National serosurvey -6.4 million COVID-19 infections

India had estimated 6.4 million COVID-19 infections by early May: National serosurvey
The survey was conducted from May 11 to June 4 (The Tribune: 2020911)


India had estimated 6.4 million COVID-19 infections by early May: National serosurvey
Delhi Metro employees wearing face shield and masks stand on a platform, as part of preparations ahead of the resumption of services. — PTI

The much-awaited findings of the first national serosurvey conducted by the ICMR, published in the Indian Journal of Medical Research, indicate that 0.73 per cent adults in India were exposed to SARS-CoV-2 amounting to a total of 6.4 million infections by early May.

The survey was conducted from May 11 to June 4 and covered 28,000 individuals whose blood samples were tested for IgG antibodies using COVID Kavach ELISA kit.

Also, seropositivity was the highest in the age group of 18-45 years (43.3 per cent), followed by those between 46-60 years (39.5 per cent) and it was the lowest among those aged above 60 (17.2 per cent).

It's estimated that there were a total of 64,68,388 adult infections in India by early May, the survey report said.

"The findings of our survey indicated that the overall seroprevalence in India was low, with less than one per cent of the adult population exposed to SARS-CoV-2 by mid-May 2020.

"The low prevalence observed in most districts indicates that India is in early phase of the epidemic and the majority of the Indian population is still susceptible to SARS-CoV-2 infection," the survey report stressed.
It highlighted the need to continue to implement context-specific containment measures including testing of all symptomatics, isolating positive cases and tracing high-risk contacts to slow down transmission and prevent overburdening of the health system.

Males living in urban slums and with occupations involving high risk of exposure to potentially infected persons were associated with seropositivity.

According to the survey report, seroprevalence ranged between 0.62 and 1.03 per cent across the four strata of districts.

The stratification of districts as zero cases (15 districts), low (22 districts), medium (16) and high (17) was done on the basis of the reported number of COVID-19 cases as on April 25.

Based on the overall adjusted seroprevalence of 0.73 per cent and reported number of COVID-19 cases, it was estimated that for every RT-PCR confirmed case of COVID-19 there were 82-130 infections in India.

As part of the survey, a total of 30,283 households were visited from 700 clusters in 70 districts across the four strata. About one-fourth (25.9 per cent) of the surveyed clusters were from urban areas. A total of 28,000 individuals consented to participate, the report stated.

Nearly half (48.5 per cent) of the participants were aged between 18 and 45 and 51.5 per cent (14,390) were females. In all, 18.7 per cent of the participants had an occupation with a high risk of exposure to potentially infected persons.

The survey noted that there could be under-detection of COVID-19 cases in the zero stratum districts on account of low testing as well as poor access to testing laboratories.

In four of the 15 districts in this stratum, COVID-19 testing laboratories were not available in the district headquarters and the samples were transported to the state headquarters hospitals for diagnosis.

The present findings of seropositivity in the strata of districts with zero to low incidence of COVID-19 cases underscores the need to strengthen surveillance and augment the testing of suspected cases in these areas, the survey report said. PTI

**Oxford vaccine**

*Serum Institute halts India trials of Oxford vaccine after drug controller's notice*

Trials paused after study participant developed unexplained illness (The Tribune: 2020911)

Serum Institute halts India trials of Oxford vaccine after drug controller's notice
We are reviewing the situation and pausing India trials," Serum said in a brief statement.

The Serum Institute of India on Thursday announced halting of India trials of the Oxford University-AstraZeneca COVID vaccine candidate till the global suspension on the process is revoked and the trials restarted.

Adar Poonawala-led SII, which is a manufacturing partner for the vaccine, today said: “We are reviewing the situation and pausing India trials till AstraZeneca restarts them. We are following DCGI's instructions and will not be able to comment further on the same. You can connect with DCGI for more updates on this front.”

The announcement of India pause of trials was announced by SII a day after Drug Controller General of India issued it a show-cause notice asking why permissions granted earlier for phase 2 and 3 human trials on Indian volunteers not be suspended in the light of new evidence of severe illness in a participant of the UK phase-3 trial of the vaccine.

AstraZeneca yesterday announced global halt of the ongoing phase-3 trials of the said vaccine after a participant developed a serious neurological illness whose source is being probed.

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AstraZeneca

AstraZeneca says should know if vaccine works by year-end if trials resume
(The Tribune: 2020911)

https://www.tribuneindia.com/news/health/astrazeneca-says-should-know-if-vaccine-works-by-year-end-if-trials-resume-139212

AstraZeneca says should know if vaccine works by year-end if trials resume

AstraZeneca's chief executive Pascal Soriot said on Thursday that it should know before the end of the year whether its experimental vaccine would protect people from COVID-19, if the British drugmaker is allowed to resume trials, which were paused this week.

It suspended the late-stage trials after an illness in a study subject in Britain. The patient was reportedly suffering from neurological symptoms associated with a rare spinal inflammatory disorder called transverse myelitis.

Soriot said during a call on the vaccine, which the World Health Organization (WHO) has flagged as the most promising in combatting coronavirus, that it was very common for a trial to be suspended, the difference being that the world was watching.

