the role leptin plays in regulating weight.

In the research, published in , the scientists screened the genome of more than 55,000 people for genetic variants that affect the leptin levels. They identified five new genetic variants that play a role in regulating the leptin levels. One of the variations, Val94Met, which reduces the amount of leptin that the body produces, is only found in individuals of African ancestry. Young people with this variation are more at risk of developing obesity, though this is not true of adults with the variation who tend to be of similar weight.

This finding supports the theory that people become less sensitive to leptin with age. Administering leptin to obese adults has proven ineffective at controlling their weight.

Associate Professor Kilpelainen said this new knowledge on the impact of leptin in the weight control of young people now needs to be followed up with further studies to uncover the molecular mechanisms that underlie this age-dependent relationship between leptin and body mass index.

Cardio-metabolic health

Study reveals cardio-metabolic health affects sweetened beverages (New Kerala: 20201207)

A research published in the Journal of the American College of Cardiology has shown that cardio-metabolic health is negatively impacted due to diets that include beverages sweetened with sugar.

Drinks that are artificially sweetened have been suggested as a healthier alternative, but the impact of it on cardiovascular health is not yet fully known. In this paper, researchers looked at data from the French NutriNet-Sante cohort to investigate the relationship between the risk of cardiovascular disease and consuming sugary drinks and artificially sweetened drinks.

During the research records for 104,760 participants were included and they were asked to fill out three validated web-based 24-hour dietary records every six months. Sugary drinks consisted of all beverages containing 5 percent or more sugar and artificially sweetened

beverages were defined as those containing non-nutritive sweeteners. For each beverage category, individuals were divided into non-consumers, low consumers, and high consumers.

Researchers looked at first incident cases of cardiovascular disease during follow-up from 2009-2019, which were defined as stroke, transient ischemic attack, myocardial infarction, acute coronary syndrome, and angioplasty. After excluding the first three years of follow-up to account for potential reverse causality bias, 1,379 participants had first incident cases of cardiovascular disease.

When compared to non-consumers, both higher consumers of sugary drinks and artificially sweetened beverages had higher risks of first incident cardiovascular disease, after taking into account a wide range of confounding factors. In addition to a higher risk of heart health issues, Eloi Chazelas, Ph.D. student, lead author of the study, and a member of the Nutritional Epidemiology Research Team (Sorbonne Paris Nord University, Inserm, Inrae, Cnam) said the study may have further regulatory implications.

"Our study suggests artificially sweetened beverages may not be a healthy substitute for sugar drinks, and these data provide additional arguments to fuel the current debate on taxes, labeling and regulation of sugary drinks and artificially sweetened beverages," Chazelas said.

Researchers said to establish a causal link between sugary and artificially sweetened beverages and cardiovascular disease, replication in large-scale prospective cohorts and mechanistic investigations will be needed.

Menopause

Study: Women with low levels of physical activity can experience severe menopause (New Kerala: 20201207)

<https://www.newkerala.com/news/2020/211357.htm>

A study published online on Menopause, the journal of The North American Menopause Society (NAMS) found that earlier development of menopause symptoms can be alleviated with sufficient volume and intensity of physical activity.

Menopause is the natural suspension, of a woman's menstrual cycle, which marks the end of fertility. In most cases, women experience menopause by the age of 52, but pelvic or ovarian damage may cause sudden menopause earlier in life. Genetics or underlying conditions may also be a reason for an early onset of menopause.

The symptoms of Menopause may also arise as a result of radiotherapy to the pelvic field, surgical removal of the ovaries, or systemic chemotherapy. When such procedures occur in pre-menopausal or peri-menopausal women, they often result in sudden and sometimes irreversible menopause that is accompanied by more frequent and severe menopause symptoms.

Various cancer-treating endocrine therapies, such as the use of tamoxifen, can also amplify symptoms, especially hot flashes.

The study involved nearly 300 women to investigate the association between self-reported physical activity and menopause symptoms. In addition, the researchers evaluated whether intervention targeting lifestyle behaviour could improve changes in physical activity levels and menopause symptoms.

Results suggest that menopause symptoms are less severe in women with medium to high levels of physical activity than in women with low levels of such activity. The intervention, however, was not determined to play a role in increasing physical activity in women being treated for breast, reproductive, or blood cancers.

Although this was not the first study to examine the association of physical activity with menopause symptoms, it was the first to look specifically at the volume and intensity of physical activity.

Severe menopause symptoms, including poor mental well-being, are associated with a sedentary lifestyle and low physical activity, even in women experiencing natural menopause. Researchers of the current study additionally found that women being treated for breast cancer, for example, who experience worse menopause symptoms are less likely to engage in health-promoting behaviours.

