



DAILY NEWS BULLETIN

LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE DAY
Wednesday 2020715

COVID-19 vaccine safe

Results show Moderna COVID-19 vaccine safe (The Tribune: 2020715)

<https://www.tribuneindia.com/news/health/results-show-moderna-covid-19-vaccine-safe-113237>



US-based pharmaceutical major Moderna's experimental vaccine, mRNA-1273, designed to protect against Covid-19 virus, was generally well tolerated and prompted neutralising antibody activity in healthy adults, say researchers.

According to the study, published in the New England Journal of Medicine, mRNA-1273 is designed to induce neutralising antibodies directed at a portion of the coronavirus "spike" protein, which the virus uses to bind to and enter human cells.

In the Phase 1 trial, led by Lisa A Jackson of Kaiser Permanente Washington Health Research Institute in Seattle, the 45 participants ages 18 to 55 years received the candidate vaccine.

Three groups of 15 participants received two intramuscular injections, 28 days apart, of either 25, 100 or 250 micrograms (mcg) of the investigational vaccine.

The results from the first stage of Moderna's vaccine trial showed the first 45 participants developed antibodies to the virus.

The study showed that regarding safety, no serious adverse events were reported.

The interim analysis included results of tests measuring levels of vaccine-induced neutralising activity through day 43 after the second injection.

Two doses of vaccine prompted high levels of neutralising antibody activity that was above the average values seen in convalescent sera obtained from persons with confirmed Covid-19 disease.

However, more than half of the participants reported fatigue, headache, chills, myalgia or pain at the injection site. Systemic adverse events were more common following the second vaccination and in those who received the highest vaccine dose.

"The mRNA-1273 vaccine-induced anti-SARS-CoV-2 (coronavirus) immune responses in all participants, and no trial-limiting safety concerns were identified. These findings support further development of this vaccine," the study authors wrote.

The researchers revealed that Moderna started its phase 2 trial in May and expects to start a phase 3 trial this month.

Earlier this month, Russia became the first nation to complete clinical trials of Covid-19 vaccine on humans, and the results have proven the medication's effectiveness, the media reported.

As of Wednesday morning, the overall number of global Covid-19 cases has increased to more than 13.2 million, while the deaths have soared to over 5,77,000, according to the Johns Hopkins University.

Obesity

Number of undernourished people declines in India; obesity in adults on the rise: UN (The Tribune: 2020715)

<https://www.tribuneindia.com/news/health/number-of-undernourished-people-declines-in-india-obesity-in-adults-on-the-rise-un-112794>

More Indian adults became obese between 2012-16

Number of undernourished people declines in India; obesity in adults on the rise: UN

The number of undernourished people in India has declined by 60 million in over a decade, according to a UN report which said that there were less stunted children but more obese adults in the country.

The State of Food Security and Nutrition in the World report, released on Monday, estimated that almost 690 million people globally were undernourished (or hungry) in 2019, up by 10 million from 2018.

The report—considered the most authoritative global study tracking progress towards ending hunger and malnutrition—said that the number of undernourished people in India declined from 249.4 million in 2004–06 to 189.2 million in 2017–19.

In percentage terms, the prevalence of undernourishment in the total population in India declined from 21.7 per cent in 2004–06 to 14 per cent in 2017–19, it said.

“The two subregions showing reductions in undernourishment—eastern and southern Asia—are dominated by the two largest economies of the continent—China and India.

“Despite very different conditions, histories and rates of progress, the reduction in hunger in both the countries stems from long-term economic growth, reduced inequality, and improved access to basic goods and services,” it said.

The report is prepared jointly by the Food and Agriculture Organisation of the United Nations (FAO), the International Fund for Agricultural Development (IFAD), the United Nations Children's Fund (UNICEF), the UN World Food Programme (WFP) and the World Health Organization (WHO).

It further said that the prevalence of stunting in children under 5 years of age in India declined from 47.8 per cent in 2012 to 34.7 per cent in 2019 or from 62 million in 2012 to 40.3 million in 2019.

More Indian adults became obese between 2012–16, the report said.

The number of adults (18 years and older) who are obese grew from 25.2 million in 2012 to 34.3 million in 2016, growing from 3.1 per cent to 3.9 per cent.

The number of women of reproductive age (15–49) affected by anaemia grew from 165.6 million in 2012 to 175.6 million in 2016.

The number of infants 0–5 months of age exclusively breastfed grew from 11.2 million in 2012 to 13.9 million in 2019.

The hungry are most numerous in Asia, but expanding fastest in Africa.

Across the planet, the report forecasts, that the COVID-19 pandemic could push over 130 million more people into chronic hunger by the end of 2020.

In percentage terms, Africa is the hardest hit region and becoming more so, with 19.1 per cent of its people undernourished.

At the current trends, by 2030, Africa will be home to more than half of the world's chronically hungry.

The COVID-19 is intensifying the vulnerabilities and inadequacies of global food systems - understood as all the activities and processes affecting the production, distribution and consumption of food.

“While it is too soon to assess the full impact of the lockdowns and other containment measures, the report estimates that at a minimum, another 83 million people, and possibly as many as 132 million, may go hungry in 2020 as a result of the economic recession triggered by COVID-19,” it said, adding that the setback throws into further doubt the achievement of the Sustainable Development Goal two, whose target is achieving zero hunger.

The latest estimates are that a staggering three billion people or more cannot afford a healthy diet.

In sub-Saharan Africa and southern Asia, this is the case for 57 per cent of the population - though no region, including north America and Europe, is spared.

In 2019, 191 million children under five were stunted or wasted - too short or too thin. Another 38 million under-fives were overweight.

Among adults, meanwhile, obesity has become a global pandemic in its own right.

The study calls on the governments to mainstream nutrition in their approaches to agriculture; work to cut cost-escalating factors in the production, storage, transport, distribution and marketing of food - including by reducing inefficiencies and food loss and waste.

It also urges them to support local small-scale producers to grow and sell more nutritious foods, and secure their access to markets; prioritise children's nutrition as the category in greatest need; foster behaviour change through education and communication; and embed nutrition in national social protection systems and investment strategies.

The report noted that generally, cash transfer programmes are considered an appropriate instrument to increase dietary diversity in well-connected urban or rural contexts, while in-kind transfers are more appropriate for remote areas, where access to markets is severely limited.

“In India, for instance, the country's Targeted Public Distribution System represents the largest social protection programme in the world, reaching 800 million people with subsidised cereals that can be purchased from more than 500,000 fair price shops across the country.” In India, rural business hubs have facilitated linking smallholder farmers to rapidly growing urban markets.

Apart from procuring food products from the farmers, these hubs provide services such as farm inputs and equipment, as well as access to credit.

Having food processing, packaging and cooling facilities at the same location allows consumers to benefit from economies of agglomeration and, on the whole, reduce transaction costs throughout the food supply chain.

This model in India has given rise to rural supermarkets that provide cheaper staple food, it added. PTI

COVID biomedical waste

COVID biomedical waste poses environmental challenge (The Tribune: 2020715)

<https://www.tribuneindia.com/news/health/covid-biomedical-waste-poses-environmental-challenge-112389>

Experts seek pro-active action from government, industry, stake-holders

COVID biomedical waste poses environmental challenge

The world is facing a new challenge in disposing masks, gloves and personal protective equipment amid the COVID-19 crisis.

Already fighting pollution created by single-use plastics and other non-biodegradable material, the world is facing a new challenge in disposing masks, gloves and personal protective equipment amid the COVID-19 crisis.

Environmentalists say PPEs, masks and gloves are mainly made of plastic and are neither biodegradable nor recyclable. Amid the ongoing health crises, they are creating an unexpected impact on the environment resulting in “a silent, invisible health hazard for a large number of people”

“The government needs to act now to ensure a green recovery that incentivises sustainability. Our health care governance and industry must also quickly respond, install toxic gas absorbing filters and take all necessary steps for safe disposal of the huge amounts of biomedical waste being generated,” says Soumya Dutta, an environmental expert.

Dutta says while health workers and frontline workers must be protected, in many places these are openly disposed of, threatening the spread of diseases to larger populations. Even in the case of “systematic disposal” most of these are being burned in incinerators, leading to the creation of two very toxic carcinogenic gases—Dioxin and Furan.

“Most of our hospital Incinerators do not have specialised filters to eliminate them. This is creating a silent, invisible health hazard for a large number of people living around these incinerators and might end up having cancer and other diseases in the years to come,” adds Dutta.

Meanwhile, according to Ramnath Vaidyanathan, General Manager (Sustainability) at Godrej Industries Limited, carelessly discarded PPEs can end up polluting land, rivers and oceans, adding to the glut of plastic waste already threatening the ecosystem. “It is imperative for the country to step up efforts to sensitise regarding proper handling of biomedical waste to protect the environment and reduce the threat of Covid-19,” he says.

Understanding bat immune system may help identify new COVID-19 drug targets, scientists say

Bats have specific mechanisms which reduce the replication of viruses in their bodies, and also dampen their immune response to a virus.

Understanding bat immune system may help identify new COVID-19 drug targets, scientists say

bats have specific mechanisms which reduce the replication of viruses in their bodies, and also dampen their immune response to a virus..

The capacity of bats to tolerate viruses such as the novel coronavirus may stem from their ability to control inflammation, according to a review of studies which says understanding the immune system of the flying mammals can provide new drug targets for human therapies against COVID-19.

Researchers, including those from the University of Rochester in the US, said while bats are the ancestral hosts to many deadly viruses affecting humans such as Ebola, rabies, and the novel coronavirus, SARS-CoV-2, the flying mammals themselves tolerate these pathogens without ill effects.

“Although humans experience adverse symptoms when afflicted with these pathogens, bats are remarkably able to tolerate viruses, and, additionally, live much longer than similar-sized land mammals,” they noted in a statement.

In the review research, published in the journal *Cell Metabolism*, the scientists assessed how the natural ability of bats to control inflammation may be contributing to their longevity and tendency to fight off diseases.

“With COVID-19, the inflammation goes haywire, and it may be the inflammatory response that is killing the patient, more so than the virus itself,” said study co-author Vera Gorbunova from the University of Rochester.

“The human immune system works like that—once we get infected, our body sounds an alarm and we develop a fever and inflammation,” Gorbunova explained.

She said the goal of this immune system response in humans is to kill the virus and fight infection, but added that it can also be a detrimental response as patients’ bodies overreact to the threat.

But unlike humans, the scientists said bats have specific mechanisms which reduce the replication of viruses in their bodies, and also dampen their immune response to a virus.

As a result, they said there is a beneficial balance in bats with their immune systems controlling viruses, and at the same time not mounting a strong inflammatory response.

According to the researchers, one of the factors for this ability may be driven by their flight.

Bats, being the only mammals that can fly, require that they adapt to rapid increases in body temperature, sudden surges in metabolism, and molecular damage, the scientists explained.

They said these adaptations may also assist in disease resistance.

The researchers said another factor contributing to the heightened immunity in bats may be due to their environment, where many species of the flying mammals live in dense colonies, and hang close together on cave ceilings or trees.

“Bats are constantly exposed to viruses. They are always flying out and bringing back something new to the cave or nest, and they transfer the virus because they live in such close proximity to each other,” said Andrei Seluanov, another co-author of the study.

Because bats are constantly exposed to viruses, the scientists believe their immune systems are in a “perpetual arms race with pathogens”—a pathogen will enter the organism, the immune system will evolve a mechanism to combat the pathogen, the pathogen will evolve again, and so on.

“Dealing with all of these viruses may be shaping bats’ immunity and longevity,” Gorbunova said.

While humans may be developing social habits that parallel those of bats, we have not yet evolved bats’ sophisticated mechanisms to combat viruses as they emerge and swiftly spread, the scientists noted.

“COVID-19 has such a different pathogenesis in older people. Age is one of the most critical factors between living and dying, and we have to treat aging as a whole process instead of just treating individual symptoms,” Gorbunova said.

According to the researchers studying bats’ immune systems can provide new targets for human therapies to fight diseases and aging.

Citing an example, they said bats have mutated or completely eliminated several genes involved in inflammation, adding that scientists can develop drugs to inhibit these genes in humans.

“Humans have two possible strategies if we want to prevent inflammation, live longer, and avoid the deadly effects of diseases like COVID-19,” Gorbunova said.

“One would be to not be exposed to any viruses, but that’s not practical. The second would be to regulate our immune system more like a bat,” she added. PTI

Only 7-8 people out of 100 are found Covid +ve: Kejri

Says death rate going down, but people should not be complacent

SHASHI BHUSHAN
NEW DELHI, JULY 14

Chief minister Arvind Kejriwal on Tuesday said that the spread of Covid-19 in the city is gradually improving with an increase in the recovery rate of patients and a decrease in the number of fatalities due to virus infection. Meanwhile, as many as 1,606 new cases and 35 deaths were reported in the last 24 hours. Of the total 1,15,346 cases in Delhi, 18,664 are active and 93,236 patients have recovered. Of the total recovered patients, 1,924 recovered in the last 24 hours. The virus-related fatalities have gone up to 3,446.