The CEO said AstraZeneca did not know the diagnosis for the volunteer in the trial, adding that it was not clear if they had transverse myelitis and more tests were needed.
Soriot said the diagnosis would be submitted to an independent safety committee and this would usually then tell the company whether trials can be resumed. Reuters

**Neutralising antibodies**

**More cats may have COVID-19 than believed: Study (The Tribune: 2020911)**


11 cats had neutralising antibodies -- proteins that bind so successfully to a virus they block the infection.

More cats may have COVID-19 than believed: Study
Researchers from Huazhong Agricultural University took blood samples from 102 cats

More cats might be contracting COVID-19 than first believed, according to a study that looked at felines in Wuhan, China, where the first known outbreak of the disease began.

Researchers from Huazhong Agricultural University took blood samples from 102 cats between January and March 2020, following the first outbreak.

They also collected nasal and anal swabs from the felines.

The study, published in the peer-reviewed journal Emerging Microbes & Infections, showed COVID-19 antibodies present in 15 of the blood samples taken from the cats.

It found that of these, 11 cats had neutralising antibodies -- proteins that bind so successfully to a virus they block the infection.

The study shows cats are fighting off the virus with naturally developed antibodies, however, they could be at risk of reinfection.

According to the results of return visits, none of the cats actually tested positive for COVID-19 or displayed obvious symptoms and none of them died.

The sample of cats looked at included 46 abandoned from 3 animal shelters, 41 from 5 pet hospitals, and 15 cats were from COVID-19 patient families, the researchers said.

They noted that the three cats with the highest levels of antibodies were all owned by patients who had been diagnosed with COVID-19.

There were also signs of cats being infected with the virus by other cats from those that were abandoned or based in the pet hospitals, the researchers said.
According to Meilin Jin, lead author of the study, while there is currently no evidence for cat-to-human transmission, precautions should be considered.

"Although the infection in stray cats could not be fully understood, it is reasonable to speculate that these infections are probably due to the contact with SARS-CoV-2 polluted environment, or COVID-19 patients who fed the cats," Jin said.

"Therefore measures should be considered to maintain a suitable distance between COVID-19 patients and companion animals such as cats and dogs, and hygiene and quarantine measures should also be established for those high-risk animals," Jin added. PTI

**Stress due to pandemic**

**Nearly 50% of India's working women feeling increased stress due to pandemic: Survey**

For men, this number stood at 38 per cent ((The Tribune: 2020911)

Nearly 50% of India's working women feeling increased stress due to pandemic: Survey

Photo for representation only.

Nearly 50 per cent of India's working women are feeling increased stress due to the COVID-19 pandemic, claimed a survey conducted by online professional network LinkedIn.

It revealed that the pandemic is taking a toll on the emotional well-being of India's working women as 47 per cent report they are experiencing more stress or anxiety due to the pandemic, LinkedIn said.

For men, this number stood at 38 per cent, pointing towards a disproportionate impact on women in these testing times, it said.

LinkedIn on Thursday announced the findings of the tenth edition of the LinkedIn Workforce Confidence Index, a fortnightly pulse on the confidence of India's workforce.

Based on the survey responses of 2,254 professionals in India, findings from the weeks of July 27 - August 23 reveal the pandemic's impact on India's working mothers and working women, and the cautious optimism of freelancers towards personal finances and career prospects, it said.

The survey also underscored the challenges of childcare during the pandemic, according to a LinkedIn statement.

The survey showed that India's overall confidence is growing steadily.

Remote working has laid out a tougher road for India's working mothers as the survey showed that around one in three (31 per cent) working mothers are currently providing childcare full-time, when compared to nearly one in five (17 per cent) working fathers, the statement said.
"Worryingly, more than two in five (44 per cent) working moms are working outside their business hours to provide childcare, nearly twice as many men (25 per cent)", it said.

The survey showed that only one in five (20 per cent) working mothers rely on a family member or friend to take care of their children, when compared to 32 per cent men.

More than 46 per cent working mothers reported working till late to make up for work, and 42 per cent are unable to focus on work with their children at home, it said.

Findings show that about one in four freelancers anticipate an increase in their earned income (25 per cent) and personal savings (27 per cent), while close to one in three (31 per cent) expect their number of investments to increase in the next six months. PTI

Covid-19: Plasma therapy

Covid-19: Plasma therapy not beneficial in reducing mortality, says ICMR Study

CP therapy involves taking antibodies from blood of a person who has recovered from Covid ((The Tribune: 2020911)


Use of convalescent plasma therapy in coronavirus-infected patients does not help in reducing mortality or progression to severe COVID-19, a multi-centric study funded by the Indian Council of Medical Research (ICMR) has found.

The ‘open-label parallel-arm phase II multicentre randomized controlled trial’ (PLACID Trial) was conducted across 39 public and private hospitals across India between April 22 and July 14 to find effectiveness of convalescent plasma (CP) for the treatment of COVID-19, it said.

The CP therapy involves taking antibodies from the blood of a person who has recovered from COVID-19 and transfusing those into an active coronavirus patient to help kick-start the immune system to fight the infection.

A total of 464 participants (moderately ill COVID-19 patients admitted to hospitals) were enrolled for the study, which has not yet been peer-reviewed and has appeared on medRxiv, a preprint server.