On the basis of study results, researchers suggest that an increased focus on exercise training should be part of the long-term maintenance program for women after cancer treatment.

The results were published in the article 'Physical activity and menopausal symptoms in women who have received menopause-inducing cancer treatments results from the Women's Wellness After Cancer Program.'

Dr Stephanie Faubion, NAMS medical director said, "This study highlights some of the many known benefits of exercise in women with or without cancer. Although the exercise was not associated with less bothersome hot flashes, findings consistent with prior studies, it may help with other menopause symptoms, including mood and sleep disturbances."

Infection (Hindustan: 20201207)

https://epaper.livehindustan.com/imageview_496742_53484178_4_1_07-12-2020_2_i_1_sf.html

संक्रमण के 2,28,000 केस मिले शुक्रवार को, इस दौरान महामारी से 2,607 लोगों की मौत हो गई

अमेरिका में तेजी से बढ़ रहा संक्रमण

चिंताजनक

वाशिंगटन | एजेंसी

अमेरिका में छुट्टियों का दौर जारी रहने के बीच कोरोना के मामले तेजी से बढ़ रहे हैं। दरअसल इन छुट्टियों में परिजनों और मित्रों से मिलने जुलने की वजह से संक्रमण के मामलों में और वृद्धि होने की आशंका है। जॉन हॉपकिन्स विश्वविद्यालय के आंकड़ों के मुताबिक शुक्रवार को देशभर से संक्रमण के 2,28,000 मामले सामने आए, जो एक दिन में आने वाले सर्वाधिक मामले हैं। इससे एक दिन पहले 2,17,000 मामले सामने आए थे। शुक्रवार को अमेरिका में कोविड-19 के कारण 2,607 लोगों की मौत हुई।

शैक्सपियर के दौरान लोगों ने घर पर रहने और पर्व को केवल परिजनों के साथ ही मनाने की हिदायतों को नजरअंदाज किया। कई राज्यों में कोरोना वायरस के मामले बढ़ गए। महामारी का प्रकोप शुरू होने के बाद से यह दूसरी बार है जब एप्रिल में शनिवार



लॉस एंजलिस में शनिवार को कोरोना का स्वैच नमूना लेता एक परिवार। • एपी

को संक्रमण के सर्वाधिक मामले सामने आए। यहां के अस्पताल मरीजों से पटे पड़े हैं। शनिवार को यहां संक्रमण के 6,799 नए मामले सामने आए। नॉर्थ कैरोलाइना में शनिवार को संक्रमण के 6,018 नए मामले सामने आए। राज्य के स्वास्थ्य सचिव डॉ. मेन्डी कोहेन ने कहा कि यहां प्रतिदिन पांच हजार से अधिक मामले सामने आ रहे थे।

फ्रांस में 12,923 नए मामले

फ्रांस में पिछले 24 घंटों में 12,923 नए कोरोना संक्रमण के मामले दर्ज किए हैं और इसी दौरान यहां 216 मौतें हुई हैं। देश के स्वास्थ्य अधिकारियों ने यह जानकारी दी। शनिवार का दिनक आंकड़ा पिछले दिन के 11,221 से अधिक था। अधिकारियों ने कहा कि शनिवार को भी देश में 8,589 लोग अस्पताल में भर्ती हुए।

1.4 करोड़ से ज्यादा संक्रमण के मामले आ चुके हैं अबतक अमेरिका में

2.8 लाख लोगों की मौत हो चुकी है अमेरिका में महामारी से

रूस में 29,039 नए मरीज

रूस में रविवार को संघीय प्रतिक्रिया केंद्र ने कोरोना के 29,039 नए मामलों की पुष्टि की। इसके साथ ही देश में कुल मरीजों की संख्या 2,460,770 तक पहुंच गई है। शनिवार को रूस में 28,782 नए मामले दर्ज किए गए थे। संघीय प्रतिक्रिया केंद्र ने बताया, पिछले 24 घंटों में रूस में 85 क्षेत्रों में 29,039 लोग कोरोना से संक्रमित पाए गए हैं। इनमें से 6,065 (20.9%) सक्रिय मामले हैं।

जर्मनी में एक दिन में 17,767 मामले

जर्मनी ने एक दिन में 17,767 से अधिक नए कोविड-19 मामलों की पुष्टि की। रॉबर्ट कोच इंस्टीट्यूट ने रविवार को यह जानकारी दी। इसके अनुसार कोरोना से संक्रमित मरीजों की कुल संख्या 11,71,322 हो गई है। इस अवधि के भीतर मरने वालों की संख्या 255 से 18,772 हो गई है।