After inaugurating the city's second plasma bank at LNJP Hospital, Mr Kejriwal said, "The recovery rate of patients is increasing very fast. Earlier in 100 tests, 35 of them used to come positive whereas now only seven or eight people out of 100 are found to be positive. The number of fatalities due to Covid has decreased. In mid-June, there were about



Arvind Kejriwal

▶ According to CM, recovery rate of patients is increasing very fast. Earlier in 100 tests, 35 of them used to come positive whereas now only seven or eight people out of 100 are found to be positive.

101 deaths per day but there are about 40 deaths now."

"The rate of doubling of cases in Delhi has been steadily increasing. I want to appeal to the people of Delhi that we should not become complacent about the situation. Nothing is known about Covid, it may rise again tomorrow. Therefore, we need to take precautions. We always have to wear a mask, maintain social distancing, and also we need to wash our hands and sanitize them repeatedly."

The new plasma bank at the LNJP hospital has been set up after 15 days of the first plasma bank, which was set up at the ILBS hos-

pital. Mr Kejriwal also said that plasma has an important role in the declining death rate of Corona patients and until a vaccine comes, plasma therapy should be looked at as an effective treatment for Coronavirus. Even if the beds in the facilities and hospitals in Delhi are vacant now, the Delhi government will continue its efforts of installing more facilities and beds to rule out any possibilities of lack of treatment if the cases surge in the city," he added. Mr Kejriwal tweeted, "After the huge success of our first plasma bank, we launched Delhi's 2nd plasma bank today at LNJP Hospital #Del-

hiFightsCorona."

Mr Kejriwal pointed out that now people are not afraid to conduct the Covid test. "People are spontaneously coming forward to get tested. Now we are doing 20,000 to 22,000 thousand tests every day. Apart from this, many more steps have been taken because of these steps the number of Covid patients in Delhi is decreasing. I am happy that the Prime Minister has also praised the model of Delhi and everyone's cooperation in it. All of this has been achieved with the support of everyone," he said.

According to Mr Kejriwal, more than 200 people have taken plasma from ILBS so far. "We do not want to store plasma in the plasma bank forever, but no one should suffer for lack of plasma either. The arrangement should be such that one who comes to get plasma must get it easily. So far, as many people are coming for plasma, they are getting it and no one is denied plasma. Everyone is now getting plasma easily," he added.

Covid-19: What you need to know today

Covid-19: What you need to know today (Hindustan Times: 2020715)

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

It is clear, from the trajectory of infections in countries around the world, that the coronavirus disease (Covid-19) starts slow, builds up momentum, rises to a peak, then starts plateauing, and finally falls.

This is more or less true for every country in Europe. It is true for Italy, France, Spain, and Germany.

And, within every country, it is true for every region.

In large countries, it is also true of states that were early hunting grounds for the virus — New York in the US; Delhi, perhaps, in India.

So, the first question is simply this: Is there a pattern?

Does the trajectory of infections across countries follow a certain timeline? If so, what is this timeline? 45 days? Two months?

Or, does it dance to a different metric — say, the population infection rate, rising till a certain proportion of the population is infected, and then falling? If so, what is this proportion? 15%? 20%? 25%?

And if this is indeed the case, what does it mean for the herd immunity level? 60% or 43%? Or could it be some other value?

I ask these questions because I haven't come across any answers on why the infection followed the pattern it did in continental Europe, and New York City. Countries on the continent may see a flare-up, but, on current evidence and case statistics, the worst is definitely behind them. That can be said of New York State and New York City too. And closer home, the same can be said, albeit tentatively, of Delhi.

Why did the infections start falling in Europe? Why did they start falling in New York? And why in Delhi?

Sure, masks, lockdowns, social distancing, better hygiene, and extensive testing and tracing helped, but the infection still traversed a similar trajectory in most countries (and states within countries) that have seen off the worst of it.

Does it indicate an overall population infection rate that is rarely crossed? And because this can't be herd immunity (not at the levels we are talking of), does this mean only 15%, 20%,

25% of a population is vulnerable to the infection itself under certain conditions (which would include our current response to the disease)?

Like I said at the beginning of this column, I have questions. Scientists who believe they are good enough to be hypotheses that merit research are welcome to use them. I'm not particular about credit — I just want the answers.

We know that the Sars-CoV2 virus which causes Covid-19 does not infect everybody. In fact, why it infects who it does is one of the questions researchers are scrambling to answer (they have a reasonably good explanation on how it infects, though, and also how it kills). It might be even better to flip the question around – why does the virus not infect those it doesn't?

We also know that not everyone who is infected spreads the disease — research has shown that a lot of the spreading is caused by super spreaders, perhaps explaining the clusters of infection that emerge.

And finally, we know that the infection rate on the Diamond Princess (the yacht, which for some time had more cases than most countries) was 20%, and that on the US Navy's Theodore Roosevelt 25%. Both were contained spaces and, at least in theory, the virus should have infected more people, perhaps everyone on board.

Why did it not?

Still, the preceding three statements are internally consistent – not everyone exposed to the virus gets infected; and not everyone infected by the virus passes it on.

It would help to know the prevalence of the infection in, say, Italy, New York City, and Delhi, because that could be a starting point for some of the answers.

That's what makes serological surveys (blood tests) of the population, to find out who has antibodies to the virus and who doesn't, important.

Healthy life

Eat simple plant-based diets for a longer, healthy life (New Kerala2020715)

<https://www.newkerala.com/news/2020/125209.htm>

Eat simple plant-based diets for a longer, healthy life

It looks like we have now another reason to follow plant-based diets as researchers have found that adopting a plant-based diet can help promote healthful ageing and mitigate the global burden of disease.

For the findings, published in the Journal of the American College of Nutrition, the research team reviewed clinical trials and epidemiological studies related to ageing.

The study found that while ageing increases the risk for noncommunicable chronic diseases, healthful diets can help.

"The global population of adults 60 years old or older is expected to double from 841 million to 2 billion by 2050, presenting clear challenges for our health care system," said study author Hana Kahleova from Physicians Committee for Responsible Medicine in the US.

The study shows that plant-based diets can reduce the risk of diseases such as type 2 diabetes, cancer, and heart disease by almost 50 per cent and could cut cardiometabolic-related deaths in the US by half.

"Modulating lifestyle risk factors and adopting a healthful diet are powerful tools that may delay the ageing process, decrease age-associated co-morbidities and mortality, and increase life expectancy," the study authors wrote.

The authors cite studies showing that plant-based diets rich in fruits, vegetables, grains, and legumes reduce the risk of developing metabolic syndrome and type 2 diabetes by about 50 per cent.

The findings also revealed that plant-based diets reduce the risk of coronary heart disease events by an estimated 40 per cent and the risk of cerebral vascular disease events by 29 per cent. The researchers found that adopting a plant-based diet may reduce the risk for cognitive diseases such as Alzheimer's disease by almost 50 per cent.

The researchers also noted that plant-based diets have been tied to increased life expectancy. They also noted that these improvements in health will reduce health care costs caused by chronic diseases.

"Fortunately, simple diet changes can go a long way in helping populations lead longer, healthier lives," the study authors wrote.

Antibody

Scientists discover key element of strong antibody response to COVID-19 (New Kerala: 2020715)

<https://www.newkerala.com/news/2020/125172.htm>

Researchers have discovered a common molecular feature found in many of the human antibodies that neutralise SARS-CoV-2, the coronavirus that causes COVID-19.

For the findings, published in the journal Science, the research team reviewed data on nearly 300 anti-SARS-CoV-2 antibodies that their labs and others have found in convalescent Covid-19 patients over the past few months. They noted that a subset of these antibodies is particularly powerful at neutralising the virus and these potent antibodies are all encoded, in part, by the same antibody gene, IGHV3-53.

"This study provides important inspiration for effective Covid-19 vaccine design," said study co-author Dennis Burton from the Scripps Research Institute in the US. Prior research suggests that antibodies encoded by IGHV3-53 are generally present, at least in small numbers, in healthy people's blood.

According to the researchers, the results contribute to growing structural insight that will be needed for successful vaccine development against SARS-CoV-2. As the global Covid-19 pandemic continues, multiple vaccine candidates have entered clinical trials. Yet, the molecular features that contribute to the most effective antibody response remain unclear.

The researchers said that the spike protein of SARS-CoV-2 uses its receptor-binding domain (RBD) to infect the host receptor, ACE2, on human cells. Antibodies that could target RBD and block binding to ACE2 are highly sought, and a number have been discovered. Here, the research team compiled a list of 294 such RBD-targeting antibodies.

By analysing them, they found that a gene in the IGHV gene family, known as IGHV3-53, is the most frequently used IGHV gene for targeting the RBD of the virus spike protein. IGHV3-53 antibodies, the authors said, not only have lower mutation rates but are also more potent. By studying the crystal structures of two IGHV3-53 antibodies bound to the RBD, the researchers identified the features that lead them to be so effective at binding and so highly potent, features that make them promising for vaccine design.

This detailed insight into IGHV-53 neutralising antibodies should facilitate design of vaccine antigens that elicit this type of neutralising antibody response, the researchers said. "As IGHV3-53 is found at a reasonable frequency in healthy individuals, this particular antibody response could be commonly elicited during vaccination," the study authors wrote.

Pregnant women, beware of UTIs this monsoon (New Kerala: 2020715)

<https://www.newkerala.com/news/2020/125137.htm>

Although the monsoon brings respite from summer's scorching heat, it also invites a plethora of allergies and infections. Pregnant women should be cautious because they are at a higher risk of suffering from Urinary Tract Infections (UTI).

According to Dr. Pratima Thamke, Consultant Obstetrician and Gynaecologist, Motherhood Hospital, Kharghar, monsoons can be worrisome for pregnant women as, during those rainy

days, bacteria tend to live on our bodies and tend to multiply at a rapid rate. Moreover, the unwanted growth of the bacteria leads to UTI.

A UTI, also known as bladder infection, can be termed as a bacterial infection that occurs in the urinary tract affecting one's kidneys, uterus, bladder, and urethra. "You will be shocked to know that pregnant women are at higher risk of suffering from UTIs in the 6th week through 24 weeks owing to the changes in the urinary tract that takes place. The uterus is located on top of the bladder. When the uterus grows, its increased weight tends to block the drainage of the urine from one's bladder, inviting a urinary tract infection during pregnancy," Dr. Pratima told IANSLife.

The symptoms of a UTI are pain and discomfort while urinating, chills, fever, sweat, tenderness of the bladder, fatigue, cramps and lower abdominal pain, blood from the urine, urge to urinate frequently and foul smell while urinating. Thus, if the UTI is left untreated then it can cause kidney infections that in turn can lead to early labor and low birth weight in the baby. Treating it at the right time can be helpful for pregnant women.

Here are a few tips from the doctor for pregnant women to keep UTIs at bay during monsoon

Avoid holding it back If you tend to avoid visiting the washroom for peeing then you are doing it all wrong. Many women may hold back their urine in order to finish their work or daily chores and doing so is a strict no-no. This can lead to the development of bacteria and putting you at the risk of a UTI.

Maintain good hygiene If you happen to access a public washroom then make sure that you must follow proper hygiene measures. Wipe off the area with a tissue or water after urinating to avoid the spread of bacteria. Do not wear tight underwear. Avoid using soaps loaded with chemicals down there.

Drink a lot of water See to it that you drink maximum water to stay hydrated and flush out toxins present in the urinary tract. Limit your consumption of alcohol and caffeine that can irritate the bladder.

Stick to a well-balanced diet Include zinc and vitamin C rich foods in the diet. Opt for strawberry, broccoli, citrus fruits, sprouts, seeds, legumes, and eggs. Say no to refined foods and sugar.

If you experience symptoms, don't ignore them and seek medical attention. This can help you prevent your condition from worsening.

HIV, TB, and malaria

Surge in HIV, TB, and malaria deaths due to Covid-19: Lancet (New Kerala: 2020715)

<https://www.newkerala.com/news/2020/125068.htm>

Some low- and middle-income countries (LMICs) could experience a surge in HIV, tuberculosis (TB), and malaria deaths over the next five years because of disruption to health services caused by the Covid-19 pandemic, according to a new study, published in The Lancet Global Health journal.

The researchers have estimated that in areas heavily affected by these major infectious diseases, the impact of Covid-19 disruption on years of life lost could be of a similar scale to the direct impact of the pandemic itself.

Maintaining core services for HIV, TB, and malaria could largely mitigate the broader health impact of Covid-19, they said.

This includes ensuring access to antiretroviral therapy (Art), timely TB diagnosis and treatment, and early resumption of the distribution of long-lasting insecticide-treated nets (LLINs) and anti-malarial treatment.

"The Covid-19 pandemic and actions taken in response to it could undo the some of the advances made against major diseases such as HIV, TB, and malaria over the past two decades," said study researcher Timothy Hallett from Imperial College London in the UK.