The National Task Force for COVID-19, a committee formed by the ICMR to respond to the pandemic, has reviewed and approved this study, it said.
The Clinical Management Protocols for COVID-19 issued by the Union Health Ministry on June 27 allowed use of convalescent plasma (Off label) for treating coronavirus-infected patients in moderate stage of the illness under “investigational therapies”

This authorisation has been paralleled by questionable practices such as calls for donors on social media, and the sale of CP in the black market with exorbitant price tags in India, the study said.

Additionally, although CP is a safe therapeutic modality, plasmapheresis, plasma storage and NAb measurement are all resource-intensive processes, with a limited number of institutes in the country having the capacity to undertake these activities in a quality-assured manner.

“The CP was not associated with reduction in mortality or progression to severe COVID-19,” the study said, adding this trial has high generalisability and approximates real-life setting of CP therapy in settings with limited laboratory capacity.

A prior measurement of neutralising antibody titres in donors and participants may further clarify the role of CP in management of COVID-19, it said.

The study trial included 464 moderately ill coronavirus infected hospitalised patients, of whom 235 were given convalescent plasma along with best of standard care while 229 received only standard care, as per the study.

Those in the intervention arm received two doses of 200 ml of CP, transfused 24 hours apart, in addition to the BSC (best standard of care). The two plasma units were collected preferably from different donors depending on the availability and ABO compatibility to increase chances of receiving CP with NAb, it said.

“The PLACID trial results indicate that there was no difference in 28-day mortality or progression to severe disease among moderately ill COVID-19 patients treated with CP along with BSC compared to BSC alone,” the study said.

The central implementation team at the ICMR was responsible for study design, study coordination, data analysis, data interpretation and writing of the report, the study stated.

Patient enrolment, data collection and actual conduct of the study was done at public and private hospitals independently and the investigators in the ICMR had no role in it, it added.

CP as a passive source of neutralising antibodies and immunomodulators is a century-old therapeutic option used for the management of viral diseases.

According to the study, only two randomised controlled trials on CP use in COVID-19 have been published, one from China and the other from the Netherlands.

Both were halted prematurely, the China study due to inadequate patient enrolment and the one from the Netherlands due to a need to redesign the trial based on interim findings.

In both studies, no mortality benefit was noted, and the Dutch study raised uncertainties regarding pre-transfusion antibody-status of patients as a potential factor in identifying appropriate candidates for CP therapy.
This uncertainty in the published evidence is reflected in a recent systematic review, which remained undecided on both the safety and effectiveness of CP as a therapeutic option in hospitalized patients of COVID-19.

CP therapy has received regulatory approval for use in patients in different countries. This has resulted in its widespread adoption in real-world clinical practice, where it is being used to treat COVID-19 patients with a wide spectrum of disease severity.

“Given these uncertainties, we undertook the current study to determine the effectiveness of using CP in moderately ill COVID-19 patients admitted to hospitals across India in limiting progression to severe disease and determine the associated short-term adverse effects,” the study said.

All participants or their family members or legally authorised representatives were provided with information regarding the trial in a language they were comfortable with, and written informed consent was obtained prior to participant recruitment, it said. PTI

India reports one-day jump of 96,551 Covid cases

India reports one-day jump of 96,551 Covid cases; tally crosses 45-lakh mark
1,209 more people died from the virus; death toll 76,271((The Tribune: 2020911)


India reports one-day jump of 96,551 Covid cases; tally crosses 45-lakh mark
A health worker collects a nasal sample from a driver via Rapid Antigen kit for COVID-19 test outside a bus terminal in Srinagar. (PTI Photo)

India’s COVID-19 caseload sprinted past 45 lakh and the death toll climbed to 76,271 with a record 96,551 infections and 1,209 fatalities being reported in a day while the recoveries crossed 35 lakh on Friday, according to the Union Health Ministry data.

The total coronavirus cases mounted to 45,62,414, while the recoveries surged to 35,42,663, the data updated at 8 am showed.

The COVID-19 case fatality rate has further dropped to 1.67 per cent while the recovery rate was recorded at 77.65 per cent.

There are 9,43,480 active cases of COVID-19 in the country which comprises 20.68 per cent of the total caseload, the data stated.
India’s COVID-19 tally had crossed the 20-lakh mark on August 7, 30 lakh on August 23 and it went past 40 lakh on September 5.

According to the ICMR, a cumulative total of 5,40,97,975 samples have been tested up to September 10 with 11,63,542 samples being tested on Thursday. PTI

Covid-19: What you need to know today (Hindustan Times: 2020911)

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

The US has seen two peaks in its Covid-19 case numbers; Europe is beginning to see its second wave, seemingly bigger than the first (in terms of daily cases) in France and Spain, but smaller in Germany, Italy and the UK. India continues to see a strong and steady increase in daily case numbers — it is yet to reach its peak as active cases near a million, and daily cases, 100,000.

Globally, the infection seems to be slowing — that could change if the second wave gathers momentum in Europe, and the US sees a third wave (it likely will) — with the number of cases growing by just 9.2% in August, compared to 64% in July. The number of cases in India in August grew 75%, compared to 183% in July.

It is clear from the two tables accompanying this column that countries around the world have progressively become better at saving lives. That shouldn’t come as a surprise.