दुनियाभर में 6.64 करोड़ लोग संक्रमित

कोरोना वायरस के चपेट में आने से दुनियाभर में अब तक 6.64 करोड़ से ज्यादा लोग संक्रमित हो चुके हैं, जबकि इस महामारी से 15.28 लाख से अधिक लोगों की मौत हो चुकी है। अमेरिका की जॉन हॉपकिन्स यूनिवर्सिटी के विज्ञान एवं इंजीनियरिंग केंद्र (सीएसएसई) की ओर से जारी आंकड़ों के अनुसार विश्व के 191 देशों में कोरोना वायरस से अब तक 66,485,651 लोग संक्रमित हुए हैं और 15,28,312 लोगों की मौत हो चुकी है।

Coronavirus ((Hindustan: 20201207))

https://epaper.livehindustan.com/imageview_496742_53480744_4_1_07-12-2020_2_i_1_sf.html

पिछले एक माह में रोजाना 50 हजार से कम मामले आए

सुधार

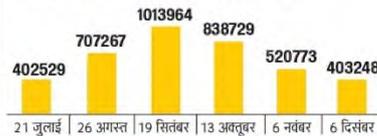
नई दिल्ली | एजेंसी

देश में पिछले एक महीने से लगातार 50 हजार से कम रोजाना नए मामले आ रहे हैं जो राहत की बात है। देश में सात नवंबर को 50,365 नए केस दर्ज हुए थे, जिसके बाद से रोजाना के मामले घटते चले गए।

इससे सक्रिय केसों की संख्या में भी कमी आयी है, जिससे अस्पतालों का बोझ घटा है। हालांकि भारत अब भी कुल संक्रमित केसों के मामले में दुनिया का दूसरा सर्वाधिक प्रभावित देश बना है। देश में शनिवार को 36,011 नए मामले आए। लगातार पांच दिन से रोजाना 40 हजार से कम नए मामले दर्ज हो रहे हैं।

138 दिन बाद देश में सबसे कम सक्रिय केस

देश में सक्रिय केसों में 138 दिन बाद रिकॉर्ड कमी आई है। अब यहां 4.03 लाख सक्रिय मामले ही रह गए हैं। यानी अब देश में कुल संक्रमित केसों के मुकाबले मात्र 4.18 फीसदी मरीज ही ऐसे हैं, जिनका उपचार चल रहा है।



लगातार नौवें दिन सबसे ज्यादा मरीज ठीक हुए

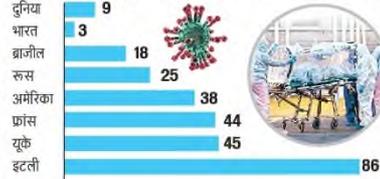
केंद्रीय स्वास्थ्य मंत्रालय ने बताया कि देश में पिछले नौ दिन से 24 घंटों के भीतर ठीक होने वाले मरीजों की संख्या संक्रमित होने वाले मरीजों से ज्यादा बनी हुई है। शनिवार को 36,011 मरीज संक्रमित हुए जबकि 4,19,700 मरीज ठीक हुए। यानी एक दिन में सक्रिय मामलों में 6,441 को कमी आयी।

प्रति दस लाख आबादी पर 186 नए केस

भारत, दुनिया में ऐसे चंद देशों में शामिल है जहां प्रति दस लाख आबादी पर सबसे कम केस दर्ज हो रहे हैं। लगातार सात दिन से भारत में प्रति दस लाख आबादी पर 186 नए केस ही

दर्ज किए गए। इसी तरह पिछले सप्ताह यहां हर दिन दर्ज हुए मौत के मामलों की तुलना दुनिया से करने पर पता लगता है कि भारत में हर दस लाख लोगों पर मात्र तीन मौतें हुईं।

प्रति दस लाख पर दुनिया में सबसे कम मौतें (पिछले सात दिनों में)



77% मरीज इन दस राज्यों में ठीक हुए

देश में 10 राज्य व केंद्र शासित प्रदेशों में 76.6 फीसदी मरीज ठीक हुए हैं। जिसमें एक दिन में सर्वाधिक 5834 रिकवर केसों के साथ महाराष्ट्र आगे है। केरल और दिल्ली में भी हर दिन बहुत मरीज ठीक हुए।

Corona Vaccine ((Hindustan: 20201207)

https://epaper.livehindustan.com/imageview_496742_53490760_4_1_07-12-2020_2_i_1_sf.html