"Our findings underscore the extraordinarily difficult decisions facing policymakers. Well managed, long-term suppression measures could avert the most Covid-19 deaths," Hallett added.

In the study, the research team assumed a basic reproductive number (R) - the average number of people each individual with the virus is likely to infect - of three to develop four different policy response scenarios to the Covid-19 pandemic.

These included no action, mitigation, which represents a 45 per cent reduction in R for six months using interventions such as physical distancing, suppression-lift -- a 75 per cent reduction in R for two months, or suppression, a 75 per cent reduction in R for one year.

Then they used transmission models of HIV, TB, and malaria to estimate the additional impact on health that could be caused in different settings.

Overall, the findings suggest that the impact of the pandemic varies according to the extent to which interventions against Covid-19 cause long disruptions to activities, and how successfully those measures reduce transmission of SARS-CoV-2, and avoid the health system being overwhelmed.

The greatest impact on HIV is projected to be from interruption to the supply and administering of ART, which may occur during times of high health system demand.

For TB, the greatest impact is predicted to be from reductions in timely diagnosis and treatment of new cases.

The model predicts that the greatest impact on malaria burden could result from interruption of planned net campaigns, which usually take place every three years.

Protein

Only 3% Indians realise the importance of consuming adequate protein: Study (New Kerala: 2020715)

<https://www.newkerala.com/news/2020/125055.htm>

Only 3% Indians realise the importance of consuming adequate protein: Study

Although 95 per cent of Indian mothers claim to know protein as a macro-nutrient, only three per cent of the population really understands the prominent functions of protein or why one should consume it daily, reveals a new study.

Across cities, 82 per cent mothers residing in mini-metros such as Ahmedabad, Bengaluru and Hyderabad were unable to correctly associate protein with its functions and attributed low importance to its consumption as a part of balanced meals. Therefore, while eight out of ten mothers believe the protein as 'important', protein may not adequately be included in their daily diet. The majority of the mothers (91 per cent) are not able to relate to protein with its crucial functions such as repair of tissues in the body, muscle health and long-term immunity, the study added.

Right to Protein, a nationwide public health awareness initiative, released the findings of a study that uncovers a paradox in India's daily protein consumption habits. Nielsen surveyed 2,142 mothers across 16 Indian cities, revealing a worrying trend where due to a poor understanding of protein as a macronutrient, Indians consume inadequate levels of proteins.

Some of the key findings include

Over 70 per cent Indian mothers strongly believe in common myths such as 'protein is difficult to digest', 'it leads to weight gain', and 'it is only for body-builders'.

On an average, 85 per cent mothers incorrectly believe that protein leads to 'weight gain' and mentioned that they would prioritise the consumption of vitamins and carbohydrates over protein for their families including for children. Most disturbingly, nearly 80 per cent holds the view that lack of protein does not impact overall health!

Majority of the mothers do not know the most common sources of plant-or-animal-based protein and failed to correctly identify 8 of 11 protein-rich food items presented to them. Furthermore 81 per cent of mothers incorrectly believe that just a regular Indian diet consisting of roti, dal, rice is enough for daily protein needs. As a result, only dairy and pulses are considered as the sources of protein in majority Indian households

"In our country, adequate protein consumption has been a rather under-debated issue when it comes to general discourse on food and nutrients. Very few studies have been published recently that provide insights about the consumption patterns about this 'major building block' of our lives. This study is, therefore, an insight in terms of highlighting our knowledge gaps and misconceptions that plague adequate protein consumption", said Dr. Jagmeet Madan,

Eminent Nutrition Expert, Professor, Principal, Sir Vithaldas Thackersey College of Home Science (Autonomous) SNDTWU, Mumbai and National President, Indian Dietetic Association, Supporter of the Right To Protein Initiative

Dr. Suresh Itapu, Nutraceutical Expert, and Director, NutriTech India said "The Protein Paradox study, reiterates the importance of building a general protein understanding and awareness in India. Any individual or entity can benefit from these insights and take corrective measures to improve quality protein intake, course-correct and eventually reverse the decline in protein consumption, especially among kids."

Fatty acid

Major study finds fatty acid that kills cancer cells (New Kerala: 2020715)

<https://www.newkerala.com/news/2020/124955.htm>

In a major study, the researchers have showed that a fatty acid called dihomogamma-linolenic acid, or DGLA, can kill human cancer cells.

The study, published in *Developmental Cell*, found that DGLA can induce ferroptosis in an animal model and in actual human cancer cells. Ferroptosis is an iron-dependent type of cell death that was discovered in recent years and has become a focal point for disease research as it is closely related to many disease processes.

"If you could deliver DGLA precisely to a cancer cell, it could promote ferroptosis and lead to tumour cell death," said study author Jennifer Watts from Washington State University in the US.

"Also, just knowing that this fat promotes ferroptosis might also affect how we think about conditions such as kidney disease and neurodegeneration where we want to prevent this type of cell death," Watts added.

The research team revealed that DGLA is a polyunsaturated fatty acid found in small amounts in the human body, though rarely in the human diet. Compared to other fatty acids, such as those found in fish oil, DGLA is relatively understudied. Watts has been researching dietary fats including DGLA for nearly twenty years, using the nematode '*Caenorhabditis elegans*' as an animal model.

A microscopic worm, *C. elegans* is often used in molecular research because it is transparent and allows scientists to easily study cell-level activity in a whole animal over its relatively short lifespan.

Results found in the C. elegans cells are also often transferable to human cells. The research team discovered that feeding nematodes a diet of DGLA-laden bacteria killed all the germ cells in the worms as well as the stem cells that make the germ cells.

The way the cells died carried many signs of ferroptosis.

To see if the results would translate to human cells, Watts team collaborated with Scott Dixon of Stanford University, who has been studying ferroptosis and its potential for battling cancer for many years. Taking what they had learned from the nematode work, the researchers showed that DGLA could induce ferroptosis in human cancer cells.

They also found interaction with another fatty acid class, called an ether lipid, that had a protective effect against DGLA. When they took out the ether lipids, the cells died faster in the presence of DGLA.

Corona Vaccine (Hindustan: 2020715)

https://epaper.livehindustan.com/imageview_196517_87217026_4_1_15-07-2020_2_i_1_sf.html

कोरोना वैक्सीन के कारगर होने पर वैज्ञानिकों को संदेह

मजबूत एंटीबॉडी का अवयव ढूंढ निकाला

आशंका

नई दिल्ली | हिन्दुस्तान ब्यूरो

अब तक माना जा रहा था कि वैक्सीन दुनिया को कोरोना के संकट से बचा लगी। लेकिन कुछ नए रिसर्च में दावा किया गया है कि बीमारों से ठीक होने वालों में वायरस के खिलाफ मजबूत इम्युनिटी नहीं बन रही। जिन लोगों में बन रही है वह भी महज कुछ महीने में ही कम हो रही। इसलिए वैज्ञानिकों को वैक्सीन के कारगर होने पर संदेह होने लगा है।

संदेह क्यों : ज्यादातर वैक्सीन इंसानी शरीर में वायरस के प्रति एक खास तरीके की एंटीबॉडी तैयार करने में मदद करती हैं। इन्हीं एंटीबॉडी से शरीर का प्रतिरक्षा तंत्र (इम्युन

सिस्टम) मजबूत बनता है और जब भी कोई वायरस शरीर पर हमला करता है तो यह प्रतिरक्षा तंत्र उससे बचाव करता है। किंग्स कॉलेज लंदन के वैज्ञानिक डॉ. केटी डोरिस के मुताबिक, अगर एंटीबॉडी टिकाक नहीं हुई और कुछ ही महीनों में इसका स्तर कम होने लगा तो इसका मतलब हुआ कि शरीर संक्रमण से लड़ने की क्षमता खो देगा। यानी वैक्सीन का असर कम माना जाएगा।

डब्ल्यूएचओ को भी शक : विश्व स्वास्थ्य संगठन के आपातकालीन निदेशक माइक राबन ने कहा कि यह उम्मीद करना कि कुछ महीनों में प्रभावी वैक्सीन तैयार हो जाएगी, यह सच नहीं है। एंटीबॉडी कब तक प्रभावी बनी रहेगी, इसके बारे में भी अभी पट्टा जानकारी नहीं मिल पाई है।



एलाजमा दान करने में दिक्कत
कोरोना मरीजों को एलाजमा डोनेट करने में भी यही दिक्कत आ रही है। कोवैलेंट लाजमा बैंक के मुताबिक, हर 10 में से तीन कोविड मरीज एलाजमा दान करने के लायक ही नहीं हैं क्योंकि उनके शरीर में पर्याप्त मात्रा में न्यूट्रोलाइजिंग एंटीबॉडीज नहीं बन रहे हैं। जब तक पर्याप्त एंटीबॉडीज नहीं बनेंगे तब तक उनके शरीर से एलाजमा नहीं लिया जा सकता।

वैज्ञानिकों के इन दावों से शंका

एंटीबॉडी 17 फीसदी तक घट गई

किंग्स कॉलेज लंदन के शोधकर्ताओं ने ठीक हो चुके मरीजों पर अध्ययन किया। उन्होंने पाया कि इन मरीजों में बनी इम्युनिटी छोटी अवधि के लिए ही है। करीब आधे लोगों में तीसरे हफ्ते से ही एंटीबॉडी कम होने लगी और तीन महीने में मात्र 17 फीसदी रह गई। यानी ये लोग फिर संक्रमित हो सकते थे।

नहीं बनती मजबूत इम्युनिटी

मेलबर्न यूनिवर्सिटी के वैज्ञानिकों ने 41 मरीजों पर रिसर्च किया। उन्होंने पाया कि 41 में से तीन लोगों में मजबूत इम्युनिटी विकसित हुई। इतना ही नहीं, ठीक हो चुके मरीजों के दोबारा संक्रमित होने पर सिके 14.1 फीसदी इम्युनिटी बनी। इतनी एंटीबॉडी संक्रमण से तबने में ज्यादा कारगर नहीं।

विशेषज्ञ की राय

सबसे एक समान एंटीबॉडी नहीं बनती

एम्स के मेडिसिन विभाग में प्रोफेसर डॉ. नवल विक्रम के अनुसार, फ्रांस और चीन में हुए कुछ शोध के मुताबिक, एंटीबॉडी शरीर में 80 से 90 दिनों तक रह सकती है। हालांकि, भारत में इस पर कोई अध्ययन नहीं हुआ है। किसी मरीज में कितने दिन तक एंटीबॉडी रहेगी यह उस व्यक्ति की शारीरिक क्षमता पर भी निर्भर करता है। यह भी सही है कि सभी लोगों में पर्याप्त एंटीबॉडी नहीं बनती। वैक्सीन बनाने के बाद यह देखना होगा कि वह कम से कम 70 से 80 फीसदी लोगों को सुरक्षा दे। इससे कम लोगों को सुरक्षा देने वाली वैक्सीन का फायदा नहीं होगा।

Pendamic (Hindustan: 2020715)

https://epaper.livehindustan.com/imageview_196517_87217646_4_1_15-07-2020_2_i_1_sf.html

महामारी से उबरने को हरित प्लान बनाएं शहर

नई दिल्ली | विशेष संवाददाता

ऐलान

मेयरों के वैश्विक संगठन सी-40 ने शहरों को कोविड-19 महामारी के प्रभावों से उबारने के लिए नई कार्ययोजना का ऐलान किया है। इसके तहत लोगों को स्वास्थ्य, रोजगार और स्वच्छ हवा उपलब्ध कराने के प्रयासों पर ध्यान केंद्रित किया जाएगा।

सी-40 दुनिया के 96 मेयरों का एक महागठबंधन है, जिसमें दिल्ली, फ्रीटाउन, हांगकांग, लिस्बन, लांस एजिल्स, ढाका, डरबन, टोक्यो, मेलबर्न, मॉट्रियल, सियोल आदि शामिल हैं। यह संगठन करीब 70 करोड़ नागरिकों का प्रतिनिधित्व करता है।

नौकरियों के सृजन की जरूरत : सी-40 ने एक बयान जारी कर कहा है कि कोरोना के चलते 1.2 करोड़ लोग और 30.5 करोड़ नौकरियां खतरे में हैं। इसलिए लोगों के स्वास्थ्य की रक्षा करने के साथ-साथ क्लीन रिकवरी प्लान के जरिये नौकरियों का सृजन किया जाना चाहिए।

संगठन ने अपनी कार्ययोजना में कहा है कि क्लीन ऊर्जा के इस्तेमाल को बढ़ावा देकर यह भी सुनिश्चित किया जाए कि लोगों को स्वच्छ हवा

- मेयरों के वैश्विक संगठन ने नई कार्ययोजना का ऐलान किया
- कोरोना से 1.2 करोड़ लोग और 30.5 करोड़ नौकरियां खतरे में

भी मिले। इन मुद्दों को लेकर संगठन ने स्थानीय सरकारों से भी कार्ययोजना तैयार करने को कहा है।