There were missteps by both China and the World Health Organization (WHO) when the virus first emerged in Wuhan. In March and early April, when the disease was raging through Europe, and the US was seeing its first wave, no one was even aware that the disease could be transmitted by air. A group of scientists would write of this to WHO in early July. Not all of the symptoms now associated with the virus were known. And some experts believed that Sars-CoV-2 exclusively affected the respiratory system.

Over the months, our understanding of the virus, how it affects the human body (and which systems of the human body), how it travels and infects people, and the therapies and medicines that can help infected patients with severe symptoms fight the disease, have all evolved.

There are studies that show that the use of Remdesivir on early-stage patients and steroids such as Dexamethasone on late-stage ones helps. Countries have also built up capacity of critical care units with oxygen and ventilators — both imperative for patients with severe symptoms who may not be able to breathe on their own.

Plasma therapy has been shown to work in some cases, although more research is needed before its efficacy can be established beyond doubt. Drugs used to treat autoimmune disorders have shown promise in some cases (and some scientists say Covid-19 itself should be treated as an autoimmune disease; I wrote about this in a previous instalment of this column, Dispatch 140 on August 25).
In many parts of the world, the median age of those infected has dropped, and many of the infections are mild ones — both increase the chances of recovery. Indeed, even in India, as testing increases, most new cases are of patients who either have mild symptoms or none at all.

Now, a team of researchers from Yale has discovered, according to a paper on pre-print server medRxiv, that there is something common to most hospitalised patients who subsequently need to be moved to critical care units for assisted breathing or ventilator support (or who eventually succumb to the disease). The study covered 3,300 patients and discovered, using a machine-learning algorithm that most of them whose illness turned severe had a strong signature of a certain neutrophil — on Day 1 of hospitalisation. Neutrophils are a type of white blood cell and are part of the body’s immune system. “Using a machine learning algorithm, we identified a prominent signature of neutrophil activation, including resistin, lipocalin-2, HGF, IL-8, and G-CSF, as the strongest predictors of critical illness. Neutrophil activation was present on the first day of hospitalisation in patients who would only later require transfer to the intensive care unit,” the researchers write in the paper, which is yet to be peer reviewed

They add that the signature was even a predictor of higher mortality.

Prior knowledge of which Covid-19 patients could see their condition deteriorate may help save more lives. Lives lost and lives saved should be the only metrics that really matter.

COVID Threat (The Asian Age: 2020911)

Prez faces criticism that he lied to US which has lost 1,95,765 lives
‘Don downplayed Covid threat to avoid panic’

Washington, Sept 18: US President Donald Trump has acknowledged downplaying the dangers posed by the deadly novel coronavirus, saying he did not want to create panic in the country, according to a new book by a renowned American investigative journalist.

The book, "Rage," by Bob Woodward is being described by the publisher as an "unprecedented" and "intimate tour de force" of new reporting on the Trump presidency that is facing a pandemic, economic disaster and racial unrest. It is scheduled to hit the stores on September 15, less than two months before the November 3 presidential election.

"I wanted to, I wanted to always play it down," Mr Trump told Mr Woodward in March, a recording of which was released by the 77-year-old veteran journalist to the Washington Post. "I still like playing it down, because I don’t want to create a panic."

In another interview on February 7, the audio clip of which was posted by the Washington Post, Mr Trump told the journalist, who broke the Watergate scandal in 1972, that the coronavirus was deadlier than the flu and could be transmitted through the air. "That’s always tougher than the touch. You don’t have to touch things, right? But the air, you just breathe the air and that’s how it’s passed," he said. "It’s also more deadly than even your strenuous flu."

Facing criticism that he lied to the country, President Trump on Wednesday defended his decision to downplay the dangers posed by the pathogen, refuting allegations that he lied to the people of the country.

"The fact is, I’m a cheerleader for this country. I love our country and I don’t want people to be frightened," he said. "I don’t want to create panic, as you say. And certainly, I’m not going to drive this country or the world into a frenzy."

Democrats seized on the Woodward book on Wednesday, casting it as more evidence that Trump has failed the public on the pandemic. — PTI

More on Page 6

New Cases (The Asian Age: 2020911)

Anxiety Disorder (GAD) (The Times of India: 2020911)

Generalized Anxiety Disorder (GAD)