प्रायोगिक टीका लगवाने वाले भी सुरक्षित नहीं

दावा

नई दिल्ली | एजेसी

कोरोना वायरस के प्रायोगिक टीके लगवाने वाले लोग भी वायरस से संक्रमित हो सकते हैं। जॉन हॉपकिन्स विश्वविद्यालय के वैज्ञानिकों ने यह दावा किया है। वैज्ञानिकों का कहना है कि किसी कंपनी द्वारा विकसित किए जा रहे टीके के पूरी तरह तैयार हो जाने और उसकी समीक्षा के बाद ही इस बात पर आश्वस्त हुआ जा सकता है कि टीका लेने वाले व्यक्ति वायरस से सुरक्षित रहेगा। गौरतलब है कि शुक्रवार को हरियाणा के स्वास्थ्य मंत्री अनिल विज प्रायोगिक टीके की खुराक लेने के 15 दिन बाद संक्रमित पाए गए।

जॉन हॉपकिन्स विश्वविद्यालय के महामारी विशेषज्ञ माइकल कॉलिस का कहना है कि टीका निर्माण की प्रक्रिया कई चरणों से होकर गुजरती है, जिसमें प्रतिभागियों को प्रायोगिक टीका और प्लेसीबो देकर उनके शरीर पर इसके प्रभाव का अध्ययन किया जाता है। तीसरे चरण में बड़ी संख्या में इंसानों पर इसका परीक्षण होता है, जिसमें आधे



क्या होता है प्लेसीबो

अमेरिका की नॉर्थ वेस्टर्न यूनिवर्सिटी के प्रो. स्टेनली जोसफ का कहना है कि प्लेसीबो के रूप में ऐसे इंजेक्शन दिए जाते हैं जिससे परीक्षण में शामिल होने वाले प्रतिभागियों को शारीरिक प्रभाव के बजाय मनोवैज्ञानिक लाभ मिले। प्लेसेबो-नियंत्रित परीक्षण किसी दवा को जांचने की एक मानक विधि है।

मांग : ट्रायल में शामिल लोगों को पहले मिले टीका

ट्रंप के कोविड टास्क फोर्स के वैज्ञानिक सलाहकारों ने प्रस्ताव दिया है कि सरकार वैक्सीन की पहली खेप में उन प्रतिभागियों को भी शामिल करे, जिनके कारण कोरोना वैक्सीन तैयार हो सकी। सलाहकारों का कहना है कि भले प्रतिभागियों को प्रायोगिक टीका लगाया गया होगा पर उसमें प्लेसीबो लेने वाले प्रतिभागी भी शामिल होते हैं।

सीरम और फाइजर ने टीके के आपात इस्तेमाल की मंजूरी मांगी

नई दिल्ली | विसं/एजेसी

ऑक्फोर्ड टीका (कोविशील्ड) बना रही स्वदेशी कंपनी सीरम इंस्टीट्यूट ऑफ इंडिया ने रविवार को ड्रग्स कंट्रोलर जनरल ऑफ इंडिया से इसके आपात इस्तेमाल की मंजूरी मांगी है। सूत्रों ने कहा कि वैक्सीन के उपयोग की मंजूरी मांगने वाली सीरम पहली स्वदेशी संस्था बन गई है। उधर, शुक्रवार को बहुराष्ट्रीय कंपनी फाइजर ने भी भारत में कोरोना टीका बेचने के लिए आवेदन किया था।

मिल सकती है इजाजत: फाइजर के टीके को सशर्त मंजूरी दी जा सकती है।

चार करोड़ खुराक तैयार

- सीरम की वैक्सीन कोविशील्ड के चार करोड़ खुराक तैयार। हरी झंडी मिलते ही शुरू हो जाएगा इस्तेमाल
- कोविशील्ड का भारत में तीसरे चरण का ट्रायल। अन्य देशों में इस टीके के तीसरे चरण का परीक्षण पूरा
- **अवसर:** सीरम की यह वैक्सीन दुनिया के 92 देशों तक पहुंचेगी

हालांकि, इसके लिए ड्रग कंट्रोलर विदेशों में हुए परीक्षणों की गहन पड़ताल करेगा। कंपनी ने क्लिनिकल परीक्षणों की अनिवार्यता से छूट की मांग की है।

शर्त के साथ इजाजत संभव

- संभव है फाइजर के टीके को आपात मंजूरी मिल जाए, लेकिन निगरानी की शर्त रखी जा सकती है
- देश में क्लिनिकल ट्रायल शुरू करने की भी शर्त रखी जा सकती है
- **चुनौती:** फाइजर टीके के लिए -70 डिग्री की कोल्ड चेन जरूरी। सरकारी टीकाकरण में इस्तेमाल मुश्किल

कानून में क्या: कानूनन कोई दवा विदेशों में स्वीकृत है तो उसे बिना क्लिनिकल परीक्षण के भी आपात इस्तेमाल की मंजूरी संभव है।