साल 2030 तक 8 करोड़ नई नौकरियां पैदा करने पर जोर : संगठन की तरफ से प्रस्तावित कार्रवाइयों में लोगों को वापस काम पर लाना, कामगारों को प्रशिक्षण देकर उन्हें नई नौकरियों के योग्य बनाना, एक सुरक्षित मास ट्रांजिट प्रणाली विकसित करना, जलवायु तकनीकों में निवेश बढ़ाकर 2030 तक 8 करोड़ नई नौकरियों का सृजन करना शामिल है।

कुछ शहरों की पहल

- लंदन ने साइकिल चलाने के लिए सुविधाओं का विस्तार किया
- मिलान ने पैदल और साइकिल चलाने के लिए महत्वाकांक्षी योजना घोषित की
- लांस एजिल्स ने कम आय वाले दो हजार घरों में सौर पैनल स्थापित किए



चिंताजनक: देश के दस राज्यों में 86% मरीज

नई दिल्ली | विशेष संवाददाता

केंद्रीय स्वास्थ्य मंत्रालय ने कहा कि कोरोना के 86 फीसदी मामले सिर्फ दस राज्यों में हैं। साथ ही सरकार ने कोरोना की दैनिक संक्रमण वृद्धि दर में कमी आने का भी दावा किया है।

केंद्रीय स्वास्थ्य मंत्रालय में विशेष कार्याधिकारी राजेश भूषण ने कहा कि कुल मामलों के 50 फीसदी मरीज महाराष्ट्र एवं तमिलनाडु में हैं। जबकि आठ अन्य राज्यों कर्नाटक, दिल्ली, आंध्र प्रदेश, यूपी, तेलंगाना, पश्चिम बंगाल, गुजरात तथा असम में 36% मामले हैं। उन्होंने कहा कि देश में कोरोना मरीजों के स्वस्थ होने की दर

...और इधर राहत भी : मृत्युदर कम होकर 2.6%, संक्रमण की रफ्तार में भी लगातार कमी

63 फीसदी हो गई है देश में स्वस्थ होने की दर

20 राज्यों में स्वस्थ होने की दर राष्ट्रीय औसत से ज्यादा है

1.8 गुना है स्वस्थ हुए लोगों की संख्या उपचाराधीन लोगों से

कोरोना महामारी को लेकर सकारात्मक संकेत ये भी हैं कि देश में मृत्यु दर में भी कमी दर्ज की गई है। अब ये कम होकर 2.6 फीसदी रह गई है। पहले यह तीन फीसदी के करीब थी। वैश्विक मामलों की तुलना में देश में मृत्युदर काफी कम है। इसे बेहतर संकेत माना जा रहा है।

स्वास्थ्य मंत्रालय के अधिकारी ने कहा कि 12 जुलाई को देश में कोरोना वायरस का दैनिक संक्रमण वृद्धि दर 3.24 फीसदी दर्ज की गई है, जबकि 29 मार्च को यह 31.28 फीसदी थी। इससे साबित होता है कि संक्रमण की रफ्तार घटी है। आगे भी इसके लगातार घटने की उम्मीद है।

भी बढ़ रही है। उन्होंने प्रति दस लाख आबादी पर मौतें एवं संक्रमण की दर भी देश में कम होने का दावा किया।

ठीक हुए मरीजों के लिए दिशा-निर्देश जल्द : एक प्रश्न के उत्तर में

उन्होंने कहा कि ठीक हो चुके गंभीर रोगियों को बाद में भी स्वास्थ्य संबंधी कई दिक्कतें आने की शिकायतें मिल रही हैं। एम्स समेत केंद्र के सभी अस्पताल ऐसे मरीजों को सलाह दे रहे

हैं। इस बाबत आंकड़े जुटाए जा रहे हैं। इनके आधार पर अस्पताल से छुट्टी पा चुके मरीजों के लिए अलग से भी एक गाइडलाइन जारी की जा सकती है कि वे कैसे एहतियात बरतें।

Health Care (Hindustan: 2020715)

एलएनजेपी में दूसरा प्लाज्मा बैंक शुरू, मुख्यमंत्री ने कोरोना के मामले कम होने पर आभार जताया

सबके प्रयास से संभली दिल्ली: केजरीवाल

सफलता

नई दिल्ली | विशेष संवाददाता

मुख्यमंत्री अरविंद केजरीवाल ने कहा कि सामूहिक प्रयास के चलते दिल्ली में कोरोना की स्थिति नियंत्रित है। राज्य, केंद्र सरकार, सामाजिक संस्था, डॉक्टर, नर्स सभी की धागीदारी से दिल्ली में कोरोना की स्थिति पहले से बेहतर हुई है। एलएनजेपी में मंगलवार को दिल्ली के दूसरे प्लाज्मा बैंक की शुरुआत के मौके पर मुख्यमंत्री ने यह बातें कहीं। इस दौरान उपमुख्यमंत्री मनीष सिसोदिया भी मौजूद रहे।

मुख्यमंत्री ने कहा कि कोरोना से मौत के मामले कम करने में प्लाज्मा थेरेपी की अहम भूमिका रही है। गंभीर मरीजों को ठीक करने में हमें सफलता मिली है। मुख्यमंत्री ने कहा कि कोरोना के इलाज में प्लाज्मा की जरूरत को देखते हुए आईएलबीएस में प्लाज्मा बैंक की शुरुआत की गई थी। उसकी सफलता के बाद दूसरा प्लाज्मा बैंक एलएनजेपी में खोला है।



एलएनजेपी अस्पताल में मंगलवार को प्लाज्मा दान करने वाले युवक को प्रमाण पत्र देते मुख्यमंत्री अरविंद केजरीवाल। • राज के राज

केजरीवाल ने कहा, प्लाज्मा कोरोना की दवा नहीं है, मगर जब तक कोई वैक्सीन नहीं आ जाती, तब तक जान बचाने में यह मददगार साबित हो रहा है। उन्होंने कहा कि एलएनजेपी दिल्ली के मध्य में स्थित है। मुझे उम्मीद है कि इससे प्लाज्मा दान करने वालों को आने जाने में आसानी होगी। केजरीवाल

ने कहा कि अभी तक आईएलबीएस में 200 से अधिक लोग प्लाज्मा ले चुके हैं। हमें प्लाज्मा स्टोर करके नहीं रखना है, लेकिन किसी को प्लाज्मा की कमी भी नहीं होनी चाहिए। इसकी व्यवस्था ऐसी होनी चाहिए कि जो लेने आए, उसे आसानी से मिल सके। अभी तक जितने लोग भी प्लाज्मा के लिए आ रहे हैं, उन्हें

मिल रहा है और किसी को कमी नहीं हो रही है। एक सवाल का जवाब देते हुए केजरीवाल ने कहा कि कुछ दिनों तक बेड भले खाली रह जाएं, लेकिन यदि केस में उछाल आए तो ऐसा नहीं होना चाहिए कि हमारे पास बेड कम हो जाए। उन्होंने प्लाज्मा दान कर रहे लोगों के मिलकर बातचीत भी की।

200 से अधिक लोग अभी तक आईएलबीएस से प्लाज्मा ले चुके हैं

प्रधानमंत्री के तारीफ करने पर खुशी जताई

दिल्ली के प्रयासों को एनसीआर में लागू करने वाले प्रधानमंत्री नरेंद्र मोदी के बयान पर मुख्यमंत्री ने खुशी जताई। उन्होंने कहा कि मुझे खुशी हुई कि प्रधानमंत्री ने दिल्ली मॉडल की तारीफ की। यह सभी के सामूहिक प्रयास का नतीजा है कि केस व मौत दोनों कम करने में सफलता मिली है।

कोरोना का कुछ पता नहीं, ऐहतियात जरूरी

केजरीवाल ने कहा कि दिल्ली में कोरोना की स्थिति धीरे-धीरे सुधर रही है। मरीजों के ठीक होने की दर तेजी से बढ़ रही है। पहले 100 टेस्ट करते थे तो 35 लोग संक्रमित मिलते थे, अब यह संख्या सात से आठ हो गई है। मौत भी बहुत कम हुई हैं, लेकिन हमें लापरवाह नहीं होना है।

Covid-19

Covid-19 से जीतनी है जंग तो अपनाएं ये जरूरी कदम, छू भी नहीं पाएगा कोरोना (Hindustan: 20200715)

<https://www.livehindustan.com/lifestyle/story-coronavirus-winning-habits-simple-easy-habits-you-need-to-adopt-to-win-the-fight-with-covid-19-3351178.html>

कोरोना संक्रमण और मौसमी बीमारियों के लक्षण लगभग समान हैं। ऐसे में सामान्य व्यक्ति लक्षणों को लेकर भ्रम में है। यही वजह है कि अस्पतालों की फीवर क्लीनिक में बड़ी संख्या में लोग कोरोना समझकर पहुंच रहे हैं। मरीजों में संक्रमण का खतरा भी बढ़ रहा है। केजीएमयू के डॉक्टर की पहल आपकी मुश्किलों को कम कर सकती है। डॉक्टर ने कोरोना किट बनाई है। उसे सोशल मीडिया में साझा किया गया है।

केजीएमयू पल्मोनरी एंड क्रिटिकल केयर मेडिकल विभागाध्यक्ष डॉ. वेद प्रकाश के मुताबिक डॉक्टर टेलीमेडिसिन से सलाह दे रहे हैं। मरीजों को दवाओं के लिए भटकना पड़ रहा है। कोविड मेडिकल किट घर पर ही रख सकते हैं। डॉक्टर की सलाह पर वयस्कों को दी जा सकती है। बच्चों को बिना डॉक्टर को दिखाए दवाएं न दें।

गुनगुने पानी में नींबू मिलाकर पिएं

गर्म पानी में नींबू का रस मिलाकर पिएं। यह पेय पदार्थ वायरस को फेफड़ों तक पहुंचने से पहले खत्म कर देता है। सुबह और शाम को नींबू पानी का सेवन फायदमंद है।

कब अस्पताल पहुंचे

डॉ. वेद प्रकाश के मुताबिक उच्च जोखिम वालों को घर में अलग स्थान पर रखें। ब्लड प्रेशर, डायबिटीज, दिल, सांस संबंधी मरीज व अंग प्रत्यारोपण कराने वाले मरीज सावधानी बरतें। दो साल से कम उम्र के बच्चे, गर्भवती महिलाएं भी सावधानी बरतें।

ये दवाओं की पोटली-

-टैबलेट पैरासिटॉमाल

-विटामिन सी, विटामिन ई, विटामिन बी, विटामिन डी दवा का सेवन डॉक्टर की सलाह पर लें

-रोज धूप में 15-20 मिनट बैठे

-पौष्टिक गर्म भोजन ही लें

-रोज सात से आठ घंटे नींद लें

-दो से तीन लीटर पानी पिएं

-30 मिनट पैदल चलें, कसरत रोज करें

-दिन में दो बार गर्म पानी से भाप लें

-थर्मामीटर व पल्स ऑक्सीमीटर रखें

-श्वास अभ्यास व रोजाना एक घंटे नियमित व्यायाम करें

-मास्क पहनकर ही बाहर निकलें।

कोरोना संक्रमण तीन चरणों में होता है-

-पहली स्टेज के मरीज में लक्षण नजर नहीं आते हैं

-दूसरी स्टेज के मरीज में गले में खराश व बुखार होता है। मरीज पानी में नमक मिलाकर गरारा करें। पैरासिटामॉल लें। डॉक्टर की सलाह पर एंटीबायोटिक दवा लें।

-तीसरी स्टेज के मरीज को खांसी, सांस लेने में तकलीफ होती है। ऐसे मरीज गर्म पानी व गर्म पेय पदार्थ का सेवन करें।

लक्षण

-गले में खराश या खुजली

-सूखा गला

-सूखी खांसी

-बुखार

-सांस फूलना।

महामारी

महामारी ने हमें जो सीख दी है (Hindustan: 20200715)

<https://www.livehindustan.com/blog/story-hindustan-opinion-column-15-july-2020-3350437.html>

कोविड-19 महामारी ने भारत को कई पीड़ादायक सबक दिए हैं। पहला सबक तो यही है कि हम अब प्रकृति का निर्मम शोषण जारी नहीं रख सकते। जलवायु संकट, अनियमित मौसमी परिघटनाएं और वायु, भूमि व महासागर के प्रदूषण ने देश और दुनिया को एक खतरनाक मुहाने पर ला खड़ा कर दिया है। जब तक कि ये सभी तुरंत पुराने रूप में नहीं ढल जाते, हम गंभीर संकट में हैं। यह देखना अद्भुत रहा कि लॉकडाउन ने प्रकृति को फिर से संवारने का काम किया है। इस अवधि में हमने कई दशकों के बाद फिर से नीला आसमान देखा, प्रदूषण का स्तर नीचे गिरा और जीवों, पक्षियों व कीटों की कई प्रजातियों को नवजीवन मिला। हमें लगातार प्रयास करना होगा और यह सुनिश्चित करना होगा कि ये सकारात्मक