It is important to understand that while everybody feels anxious from time to time but when feelings of anxiety start to interfere with your daily life, it rather becomes a matter of serious concern. This may be a symptom of Generalized Anxiety Disorder (GAD). People with GAD tend to overthink day-to-day situations and are always bracing themselves up for catastrophes. Those who suffer from this disorder worry disproportionately about everything in life, be it finance, education, relationships, or work. Eventually, anxiety tends to take over their life and daily functioning. People battling anxiety often remain restless or on the edge and have difficulty dealing with uncertainty as they don’t let go of worries easily. Some physical signs which accompany GAD are unexplained fatigue, trembling and insomnia. This disorder stems from a complex combination of the individual’s immediate environment and hormonal balance of the body. When speaking of the person’s surroundings and life experiences, factors like trauma, stressful events, death of a loved one and withdrawal from addiction can play a major role in triggering anxiety. It should be noted that women are somewhat more susceptible to suffering from GAD. Besides these factors, genetics may also play a huge role in whether or not one may be diagnosed with this disorder. Usually, Generalized Anxiety Disorder occurs parallely with other mental health conditions. Hence, making the correct diagnosis and treatment gets much more imminent. Some mental health diseases that generally occur with GAD are phobias, panic disorder, post-traumatic stress disorder and depression among others. The disorder can be treated with medication and Cognitive Behavioural Therapy. Medication is used for shorter periods of time as they can be addictive. These medications may also induce side effects like sleepiness, weight gain, nausea and sexual problems.
India needs a COVID-19 vaccine policy that ensures total coverage in logical phases. The race to a vaccine is a relay — at every stage, there are people passing on the baton, and it’s the government’s responsibility to grasp it at the last mile. Whether or not a vaccine for COVID-19 is around the corner, it is imperative that a vaccine policy is formulated for India, ensuring parity of access for all. As several vaccine efforts are progressing at varying paces, globally, concerns about access to a vaccine in the future have crept into the narrative. WHO Director General Tedros Adhanom Ghebreyesus recently spoke of the need to use a vaccine, when it becomes available, effectively. He also indicated the need to prioritise vaccination for some in the initial stages, while in time, as production increases, people everywhere should get it. In the initial stages, global health leaders have been advancing the vaccine for essential workers and those at risk including senior citizens and those with co-morbidities. As Dr. Tedros said, “some people in all countries, rather than all people in some countries”, should have access to the vaccine in the early phase. Even in this initial stage, the government should make the vaccine available free of cost to those who cannot pay, or at affordable rates. As production kicks off, initial production costs are likely to be high, even astronomical, and it is the duty of governments to cushion the cost. Once the economies of scale begin to kick in, it is likely that the prices are driven down and become more affordable. Besides being a moral and ethical imperative, it will also make economic sense to make sure the vaccine is eventually available to all. Leaving gaps in the delivery of the vaccine will only serve to allow the virus to survive, and continue to wreak further damage.

Bad Covid vax

Avoid rush as bad Covid vax to only compound suffering'(New Kerala: 2020911)

The suspension of a potential vaccine by UK-based AstraZeneca has raised concerns among the scientific fraternity and some of them on Thursday reiterated against rushing into the key human trials as a bad vaccine will only multiply the suffering humanity is currently going through.

Nearly four decades and 32 million deaths later, the world is still waiting for an HIV vaccine. An effective vaccine for dengue fever, which infects as many as 400,000 people a year according to the World Health Organisation (WHO), has eluded scientists for decades.
A clinical trial for an HIV vaccine was discontinued early this year since the vaccine was not found to prevent infections of human immunodeficiency virus, the virus that causes AIDS.

According to health experts, researchers must not break defined guidelines and processes involved in developing a vaccine, as finding shortcuts may do more harm than good in the long run.

In India, the Serum Institute of India (SII) is the partner of the University of Oxford's Jenner Institute to conduct vaccine trials. SII is currently progressing with the second and third phase study of the vaccine candidate at 17 trial sites across the country.

Covishield is the vaccine candidate developed jointly by pharma giant AstraZeneca and the University of Oxford.

"Although the Serum Institute of India has said they have not faced issues yet. But it remains a cause for concern and until investigations are completed the trial should be paused here (in India) as well," Dr Jyoti Mutta, Senior Consultant, Microbiology, Sri Balaji Action Medical Institute, told IANS.

"AstraZeneca is vigilant and responsible enough to immediately notify and pause the trial. Yes vaccine trials normally take a few years to determine the safety and efficacy before they are released in the market. This experience only shows that we should not rush trials and all precautions need to be followed," Mutta cautioned.

The SII has said that it will follow the instructions and protocols of the Central Drugs Standard Control Organisation (CDSCO) after receiving a show-cause notice from the central drug control authority on Wednesday.

The statement by the Pune-based vaccine manufacturer came after the Drug Control General of India (DCGI), VG Somani, issued a show-cause notice to it asking for an explanation as to why the institute decided to go ahead with the clinical trial of Covid-19 vaccine when doubts about patient safety were yet unclear.

According to Dr Navin Kumar, HOD Lab Services, Consultant Clinical Microbiology and Infection Control (Laboratory Medicine), HCMCT Manipal Hospitals, New Delhi, the AstraZeneca trial halt should be a cause of concern and requires investigations.

"But it also shows that the research team is observing high conduct of safety and efficacy," Kumar told IANS.

Dr Rajesh Chawla, Senior Consultant of Respiratory Medicine at Indraprastha Apollo Hospital, added Phase 3 trials are generally the ultimate arbiter of whether a vaccine is ready for primetime - even as the demand for a vaccine or an effective drug to prevent or control COVID-19 has only been rising.

"However, hold on the vaccine trial is a routine action that has to happen whenever there is a potentially unexplained illness in one of the trials, while it is being investigated," Chawla said.

The world is eagerly waiting for a vaccine to deal with the deadly Covid-19 virus.
"The destination still seems to be far away. The reason is that the vaccine needs to be safe and effective. The regulatory pathway for the vaccine to be available is, thus, meant to be slow, deliberate, reflective, data-rich, data-informed, and peer-reviewed," said Anil Handoo, MD, Senior Director Hospital Lab Services at the BLK Super Speciality Hospital.

**Small proteins against Covid-19 may neutralize infection**

**Small proteins against Covid-19 may neutralize infection: Study (New Kerala: 2020911)**


Using innovative computer-based approaches, the researchers have developed protein inhibitors that block the interaction between the SARS-CoV-2 (Covid-19) virus and human cell receptor ACE2.

Called the angiotensin-converting enzyme 2, or ACE2 receptor is the protein that provides the entry point for the coronavirus to hook into and infect a wide range of human cells.

"In cell culture, the most potent of these inhibitors could neutralize virus infection, paving the way for their use in therapies that could be delivered more easily than antibodies," said study authors from the University of Washington in the US.

SARS-CoV-2 infection generally begins in the nasal cavity. The monoclonal antibodies in development as treatments for Covid-19 are not ideal for intranasal delivery, however, as antibodies are large and often not extremely stable. Small proteins that bind tightly to the SARS-CoV-2 spike and block the interaction with the human cellular receptor ACE2 may allow direct delivery through intranasal administration, the study said.

Previous work in rodents has shown that intranasal delivery of small proteins designed to bind tightly to an influenza protein could provide protection against infection. Here, using novel approaches to identify new, higher-affinity binding modes with the SARS-CoV-2 spike's receptor-binding domain (RBD), the research team developed a series of inhibitors - optimised in their amino acid sequences for targeted binding, folding and stability.

When they evaluated their inhibitors in cell culture, several bound with particularly high affinities to SARS-CoV-2 and two neutralized the virus, preventing infection. The small proteins were stable after 14 days at room temperature, addressing concerns associated with cold storage needs required for some antibodies and vaccine candidates.

These "minibinders" provide starting points for SARS-CoV-2 therapeutics, the authors said. After further development, they could be used in a gel for nasal application, or for direct delivery into the respiratory system by nebulization.
"We will be exploring alternative routes of delivery in the months ahead as we seek to translate the high potency neutralizing proteins into SARS-CoV-2 therapeutics and prophylactics," they wrote.

They also address the utility of their computational design-based approach for preparing against future pandemics.

**Mediterranean diet**

**Mediterranean diet may protect against rheumatoid arthritis: Study (New Kerala: 2020911)**


Mediterranean diet may protect against rheumatoid arthritis: Study

London, Sep 10 : The Mediterranean diet which is high in vegetables, whole grains, fish and olive oil not only helps you live longer but may also help prevent rheumatoid arthritis in individuals who smoke or used to smoke, say researchers.

Rheumatoid arthritis is a long-term autoimmune disorder that primarily affects joints. It typically results in warm, swollen, and painful joints.

Previous research has demonstrated a variety of health benefits associated with the Mediterranean diet, which is rich in olive oil, cereals, fruit and vegetables, fish and a moderate amount of dairy, meat and wine.

Now results from an analysis published in the journal Arthritis iamp; Rheumatology suggest that the diet may also help prevent rheumatoid arthritis in individuals who smoke or used to smoke.

"We aimed to assess the relationship between adherence to the Mediterranean diet and the risk of rheumatoid arthritis, especially in high-risk individuals," said study authors from Universite de Paris in France.

For the findings, the research team included 62,629 women from France who have been taking part in a questionnaire-based study assessing dietary intake since 1990. In total, 480 women developed rheumatoid arthritis.

The researchers found that adherence to the Mediterranean diet was not associated with rheumatoid arthritis risk overall.

However, among women who smoked or used to smoke, it was associated with a decreased risk.
The findings showed 383 cases of rheumatoid arthritis per one million people per year among those with high adherence to the Mediterranean diet, compared with 515 cases per one million people per year among those with low adherence to the diet.

"Our results suggest that adherence to the MD could reduce the high risk of RA among ever-smoking women. Our results must be confirmed in future."

Boost body's immunity through nutrition: Dr David Heber of Herbalife Nutrition Institute tells how ADI | 1 day ago

Bengaluru , September 9 : The 2019 novel coronavirus, also known as COVID-19, has taken the world by surprise with its highly infectious nature and mortality rate.

Relatively unknown until the outbreak, the virus has expanded to almost every part of the world.

What's most concerning is that while we know that COVID-19 is part of a large family of viruses that include Middle East Respiratory Syndrome (MERS-CoV) and Severe Acute Respiratory Syndrome (SARS-CoV), there are many traits of this virus that we have yet to uncover, such as the dynamics of transmission. According to the World Health Organization (WHO), it could take up to 18 months for the first COVID-19 vaccines to be made publicly available.

Only an approved drug can treat or cure, or prevent the transmission of, COVID-19 and other diseases. In the absence of any vaccine to date, we are left with practical prevention measures, such as maintaining proper hygiene, wearing a mask when necessary, or maintaining social distancing. It may also be useful to keep our bodies strong, so that our immune systems function well.

After all, our immune system is one of the most effective forms of defense against viral infections. There are two categories of immune functions in everyone's body - the innate immunity which prevents diseases from entering the body and adaptive immunity which eliminates or prevent the growth of pathogens, such as viruses and bacteria, in our body.

However, increasing the body's immunity is not as straightforward as it sounds. There remains much about the immune system that researchers are still working to understand, but what we do know is the tangible connection between the immune system and nutrition.

Nutrition

How nutrition impacts the body's immune system (New Kerala: 2020911)

To understand how nutrition and diet affect an individual’s immune system, we need to delve deeper into the role of epigenetics - the study of biological mechanisms that switch our genes on and off.