बदलाव निरंतर कायम रहें, ताकि हम 'ओल्ड नॉर्मल' की तरफ वापस न लौट जाएं, बल्कि प्रकृति को समान तवज्जो देते हुए 'न्यू नॉर्मल' को अपनाएं।

दूसरा सबक यह है कि हमें अपनी विकास योजनाओं को नए सिरे से गढ़ना होगा, जिनमें स्वास्थ्य और शिक्षा के मद में सकल घरेलू उत्पाद (जीडीपी) का कम से कम तीन-तीन प्रतिशत आवंटन अनिवार्य होना चाहिए। अगर भारत इन क्षेत्रों को मजबूत नहीं करता है, तो वैश्विक ताकत बनने की सारी उम्मीदें बिखर जाएंगी। हमारी यह राष्ट्रीय विफलता रही है कि आजादी के बाद से अब तक हमने इन पर इस कदर ध्यान नहीं दिया है। यह भी साफ है कि भारत जैसे विशाल संघ वाले राष्ट्र में कोविड जैसा संकट केंद्र और राज्यों के बीच मजबूत सहयोग की मांग करता है, फिर चाहे सत्ता में कोई भी राजनीतिक दल क्यों न हो। स्वास्थ्य राज्य के अधीन विषय है, और इस संकट से जमीनी तौर पर सूबों और केंद्रशासित क्षेत्रों को ही लड़ना है। लिहाजा यहां टकराववादी संघवाद की बजाय सहकारी संघवाद की दरकार है।

तीसरा सबक, अमेरिकी राष्ट्रपति डोनाल्ड ट्रंप जैसे नेताओं द्वारा वैश्वीकरण की अवधारणा को नष्ट करने के प्रयासों के बावजूद तथ्य यही है कि कोविड-19 जैसी मुश्किलों से पार पाने के लिए अंतरराष्ट्रीय सहयोग अनिवार्य है। यह वैक्सीन की खोज के लिए भी जरूरी है और दवाओं व व्यक्तिगत सुरक्षा उपकरणों (पीपीई किट) की उपलब्धता के लिहाज से भी। 'वसुधैव कुटुंबकम' की हमारी प्राचीन अवधारणा बताती है कि कोई भी राष्ट्र, फिर चाहे वह कितना भी महान क्यों न हो, खुद के लिए एक द्वीप नहीं बना रह सकता। मानव जाति अंततः एक साथ ही डूबेगी या फिर उबरेगी। हमारे पास दुनिया के कुछ सर्वश्रेष्ठ वैज्ञानिक और शोधकर्ता हैं, और भारत की कई प्रयोगशालाएं कोरोना वायरस के खिलाफ टीका बनाने के लिए दिन-रात काम कर रही हैं। हमारे लिए अन्य देशों की प्रयोगशालाओं के साथ सहयोग मूल्यवान साबित होगा।

स्वास्थ्य मंत्री के तौर कई मौकों पर विश्व स्वास्थ्य संगठन (डब्ल्यूएचओ) के कॉन्फ्रेंस में मैंने भारतीय प्रतिनिधिमंडल का नेतृत्व किया है। डब्ल्यूएचओ की जिनेवा की इमारत में नटराज की एक सुंदर तस्वीर है। इसे मैंने ही तत्कालीन महानिदेशक डॉ एच महलर को भेंट की थी, जब वह चेचक के वैश्विक उन्मूलन के जश्न समारोह में हिस्सा लेने दिल्ली आए थे। बेशक हाल के दिनों में इस संगठन की खासा आलोचना हुई हो, फिर भी मुझे लगता है कि हमें इसके साथ भरपूर सहयोग करना चाहिए और इसकी संगठनात्मक विशेषता का लाभ उठाना चाहिए।

चौथा सबक यह है कि लॉकडाउन के अचानक लिए गए फैसले और जरूरी तैयारी न किए जाने के कारण लाखों प्रवासी मजदूरों को हुआ असहनीय कष्ट राष्ट्र के लिए गहरे शर्म का विषय है। यह हमें बता रहा है कि समाज के सबसे कमजोर वर्गों के लिए एक सुरक्षा जाल होना ही चाहिए। ऐसा इसलिए भी, क्योंकि

देश की एक चौथाई आबादी आज भी गरीबी रेखा के नीचे जीवन बसर कर रही है। इसके लिए अन्य तमाम उपायों के अलावा, एक तरीका उनके बैंक खातों में एक सुनिश्चित न्यूनतम आय जमा करना है। बतौर राष्ट्र भारत कम से कम इतना तो कर ही सकता है। अपनी वित्तीय योजनाओं को फिर से गढ़कर और मौद्रिक नीति को इनके अनुकूल बनाकर हम ऐसा कर सकते हैं।

पांचवां सबक, इस वायरस ने हमें पारिवारिक रिश्तों को फिर से बनाने और विशेषकर बुजुर्गों के साथ स्नेह व सहयोग बढ़ाने को प्रेरित किया है। लॉकडाउन के दौरान घरेलू हिंसा की बढ़ी घटनाएं परेशान कर रही हैं। यह उसके उलट है, जिसकी हमें जरूरत है। मौजूदा कानूनों को सख्ती से लागू करने की आवश्यकता है, क्योंकि महिलाओं, बच्चों या बुजुर्गों के प्रति किसी भी तरह का अनुचित व्यवहार अस्वीकार्य है। यह भारतीय संस्कृति के सिद्धांतों के खिलाफ भी है। कोविड-19 संकट ने हमें निजी जीवनशैली को भी इस कदर बदलने के लिए मजबूर किया है कि विलासिता की वस्तुओं पर अनावश्यक खर्च कम से कम हो। हममें से कुछ बेशक काफी ज्यादा खर्च कर सकने में सक्षम हैं, लेकिन इससे अनावश्यक खर्च का औचित्य साबित नहीं हो जाता। बाकायदा कानून द्वारा सगाई और विवाह समारोहों में पैसों का होने वाला अश्लील प्रदर्शन रोका जाना चाहिए, और अनगिनत मेहमानों का आना नियंत्रित किया जाना चाहिए। ऐसे आयोजनों में अधिकतम 50 अतिथि शामिल होने चाहिए। ऐसे देश में, जहां लाखों लोगों को दिन भर में संतुलित भोजन तक न मिल पाता हो, वहां चंद लोगों पर बेहिसाब पैसे खर्च करना किसी अपराध से कम नहीं है।

और आखिरी सबक, कोरोना वायरस ने हमें मौन और एकांत के लाभ सिखाए हैं, ताकि हम खुद के भीतर झांक सकें और अपनी चेतना की गहनता का पता लगा सकें। हम सतही गतिविधियों में इस कदर खो जाते हैं कि हमें शायद ही कभी खुद में देखने का समय मिलता है। यह दरअसल, हमारी आंतरिक चेतना है, जो हमारे कार्यों और संबंधों में खुद को व्यक्त करेगी। यदि हम स्वयं के भीतर उस दिव्य प्रकाश को खोज सकें, जो हमारे अस्तित्व का मूल है, तो यह न केवल हर इंसान, बल्कि समाज को भी बड़े पैमाने पर लाभान्वित करेगा।

(ये लेखक के अपने विचार हैं)

Recovery Rate

देश में कोरोना के करीब 6 लाख मरीज हुए ठीक, 3.19 लाख संक्रमित (Dainik Jagran: 20200715)

https://www.jagran.com/news/national-india-coronavirus-news-updates-nearly-6-lakh-corona-virus-patients-recover-in-india-20514033.html?itm_source=website&itm_medium=homepage&itm_campaign=p1_component

नई दिल्ली, एएनआइ। भारत में कोरोना वायरस से संक्रमित मरीजों की संख्या बढ़कर 9.36 लाख को पार कर गई है। इसमें से 5.92 लाख लोग ठीक हो चुके हैं और 3.19 लाख एक्टिव केस बचे हैं। बीते 24 घंटों के दौरान 20 हजार से ज्यादा लोग ठीक भी हुए हैं। भारतीय चिकित्सा अनुसंधान परिषद के मुताबिक मंगलवार 14 जुलाई तक कुल एक करोड़ 24 लाख 12 हजार 664 नमूनों की जांच की गई है। मंगलवार को एक दिन में ही 3,20,161 सैंपल के टेस्ट किए गए हैं।

केंद्रीय स्वास्थ्य मंत्रालय के आंकड़ों के अनुसार, पिछले 24 घंटों के दौरान कोरोना वायरस के 29,429 नए मामले सामने आए हैं, जबकि 582 लोगों की मौत हुई है। देश में कोरोना वायरस से संक्रमित लोगों की कुल संख्या 9 लाख 36 हजार 181 हो गई है। इसमें से 3 लाख 19 हजार 840 एक्टिव मामले हैं, जबकि 5 लाख 92 हजार 32 लोग स्वस्थ हो चुके हैं। देश में अब तक कुल 24,309 लोगों की जान जा चुकी है।

मंत्रालय के अनुसार, महाराष्ट्र कोरोना वायरस के संक्रमण से सबसे अधिक प्रभावित राज्य है। यहां कुल 2 लाख 67 हजार 665 मामले सामने आ चुके हैं और अब तक 10,695 लोगों की मौत हो चुकी है। वहीं, तमिलनाडु में कोरोना वायरस से संक्रमित लोगों की संख्या 1 लाख 47 हजार 324 पहुंच गई है। राज्य में वायरस से 2,099 लोगों की मौत हुई है। राजधानी दिल्ली में कोरोना संक्रमितों की संख्या 1 लाख 15 हजार 346 है और 3,446 लोगों की जान जा चुकी है।

COVID-19 resurges

COVID-19 resurges in Kerala as migrants return, testing rate drops (The Hindu: 2020715)

<https://www.thehindu.com/data/covid-19-resurges-in-kerala-as-migrants-return-testing-rate-drops/article32087258.ece?homepage=true>

Indians evacuated from the Maldives as part of Operation Samudra Setu under the Vande Bharat Mission undergo temperature tests as they come out of INS-Jalashwa at Kochi port on Sunday.

Indians evacuated from the Maldives as part of Operation Samudra Setu under the Vande Bharat Mission undergo temperature tests as they come out of INS-Jalashwa at Kochi port on Sunday. | Photo Credit: PTI

Worryingly, cases through local transmission is witnessing a surge

On Tuesday, Kerala recorded 608 new COVID-19 cases, the highest single-day spike since its first case on January 30. After the initial surge in March and April, the State successfully brought down the new cases to zero on many days in May.

Kerala increased its testing rates by a high margin in the initial months of the pandemic, a proven ploy to tackle the disease. However, after the economy opened up and migrants from abroad and other States started to return, the State was not able to test enough relative to its outbreak despite a significant increase in tests. Cases through local transmission (contacts of imported ones) have lately surged, a definite cause for concern for the State.

Cases surge

Kerala recorded more than 300 new cases (grey bar, left axis) on all days in the past week. The share of total tests that were positive — (blue line, right axis) also slightly increased to 2.1% on July 14 from 1.2% two months ago. However, it is still far below the national average of 7.5%.

Testing rate dips

The number of tests tripled in the State in the last fortnight (from around 6,000 average tests to around 18,000). But due to a sudden surge in cases, the State is still not testing relative to the size of its outbreak.

Migrants back home

The sudden rise in cases can be attributed directly to the fact that migrants flocked to the State from abroad and other States, especially by air, after mid-June.

Local transmission spikes

More worrying is the massive surge in local cases recently. Until July 6, more than 75% of Kerala's new cases (grey bar, left axis) were imported from outside the State. However, in the last one week, the share of local cases or contacts who turned positive rose to more than 50%.