While the idea of epigenetics might seem complex, consider the example of honeybees. Despite having the same DNA sequence, honeybees produce three different organisms - workers, drones and queens - and this is dependent on the diet that the larvae are fed. This demonstrates that while all worker bees are born with the genetic ability to become queens, the workers’ diet ultimately affects how their genes are expressed and manifest physically.

In the same vein, while all humans are 99.9 per cent genetically identical, epigenetics make us unique by the different combinations of genes that turn on and off - which explains why some of us have red hair and others black, or why some of us have darker or lighter skin, for instance.

What we eat, where we live, how much we sleep, how we exercise, and even who we live with, all causes chemical reactions that can alter our health status. Added to the mix is our microbiome, which are the microorganisms we depend on to protect us against germs, break down food for energy, produce vital vitamins and bolster our immune system.

The largest part of the immune system - approximately 70 per cent of it - is located near the intestines, which monitors the intake of food and how the body uses it. This makes it critical for us to consume a balanced diet with the right vitamins, minerals and nutrients while maintaining a healthy lifestyle. This requires more than just changing the intake of one or two nutrients but involves balancing the entire diet to ensure that there is optimal nutrition intake at a cellular level.

Four essential groups of nutrients to help individuals strengthen their immune system

1. Protein

Also known as the basic building blocks of the body, protein allows the body to manufacture antibodies that it requires to defend against invading viruses and bacteria. To ensure that we have sufficient levels of protein in our diet, we can eat more healthy protein foods such as fish, poultry, lean meats, soy foods and low-fat dairy products.

2. Vitamins and phytonutrients

Vitamins A and C, as well as phytonutrients are key players in immune system health. As one of the biggest immune system boosters, Vitamin C encourages our body to produce antibodies that fight diseases. It is essential to maintain a daily intake of vitamin C as the body does not produce or store it. Vitamin A supports the health of our skin, tissues of our digestive tract and respiratory system.

Phytonutrients, which are found in vegetables and fruits, reduces our body's oxidative stress, which may weaken its ability to fight off illnesses. A number of phytonutrients have been shown to reduce the risk of cancer and cardiovascular diseases, fight inflammation, lowering blood pressure, and boost the overall health of our immunity system.

3. Probiotics and prebiotics
The digestive system plays a central role in supporting immune function. The intestinal tract is the main route of contact with the external environment and is a pathway that contains microbiomes that aids digestion as well as the absorption of nutrients. Having the right gut bacteria has been associated with benefits such as weight loss, improved digestion, healthier skin, and most importantly enhanced immune function, although research in these areas is not conclusive or universally applicable.

Studies have shown that probiotics, which are 'good bacteria', are useful in maintaining the digestive system, and prebiotics, types of fiber that the human body cannot digest, serve as food for these probiotics.

4. Omega-3 fatty acids

Omega-3 fatty acids, such as DHA and EPA, are healthy and essential types of fat which can be found in food such as chia seed and supplements such as fish oil. Omega-3 fatty acids may enhance the functions of immune cells, which plays a large role in both the innate and adaptive system that responds to infections.

Nutrition is no substitute for an effective drug, and it won't prevent you from contracting COVID-19 or other diseases. Maintaining a strong immune system, though, is something all healthy people can do.

Released by Herbalife Nutrition in support of Rashtriya Poshan Maah (National Nutrition Month)

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**Food and Nutrition**

**Fruits To Control Blood Sugar: हैन ५ फलों के सेवन से ब्लड शुगर लेवल को कंट्रोल करने में मिल सकती है मदद ((Navbharat Times: 2020911)**


Fruits To Control Blood Sugar: हैन ५ फलों के सेवन से ब्लड शुगर लेवल को कंट्रोल करने में मिल सकती है मदद शरीर में ब्लड शुगर लेवल को कंट्रोल करने के लिए, हमें विशेष ध्यान देने की जरूरत पड़ती है। नियमित रूप से दायर में शामिल होने वाले कुछ फ़ूड्स ऐसे भी होते हैं जो शरीर में ब्लड शुगर लेवल को बढ़ा सकते हैं। इनके सेवन के बारे में अगर हम सही समय पर ध्यान नहीं दें तो इस कारण ब्लड शुगर लेवल बढ़ने के साथ-साथ डायबिटीज का खतरा भी बढ़ जाता है।

सैमसंग का नया फोन बना बैटरी चैलेंज का बॉस, जानें किसे दी पटकनी

इसलिए, अगर आपके ऐसे फ़ूड्स के बारे में बताया जा रहा है तो नियमित रूप से उनकी खपत का काबू रखें।
के बीमारियों से हैं। इसके अलावा बल्ड शूगर लेबल को कंट्रोल करने के लिए भी सेब का सेवन फायदेमंद साबित हो सकता है।

यह भी पढ़ें : शुगर डिटेक्टर है। आपके बाकी के फलों के साथ यह भी सही है। इसके अलावा बल्ड शूगर लेबल को कंट्रोल करने के लिए भी सेब का सेवन फायदेमंद साबित हो सकता है।

एवोकाडो
एवोकाडो एक ऐसा फल है जो आपको लम्बा समय बड़ी आसानी से मिल जाता है। इसके सेवन से बॉडीबिडंग में काफी मदद मिलती है। यह भी, बल्ड शूगर लेबल को कंट्रोल करने के लिए भी एवोकाडो का सेवन बेहतरीन परिणाम दिखा सकता है।