India Coronavirus numbers explained: Karnataka goes past Gujarat, now has fourth biggest caseload (The Indian Express: 20200715)

Coronavirus Cases In Express: 2020715)

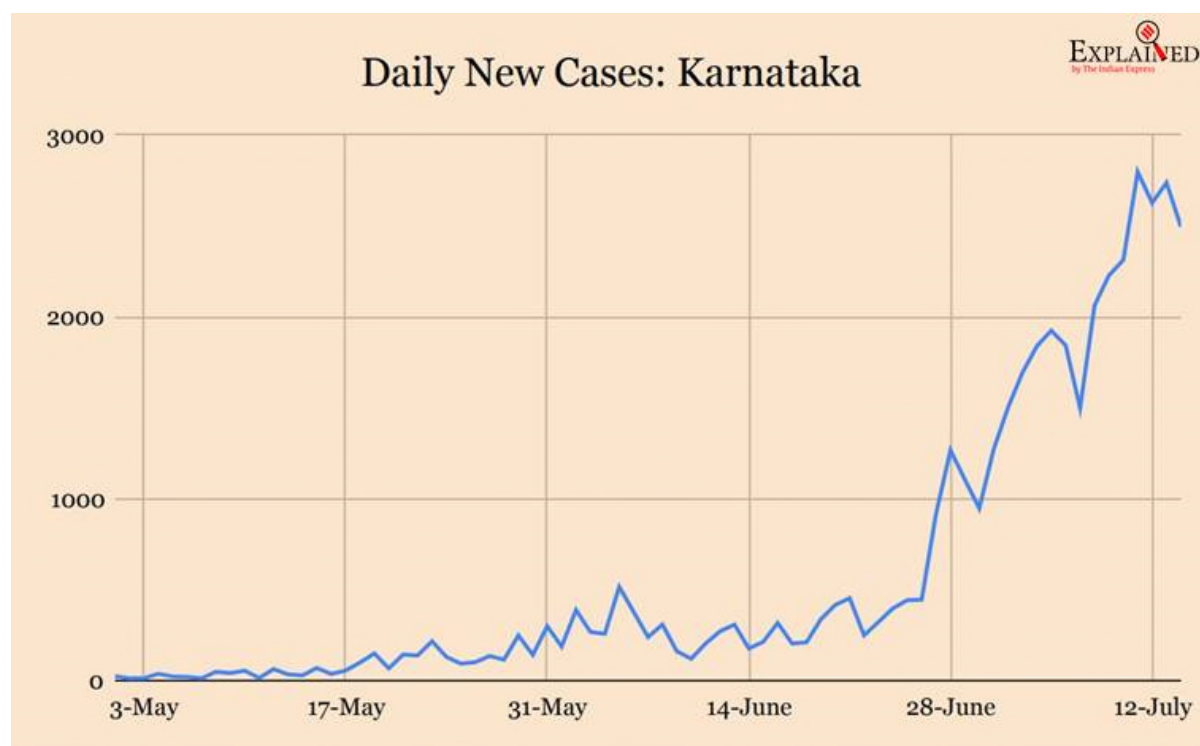
<https://indianexpress.com/article/explained/india-coronavirus-numbers-explained-karnataka-growth-rate-cases-deaths-testing-6506637/>

India Coronavirus Cases Numbers: Karnataka's growth rate is 7.36 per cent, the highest in the country. It is the only state with a doubling time of less than ten days.

India Coronavirus Cases Numbers: On Tuesday, Karnataka overtook Gujarat to become the state with the fourth highest caseload of novel Coronavirus infections in the country. The state added about 2,500 new cases, and now has over 44,000 infections.

Karnataka, the fastest growing state in the country right now, has seen a very sharp rise in its Coronavirus numbers. In the two weeks of this month, the state has added almost 29,000 new cases, an average of more than 2,000 per day. Just a week prior to that, it was detecting between 350 and 450 cases every day.

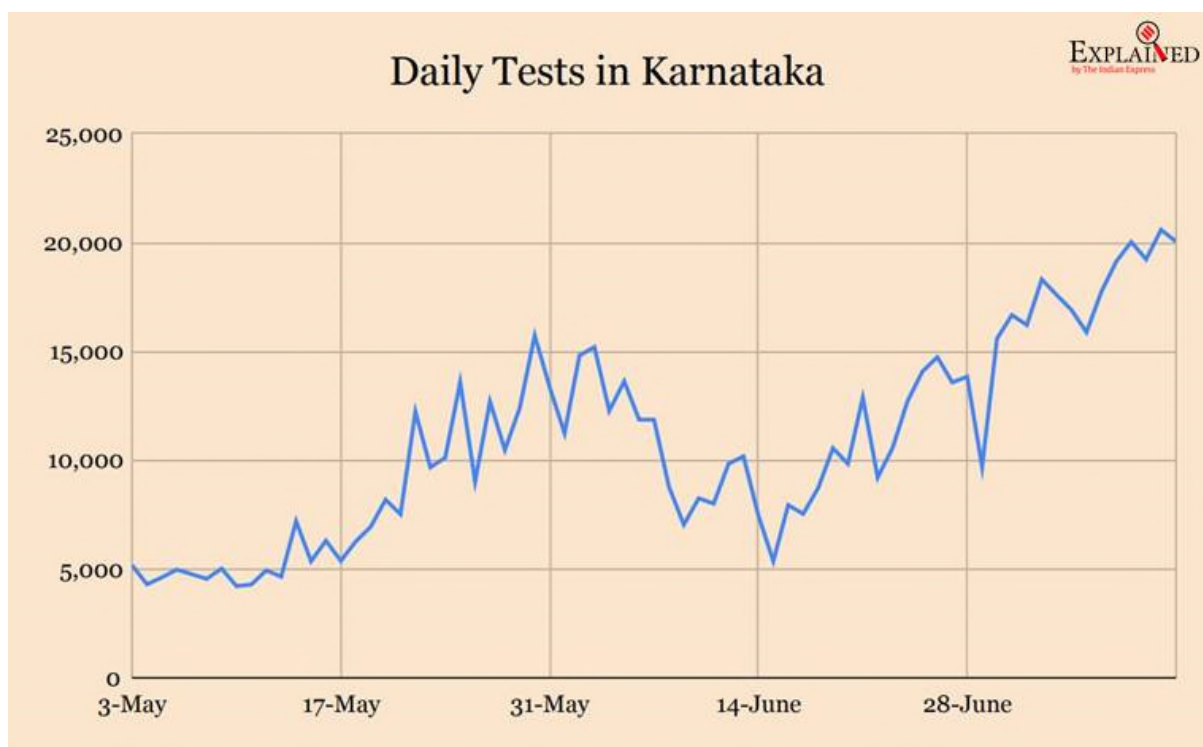
Karnataka's growth rate is 7.36 per cent, the highest in the country.



The state government says one of the reasons for the steep rise has been more focussed and targeted testing of primary and secondary contacts of already infected persons. The state has

also increased its testing numbers during this period. Karnataka was testing between 12,000 and 14,000 samples every day. That has increased to more than 20,000 samples now. On Tuesday, more than 23,000 samples were tested.

Increased testing and efficient contact tracing can help in finding infected persons at an early stage, and their isolation can contain the transmission of the virus to other people. While it does lead to rise in the number of cases in the short run, over a longer period, it can help in slowing down the transmission rate. This is what seems to be happening in Delhi right now. The city had seen an explosion in the number of Coronavirus cases in about three weeks ago, due to increased testing and improved contact tracing. But the surge is now over, and Delhi is the fastest-improving state right now, its growth rate having dropped below 1.65 per cent (7-day compounded daily growth rate).



Daily tests in Karnataka. On Tuesday, more than 23,000 samples were tested.

Karnataka's growth rate, on the other hand, is 7.36 per cent, the highest in the country. It is the only state with a doubling time of less than ten days. The national doubling time of cases right now is more than 21 days.

The bulk of the cases in the Karnataka, almost 50 per cent, is concentrated in Bengaluru. The city went into a seven-day complete lockdown from Tuesday evening.

Karnataka seems to be following a Delhi-like trajectory in terms of deaths as well. The mortality figures have shot up in the state in the last couple of weeks. At that time, the state used to report about 10-12 deaths every day, now it is reporting over 60 deaths. On Tuesday, the state counted 87 deaths, the highest so far in a single day. Delhi death numbers had risen similarly sharply but have come down now.

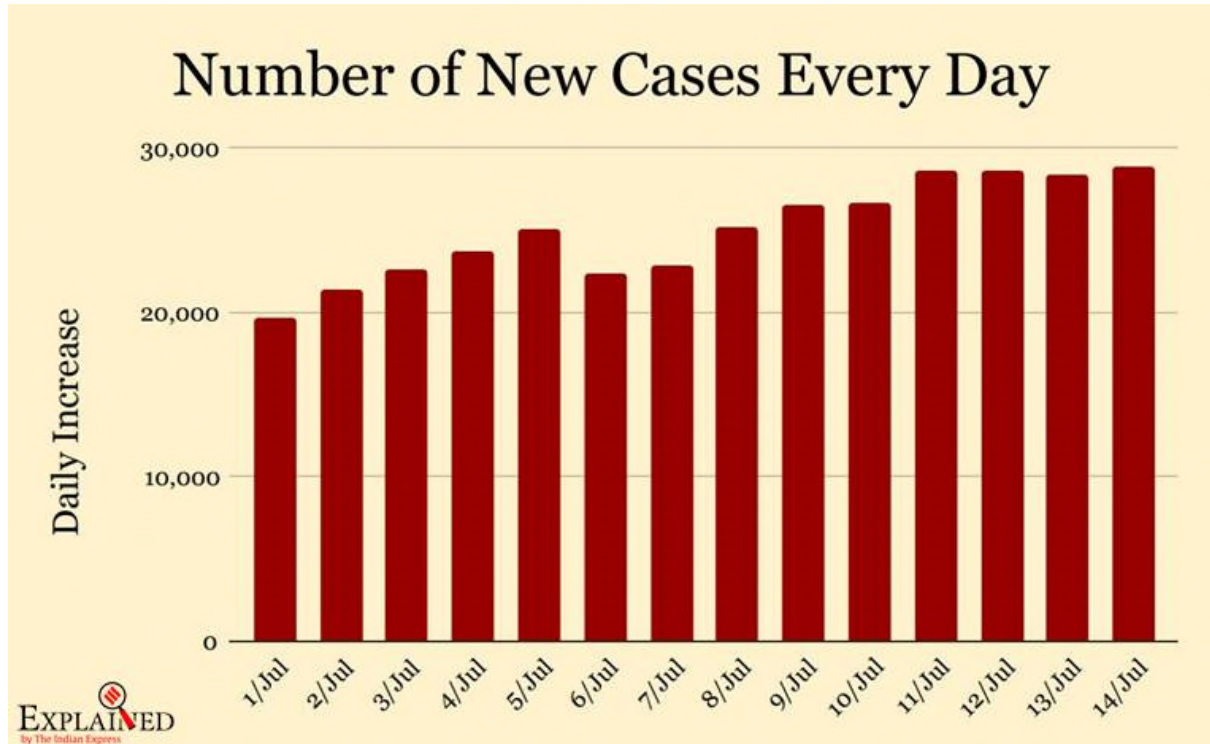
Andhra Pradesh is the other state which is growing at a very fast pace. It reported almost 2,000 cases on Tuesday, and climbed up to the eighth position among states with highest caseloads. It has over 33,000 infections till now

Top ten states with maximum caseload:

STATE	TOTAL POSITIVE	NEW CASES	TOTAL RECOVERIES	DEATHS
Maharashtra	267,665	6,741	149,007	10,695
Tamil Nadu	147,324	4,526	97,310	2,099
Delhi	115,346	1,606	93,236	3,446
Karnataka	44,077	2,496	17,390	848
Gujarat	43,723	915	30,555	2,071
Uttar Pradesh	39,724	1,594	24,981	983
Telangana	37,745	1,524	24,840	375
Andhra Pradesh	33,019	1,916	17,467	408
West Bengal	32,838	1,390	19,931	980
Rajasthan	25,454	635	19,054	524

Outside of the top ten states, Bihar and Assam are experiencing very high growth rates right now. Both the states reported more than 1,000 cases on Tuesday, which, in Assam's case, was for the first time ever. Bihar has reported almost 6,500 new cases in the last one week, and now has a total of around 19,000 cases. The state has brought back lockdown restrictions from Tuesday in a bid to contain the spread.

Assam, which already has lockdown in place in Guwahati and some surrounding areas, has added more than 5,200 cases in the last one week. It has over 17,800 infections. Odisha, also in the same league, has reported more than 3,500 cases in the last one week.



More than 29,000 cases were detected across the country on Tuesday, taking the total number of infected people to 9.36 lakh, out of which more than 5.92 lakh have already recovered. As many as 582 deaths were reported on Tuesday.

कोविड-19 किट

कोविड-19 की जांच किट आज होगी लॉन्च, बेहद कम लागत में बनाई गई है यह किट (Hindustan: 20200715)

<https://www.livehindustan.com/health/story-iit-delhi-to-be-launched-low-cost-covid-19-test-kit-on-wednesday-15-july-3351197.html>

भारतीय प्रौद्योगिकी संस्थान दिल्ली द्वारा विकसित एक कम लागत वाली कोविड-19 जांच किट को बुधवार को लांच किया जाएगा। इसमें एक वैकल्पिक जांच विधि का उपयोग किया गया है। आईआईटी के निदेशक ने यह जानकारी दी है। आईआईटी दिल्ली कोविड-19 जांच पद्धति विकसित करने वाला पहला शैक्षणिक संस्थान बन गया है।

संस्थान ने कंपनियों को जांच किट का व्यवसाय करने के लिए गैर-विशिष्ट मुक्त लाइसेंस प्रदान किया है। हालांकि संस्थान ने प्रति किट की कीमत 500 रुपये रखी थी, लेकिन कंपनी न्यूटेक मेडिकल डिवाइसेस ने अभी कीमत की घोषणा नहीं की है।

कंपनी बुधवार को कोरोस्योर नाम की किट लॉन्च कर रही है। केंद्रीय मानव संसाधन विकास (एचआरडी) मंत्री रमेश पोखरियाल निशंक और मानव संसाधन विकास राज्य मंत्री संजय धोत्रे किट को लांच करेंगे। आईआईटी दिल्ली के निदेशक वी रामगोपाल राव ने कहा, यह देश में पैमाने और लागत दोनों के संदर्भ में कोविड-19 जांच के प्रतिमान को बदल देगा।

आईसीएमआर (भारतीय चिकित्सा अनुसंधान परिषद) और डीसीजीआई (भारतीय दवा महानियंत्रक) द्वारा स्वीकृत इस उत्पाद को बुधवार को लॉन्च किया जा रहा है।

कोरोना वैक्सीन ट्रायल

**अमेरिका में अंतिम स्टेज में कोरोना वैक्सीन ट्रायल की तैयारी, जल्द मिल सकती है
खुशखबरी (Dainik Jagran: 20200715)**

<https://www.jagran.com/world/america-coronavirus-vaccine-updates-moderna-start-late-stage-covid-19-vaccine-trial-in-july27-20513843.html>

मॉडर्ना कोरोना वायरस वैक्सीन के लास्ट स्टेज ट्रायल की तैयारी कर रही है। कंपनी के अनुसार 27 जुलाई को इस ट्रायल को शुरू किया जा सकता है।

वॉशिंगटन, एजेंसी। कोरोना महामारी के प्रकोप बीच लोगों के लिए एक राहतभरी खबर आ रही है। अमेरिकी दवा निर्माता कंपनी मॉडर्ना कोरोना वायरस वैक्सीन के लास्ट स्टेज ट्रायल की तैयारी कर रही है। कंपनी के अनुसार, 27 जुलाई को इस ट्रायल को शुरू किया जा सकता है। मॉडर्ना ने कहा कि वह अमेरिका के 87 स्थानों पर इस वैक्सीन के ट्रायल का आयोजन करेगी। परीक्षण के लिए 30 हजार लोगों को शामिल किया जाएगा। परीक्षण में सामिल लोगों को पहले दिन संभावित वैक्सीन के 100 माइक्रोग्राम की खुराक दी जाएगी, उसके 29 दिन बाद दूसरी खुराक दी जाएगी। माना जा रहा है कि तीसरे चरण के ट्रायल के सफल होने के बाद कंपनी कोई बड़ी घोषणा कर सकती है।

पहले टेस्ट में सफल रही अमेरिकी वैक्सीन

अमेरिकी कंपनी मॉडर्ना की कोरोना वायरस वैक्सीन अपने पहले ट्रायल में पूरी तरह से सफल रही। न्यू इंग्लैंड जर्नल ऑफ मेडिसिन में छपे अध्ययन में कहा गया है कि 45 स्वस्थ लोगों पर इस वैक्सीन के पहले टेस्ट के परिणाम बहुत अच्छे रहे हैं। इस वैक्सीन ने प्रत्येक व्यक्ति के अंदर कोरोना से जंग के लिए एंटीबॉडी विकसित किया। मॉडर्ना की वैक्सीन की एक और अच्छी बात यह रही कि इसका इतना कोई खास साइड इफेक्ट नहीं रहा जिसकी वजह से वैक्सीन के ट्रायल को रोक दिया जाए। शुरुआती टेस्टिंग में अगर एंटीबॉडी बनती है तो इसे बड़ी सफलता माना जाता है लेकिन इसका मतलब यह नहीं है कि यह वैक्सीन कोरोना वायरस के खात्मे में प्रभावी होगी। इस पहले टेस्ट में 45 ऐसे लोगों को शामिल किया गया था जो स्वस्थ थे और उनकी उम्र 18 से 55 साल के बीच थी।

सबसे ज्यादा कोरोना प्रभावित क्षेत्रों में होगा ट्रायल

इस संभावित वैक्सीन का ट्रायल राजधानी वॉशिंगटन डीसी के अलावा देश के 30 अन्य राज्यों में किया जाएगा। वैक्सीन के ट्रायल को लेकर चुने गए आधे से अधिक लोकेशन कोरोना वायरस से सबसे ज्यादा प्रभावित टेक्सास, कैलिफोर्निया, फ्लोरिडा, जॉर्जिया, एरिज़ोना और उत्तरी और दक्षिण कैरोलिना में स्थित हैं।

अमेरिकी सरकार ने मॉडर्ना को वैक्सीन विकसित करने के लिए आधा मिलियन डॉलर की आर्थिक सहायता भी दी है। इस वैक्सीन के पहले दो चरण के ट्रायल्स को लेकर कंपनी ने सफल होने का दावा किया था। हालांकि, इससे जुड़े डेटा को कंपनी ने शेयर नहीं किया है।

तीन गुना बढ़े कंपनी के शेयर

रिपोर्ट्स के अनुसार, मॉडर्ना कंपनी के शेयर फरवरी के बाद से तीन गुना से ज्यादा बढ़ गए हैं। अमेरिकी शेयर मार्केट नैस्डैक में लिस्टेड इस कंपनी के शेयर का मूल्य मंगलवार को 74.57 डॉलर है। बताया जा रहा है कि कोरोना वायरस वैक्सीन के सफल परीक्षण के बाद अमेरिकी दवा कंपनियों के शेयर्स में ये तेजी देखी जा रही है।

दुनिया भर में 13 वैक्सीन क्लिनिकल ट्रायल फेज में

बता दें कि दुनिया में वर्तमान समय में कोरोना वायरस वैक्सीन को लेकर 120 से ज्यादा प्रतिभागी काम कर रहे हैं। जबकि, इनमें से 13 वैक्सीन क्लिनिकल ट्रायल के फेज में पहुंच चुकी हैं। इनमें से सबसे ज्यादा

चीन की वैक्सीन ह्यूमन ट्रायल में है। बता दें कि चीन में 5, ब्रिटेन में 2, अमेरिका में 3, रूस ऑस्ट्रेलिया और जर्मनी में 1-1 वैक्सीन क्लिनिकल ट्रायल फेज में हैं।

भारत से संपर्क साध रहे हैं कोरोना की वैक्सीन तैयार करने वाले देश

कोरोना वैक्सीन तैयार करने वाले देश और उनकी कंपनियां इसके उत्पादन के लिए भारत की ओर रुख कर रही हैं। आइसीएमआर के महानिदेशक डॉक्टर बलराम भार्गव के अनुसार पूरी दुनिया में कुल वैक्सीन का 60 फीसद सप्लाई करने वाले भारत की कोरोना की वैक्सीन सप्लाई चैन में केंद्रीय भूमिका सुनिश्चित है। इसके साथ ही उन्होंने दो स्वदेशी वैक्सीन के मानव ट्रायल शुरू होने की जानकारी देते हुए कहा कि इनके रास्ते में प्रशासनिक स्तर पर एक दिन भी देरी नहीं आने दी जाएगी। कोरोना संक्रमण को रोकने में वैक्सीन को अंतिम विकल्प के रूप में संकेत करते हुए डॉक्टर बलराम भार्गव ने कहा कि दुनिया के सभी देश वैक्सीन को तैयार करने की प्रक्रिया को फास्ट ट्रैक करने में जुटे हैं और इसमें सफलता मिल रही है। उन्होंने कहा कि रूस तो वैक्सीन का ट्रायल पूरा भी कर चुका है। इसी तरह चीन, अमेरिका, ब्रिटेन और अन्य देश अपने-अपने यहां जल्द से जल्द वैक्सीन तैयार करने में जुटे हैं।

भारत में दो वैक्सीन का मानव ट्रायल शुरू

अपने देश में भी भारत बायोटेक और जायडस कैडिला की वैक्सीन का मानव ट्रायल शुरू हो गया है। डॉक्टर बलराम भार्गव ने कहा कि स्वदेशी वैक्सीन को फास्ट ट्रैक कर जल्द-से-जल्द आम लोगों के लिए उपलब्ध कराने की हमारी नैतिक जिम्मेदारी है। उन्होंने भरोसा दिलाया कि स्वदेशी वैक्सीन को तैयार करने में प्रशासनिक कारण से एक दिन की भी देरी नहीं होने दी जाएगी। अपने दो जुलाई की चिट्ठी में 15 अगस्त तक आम जनता के लिए स्वदेशी वैक्सीन उपलब्ध कराने की बात करने वाले डॉक्टर भार्गव ने अब इसके लिए किसी समय सीमा नहीं बताई। लेकिन उन्होंने भरोसा दिलाया कि दुनिया में बनने वाली कोरोना की वैक्सीन भारत में भी लोगों के लिए उपलब्ध होगी।

दुनिया में कहीं भी, कोई भी वैक्सीन बने, उत्पादन के लिए उसे भारत पर निर्भर होना पड़ेगा

उन्होंने कहा कि दुनिया की 60 फीसद वैक्सीन भारत में बनती है और यही कारण है कि आज 'दुनिया के सभी वैक्सीन बनाने वाले भारत के संपर्क में हैं।' उन्होंने कहा कि दुनिया में कहीं भी, कोई भी वैक्सीन बने, उत्पादन के लिए उसे भारत पर निर्भर होना पड़ेगा। ध्यान देने की बात है कि आक्सफोर्ड विश्वविद्यालय ने भी अपनी आने वाली वैक्सीन के उत्पादन के लिए भारतीय कंपनी सेरम इंस्टीट्यूट से समझौता किया है।

COVID-19 vaccine

First COVID-19 vaccine tested in U.S. shows promising results (The Hindu: 20200715)

<https://www.thehindu.com/sci-tech/science/first-covid-19-vaccine-tested-in-us-shows-promising-results/article32086308.ece?homepage=true>

The U.S. government is supporting Moderna's vaccine with nearly half a billion dollars and has chosen it as one of the first to enter large-scale human trials.

No volunteers experienced a serious side effect, but more than half reported mild or moderate reactions.

Biotech firm Moderna Inc's experimental vaccine for COVID-19 showed it was safe and provoked immune responses in all 45 healthy volunteers in an ongoing early-stage study, U.S. researchers reported on Tuesday.

Volunteers who got two doses of the vaccine had high levels of virus-killing antibodies that exceeded the average levels seen in people who had recovered from COVID-19, the team reported in the New England Journal of Medicine.

No study volunteers experienced a serious side effect, but more than half reported mild or moderate reactions such as fatigue, headache, chills, muscle aches or pain at the injection site. These were more likely to occur after the second dose and in people who got the highest dose.

Dr. Nita Patel, Director of Antibody discovery and Vaccine development, lifts a vial with a potential coronavirus (COVID-19) vaccine at Novavax labs in Rockville, Maryland on March 20, 2020, one of the labs developing a vaccine for the coronavirus.

When will a COVID-19 vaccine be ready?

Experts say a vaccine is needed to put an end to the coronavirus pandemic that has sickened millions and caused nearly 5,75,000 deaths worldwide.

Moderna was the first to start human testing of a vaccine for the novel coronavirus on March 16, 66 days after the genetic sequence of the virus was released.

Dr. Anthony Fauci, director of the National Institute of Allergy and Infectious Diseases, whose researchers developed Moderna's vaccine candidate, called the results “good news,” noting that the study found no serious adverse events and the vaccine produced “reasonably high” levels of virus-killing or neutralising antibodies.

“If your vaccine can induce a response comparable with natural infection, that's a winner,” Dr. Fauci said in a telephone interview. “That's why we're very pleased by the results.”

Moderna shares jumped more than 15% in after-hours trading on Tuesday.

The U.S. government is supporting Moderna's vaccine with nearly half a billion dollars and has chosen it as one of the first to enter large-scale human trials. A successful vaccine could be a turning point for Cambridge, Massachusetts-based Moderna, which has never had a licensed product.

How it works

Moderna's shot, mRNA-1273, uses ribonucleic acid (RNA) — a chemical messenger that contains instructions for making proteins. When injected into people, the vaccine instructs cells to make proteins that mimic the outer surface of the coronavirus, which the body recognises as a foreign invader, and mounts an immune response against.

The results released on Tuesday involved three doses of the vaccine, tested in groups of 15 volunteers aged 18-55 who got two shots, 28 days apart. The groups tested 25, 100 or 250 micrograms of the vaccine.

Adverse events after the second dose occurred in seven of the 13 volunteers who got the 25-microgram dose, all 15 participants who received the 100 microgram dose and all 14 who got the 250 microgram dose. In the highest-dose group, three patients had severe reactions such as fever, chills, headache or nausea. One of these had a fever of 103.28 Fahrenheit (39.6 C).

“We didn't see any events that are characterised as serious adverse events,” said lead author Dr. Lisa Jackson of Kaiser Permanente Washington Health Research Institute in Seattle, referring to reactions that require hospitalisation or result in death.

In June, Moderna said it selected the 100-microgram dose for its late-stage study to minimise adverse reactions.

At that dose, Moderna said the company is on track to deliver about 500 million doses per year, and possibly up to 1 billion doses per year, starting in 2021, from the company's internal U.S. manufacturing site and strategic collaboration with Swiss drugmaker Lonza.