संतरा
Fruits To Control Blood Sugar
खेल पाने का सेवन करने के कारण हमारे शरीर की लच्छा भी निकरी हुई रहती है। इसके अलावा इसमें मौजूद विशेष तत्व शरीर को बीमारियों से बचाए रखने में मदद करता है। एक वैज्ञानिक अध्ययन के अनुसार, संतरा के सेवन करने के कारण बल्ड शूगर लेबल को कंट्रोल करने में प्रभावी असर दिखा सकता है।

यह भी पढ़ें : जाने ग्रीन-दी पीने का सही समय ताकि आप ले सकें इसका पूरा लाभ

तरबूज
हर मीसम में बड़ी आसानी से मिल जाने वाला यह फल सेहत के लिए बहुत जरुरी माना जाता है। कई लोग इसका सेवन निम्नलिखित रूप से भी करते हैं, जिसके कारण बॉडी को डिहाइड्रेशन के खतरे से भी बचाए रखा जा सकता है।

यह भी पढ़ें : जोड़ों के दर्द से मुक्त रहना यह भी नहीं है... बेरोजगारी का तरीका

सुगर पास्ट्र सेमीसर बाला सेमीसंग का पोन, गजब की है स्वीड
Adv: फॉर्ड के हैं शॉकीन मोटर ब्रैंड के बॉन्च पर ब्ल选拷 ऑफर

Navbharat Times News App: देस-दुनिया की खबरें, आपके शहर का हाल, एजुकेशन और विज्ञान अपडेट्स, फिल्म और खेल की दुनिया की हलचल, वायरल न्यूज और धम-कर्म... पाएं हिंदी की ताज़ा खबरें डाउनलोड करे NBT ऐप
चिंता : कोरोना के रिकॉर्ड 95 हजार केस, आधे चार राज्यों से

देश में 24 घंटे के भीतर कोरोना संक्रमण के सर्वाधिक 95,735 नए मामले सामने आए हैं। इनमें से आधे मामले देश के सिर्फ चार राज्यों महाराष्ट्र, आंध्र प्रदेश, तमिलनाडु और कर्नाटक से हैं। इस अवधि में 1,172 और मौतें की मौत हुई है। वहाँ, दिल्ली में भी कोरोना के रिकॉर्ड 4308 मरीज सामने आए।

केंद्रीय स्वास्थ्य मंत्रालय के मुताबिक महाराष्ट्र में 23,577 जबकि आंध्र प्रदेश में 10418, कर्नाटक में 9540, तमिलनाडु में 5584 मामले मिले हैं। इसी के साथ संक्रमितों की कुल संख्या 4,65,863 हो गई। पांच राज्यों में 60% केस-कोरोना के कुल मामलों में से 60 प्रतिशत मामले केवल पांच राज्यों महाराष्ट्र, आंध्र प्रदेश, तमिलनाडु, कर्नाटक और उत्तर प्रदेश से मिले हैं। इसी तरह कोरोना से हुई अव

44
75
09

लाख के पार पहुँची देश में कोरोना संक्रमितों की संख्या हजार से अधिक लोग अब तक जान गया है।

लाख के करीब वर्ल्डों का अंतर्राष्ट्रीय में जलजा गुल टहला संख्या बढ़कर 44,65,863 हो गई। पांच राज्यों में 60% केस-कोरोना के कुल मामलों में से 60 प्रतिशत मामले केवल पांच राज्यों महाराष्ट्र, आंध्र प्रदेश, तमिलनाडु, कर्नाटक और उत्तर प्रदेश से मिले हैं। इसी तरह कोरोना से हुई अव

8.5 ग्रृहुमा में गिरावट

स्वास्थ्य मंत्रालय के अनुसार, देश में कोरोना ग्रृहुमा गिरावट 1.68 प्रतिशत हो गई है। वहीं, देशम अब तक 34,71,783 पीस कोरोना से मूब हो गुरे हैं। भारत के स्वास्थ्य होने की दर 77.74 प्रतिशत है।

> एलाइज में थरेपी केवल है
दिल्ली-एनसीआर की आबोहवा फिर तेजी से खराब हो रही

पदले तो जानकृति फिर लौटकावान की रणजी लगातार हवा साफ सुधारी बनी हुई थी, लेकिन कुछ दिनों में प्रदूषण का स्तर बढ़ा

पहले तो धरातल साफ्ता की बारह में हवा लगातार साफ-सुधारी बनी हुई थी। 14 और 15 फरवरी की हवाओं में किंग काउंटी की वायु पुराणा सूचकांक 101 के अंदर के अंदर में बहुत साफ हो गई थी।

प्रदूषण सूचकांक 108 के अंदर पर रहा। नजदीकी के अनुसार, भूरान भी 105 के अंदर पर रहा। सूचना संबंधी के अनुसार इस मौसम के अंदर में हवाई भी सुधारी बनी हुई है।

प्रदूषण में आवागमन की गणना 179 के अंदर पर रही है। वायु प्रदूषण के अंदर में हवाई भी सुधारी हुई है। 6.53 रात में भी प्रदूषण की गणना 179 के अंदर पर रही है।