“It's a good first step,” said Dr. William Schaffner, a vaccine expert at Vanderbilt University Medical Center who was not involved in the study.

“There's nothing here that would inhibit one from going ahead to the Phase 2/Phase 3 trials,” he said.

In April, Moderna expanded the Phase 1 trial to include adults over 55, who are more at risk of serious disease, with the aim of enrolling 120 volunteers. Moderna said it will follow study volunteers for a year to look for side effects and check how long immunity lasts.

Moderna started its phase 2 trial in May and expects to start a phase 3 trial on July 27.

Phase 1 trials aim to ensure a treatment is safe and help determine an effective dose. Phase 2 trials test a treatment in a larger group and get an early read on effectiveness. Phase 3 trials are

conducted in a large group of individuals to confirm efficacy and identify rare side effects. Moderna's Phase 3 trial will be conducted in 30,000 volunteers.

कोलेस्ट्रॉल

बढ़े कोलेस्ट्रॉल से हैं परेशान तो जान लें कैसे करें इसे कंट्रोल (Hindustan: 2020715)

<https://www.livehindustan.com/health/story-health-tips-increased-cholesterol-troubling-you-then-know-the-easy-ways-to-control-it-3351152.html>

हमारे खान-पान का सीधा असर हमारी सेहत पर पड़ता है। बात अगर दिल की बीमारियों की करें तो इसका सीधा संबंध कोलेस्ट्रॉल से है। एक हालिया शोध से पता चला है कि अगर आप अपने शरीर में बढ़े कोलेस्ट्रॉल के स्तर से परेशान हैं तो इसे कम करने के लिए आपको सैचुरेटेड फैट (संतृप्त वसा) की बजाय कार्बोहाइड्रेट युक्त पदार्थों पर लगाम लगानी होगी।

अंतरराष्ट्रीय शोधकर्ताओं के मुताबिक हमेशा से यही कहा जाता रहा है कि उन खाद्य पदार्थों को त्याग दें, जिनमें सैचुरेटेड फैट होता है। इसी वजह है जिन मरीजों का कोलेस्ट्रॉल बढ़ा होता है, उन्हें पैकेटबंद चीजें खाने से भी मनाही होती है, जैसे चिप्स या बेकरी उत्पाद लेकिन हमारे इस अध्ययन से यह पता चला है कि इंसान के शरीर में कोलेस्ट्रॉल की मात्रा को बढ़ाने में सैचुरेटेड फैट नहीं, बल्कि कार्बोहाइड्रेट का सबसे बड़ा हाथ है।

शोधकर्ता ने किया दावा-

दक्षिण फ्लोरिडा विश्वविद्यालय के शोधकर्ता और प्राफेसर डेविड डायमंड कहते हैं हाई कोलेस्ट्रॉल का प्रकार यानी हाइपरकोलेस्ट्रॉलेमिया बीमारी से जूझ रहे मरीजों को पिछले 80 सालों से ही ये सुझाव दिए जा रहे हैं कि वे अपने खान-पान में संतृप्त वसा की मात्रा को कम से कम कर दें, जो कि गलत साबित हो गया है। सच तो यह है कि दिल को बीमार होने से बचाना है तो कार्बोहाइड्रेट युक्त भोजन से दूरी बनानी होगी न कि सैचुरेटेड फैट यानी संतृप्त वसा से।

कम कार्ब आहार रखेगा सुरक्षित-

दिल से दोस्ती करनी है तो अपनी कार्ब डाइट को फॉलो करें क्योंकि शोध में यह बात सामने आई है कि जो लोग कम कार्बोहाइड्रेट युक्त चीजों का सेवन करते थे, उनमें दिल से जुड़ी बीमारी होने का खतरा काफी कम था। कम कार्ब आहार सुरक्षित है, इसलिए शोधकर्ताओं ने इस पर जोर दिया है। कार्बोहाइड्रेट के सेवन से कोलेस्ट्रॉल का स्तर तेजी से बढ़ता है और शरीर में शुगर की मात्रा बढ़ जाती है, जो बेशक दिल से जुड़ी बीमारियों को न्योता देती है। जिन लोगों को मधुमेह या मोटापे की समस्या है, उनके लिए भी 'लो कार्ब डाइट' मददगार साबित हो सकती है।

दिल को नहीं कोई खतरा-

जर्नल ऑफ द अमेरिकी कॉलेज और कार्डियोलॉजी में छपा यह शोध कहता है कि ऐसा कोई भी भोजन, जो रक्त में शर्करा के स्तर को बढ़ाता है जैसे कि, ब्रेड, आलू, मिठाई, कोल्ड ड्रिंक्स इनसे परहेज करने में ही भलाई है। इस अध्ययन में एक भी ऐसा सबूत नहीं मिला, जिससे यह बात पुख्ता हुई हो कि सैचुरेटेड फैट(संतृप्त वसा) की कमी या वृद्धि से मरीज के कोलेस्ट्रॉल का स्तर प्रभावित हुआ हो। शोधकर्ताओं ने कहा, लोग सैचुरेटेड फैट की मात्रा थोड़ी कम कर सकते हैं पर इसे पूरी तरह से बंद करने की कोई जरूरत नहीं है। बेफिक्र रहें क्योंकि यह आपको दिल की बीमारी की ओर नहीं ले जाएगा।

Infections

To counter infections, doctors stress the need for a balanced diet (The Hindu: 20200715)

<https://www.thehindu.com/life-and-style/on-world-zoonoses-day-as-the-pandemic-raises-concerns-on-animal-origin-diseases-doctors-advocate-a-diet-that-is-kinder-to-your-body-as-well-as-the-planet/article32003573.ece?homepage=true>

On World Zoonoses Day, July 6, as the pandemic raises concerns on animal-origin diseases, doctors advocate a diet that is kinder to your body, as well as the planet

On July 6, 1885, when Louis Pasteur successfully administered the first vaccine against the Rabies virus, he brought into focus zoonotic diseases, or how animals can carry harmful germs that can spread to people and cause illnesses.

July 6 is celebrated as World Zoonoses Day.

With the COVID-19 pandemic still raging, there is a renewed focus on ways to counter animal-transmitted diseases.

“One of the reasons for the spread of zoonotic diseases is the destruction of animal habitat and their displacement. The Nipah outbreak was the result of disturbing the habitat of bats so that they invaded the human space,” says Dr PK Sasidharan, retired Professor and Head of Medicine, Government Medical College, Kozhikode. He has spent three decades of working with infectious diseases, studying their causes, and treatment.

The many reasons

Dr. Neethu Susan Philip, microbiologist and Infection Control Officer, says that one of the challenges with COVID-19 is that we have not yet traced the origin of the virus correctly, though we know it started from a meat market in Wuhan.

To counter infections like COVID-19, a movement that stresses the need for a balanced, environmentally-friendly diet has begun across the world.

“From Ebola to COVID-19, there is a connect between consumption of meat and disease. The animal-man connect is clear,” say Parag Agarwal and Sethu Vaidyanathan, co-founders of Ahimsa Trust that runs the Plants Are Power campaign. It advocates the benefit of plant-based living for human, animal and environmental health.

They cite data from the American Centre for Disease Control and Prevention (CDC) showing that 75% of new and emerging diseases are from animals.

An alarming factor

Dr Susan John, Clinical Epidemiologist, Rajagiri Hospital, Kochi, also talks about the transmission of disease-producing organisms from animal to man. “In the WHO’s list of top 10 diseases, the majority are zoonotic. This is a major concern,” says Susan.

The reasons for this animal-man transmission, she says, are due to deforestation, increased consumption of raw meats and mushrooming of urban settlements where people live in close proximity with domestic animals. In addition to these factors, “increased air travel leads to its spread,” she says.

In a 2019 research in the Department of Family Medicine at Government Medical College, Kozhikode, Sasidharan says that 98.5% people were not sure of what defined a balanced diet. “Humans are the only animals who do not know what to eat,” he says.

He has conceptualised the Social Health One Health Movement (SHOHM), based on the idea that human beings cannot be healthy unless the environment they live in (including plants and animal life) is healthy.

Launched during the lockdown, this movement aims at creating awareness on the environment. Started by a team of lawyers, doctors, architects and organic farming experts, it is led by Sasidharan.

The concept envisages a health pyramid in which every individual at the base has access to a balanced diet, safe drinking water, shelter with minimum comfort and good primary education.

The second component is a large body of family doctors. “Eighty per cent of doctors should work as family doctors. Every family should have a friend-philosopher-guide doctor who will be responsible for providing continuous and comprehensive care, irrespective of age and gender and working for promoting health and wellness,” says Sasidharan, adding that the third component is general hospitals. “Specialist doctors and hospitals should be less than 20%.”

Advocate MR Rajendran, President of SHOHM Trust, has undertaken the distribution of balanced diet kits to families in Ernakulam. “The kits consist of rice, legumes, leafy vegetables and fruits. We have identified children in 10-12 BPL families. Our objectives are to create awareness on the principle of one health of humans, plants, trees, animals and the environment,” says Rajendran.

An endorsement for their work recently came from Kerala Chief Minister Pinarayi Vijayan, who after meeting them, declared at a press conference the need for people to consume a diet that builds immunity against disease.

Immunity

Explained: How immunity is developed (The Indian Express: 20200715)

<https://indianexpress.com/article/explained/how-immunity-is-developed-coronavirus-vaccine-6506182/>

A new antibody study suggests immunity to Covid-19 may be lost in months, yet notes antibodies are not the only way the body develops immunity. What is the other way, and does it put a limitation on the study?

A longitudinal study by the researchers from King’s College London — first reported by The Guardian on Sunday — has suggested that immunity to Covid-19 might be lost in months. The suggestion is based on a steep drop in patients’ antibody levels three months after the infection. A look at the findings, implications and limitations of the new study, and the broader question of how the body develops immunity against an infection:

What are the findings of the study?

The researchers analysed the immune response of 90 recovered Covid-19 patients and healthcare workers. In their study, which is not yet peer-reviewed, they found that antibodies that specifically help in neutralising the coronavirus SARS-CoV-2 decreased 2-23-fold during an 18-65 day follow-up period. This is similar to the decrease in antibodies seen in seasonal coronaviruses associated with the common cold.

They suggested that immunity developed by the formation of antibodies against SARS-CoV-2 lasts only a few months, and recovered Covid-19 patients are likely to remain susceptible and could get re-infected.

The analysis found “a potent” level of antibodies produced in 60% of participants during the peak of their infection; and that only 16.7% retained that level of potency 65 days later. While the level of antibodies was at a higher level in patients with severe symptoms, the researchers said it is not clear why antibody response correlates with disease severity. The researchers noted that asymptomatic individuals also generate antibodies against the virus.

What are the implications and the limitations of these findings?

The researchers said the study has important implications when considering widespread serological testing, antibody protection against re-infection with SARS-CoV-2, and the durability of vaccine protection.

In a separate statement issued by King’s College London, Dr Katie Doores from the School of Immunology & Microbial Sciences, who led the study, said “further research is needed to determine the level of antibodies required for protection from infection.” “We also need to know more about the titre of antibody that is required to prevent re-infection in humans,” she said.

Does a drop in antibodies result in losing immunity against the virus?

Not necessarily. Antibodies are like fingerprints that give us evidence that a pathogen (the coronavirus in this case) has caused an infection and that the immune system has responded. The antibodies usually remain in the blood for a period of time and quickly activate the immune system when the body is exposed to the pathogen again. Some antibodies not only recognise when the pathogen returns, but also protect the body for a lifetime from re-infection, as in the case of measles. However, in the case of seasonal flu, the antibodies give protection for a very small period.

In the case of the novel coronavirus, it is not yet clear how long the antibodies provide a recovered person protection. “Further studies are needed to determine the longevity of the antibody response and what level of antibodies is required to protect against re-infection,” the researchers said in a statement. Until then, the presence of antibodies only gives us the evidence that a person was exposed to the virus.

The researchers flagged the fact that antibodies are just one of the ways in which the body can fight a virus such as SARS-CoV-2.

So, what is the other way?

The researchers make an observation: “... the role T-cell responses generated through either infection or vaccination play in controlling disease cannot be discounted in these studies”.

T cells are a key component of the immune response against a virus. A human body has two mechanisms of immunity response within the adaptive immune system. First is the humeral

immune, which is also called antibody-mediated immunity and has been discussed above. However, when a virus enters a cell and can no longer be detected by antibody-mediated immunity, a cell-mediated immune response can take over to kill the virus.

Cellular immunity occurs inside the infected cell, and are mediated by cells called T lymphocytes. These are the T cells, which recognise the infected cell. Before that, these cells have to be activated by interacting with an antigen (virus)-presenting cell. Once the T cells are activated, they clone themselves generating numerous T cells, and destroy the infected cells.

During the process of activation, some of the T cells remain inactive as memory cells. These produce more T cells if the infection returns. Therefore, memory plays a crucial role in providing cell-mediated immunity. There are also helper T cells, which function indirectly by communicating to other immune cells about potential pathogens.

What is the evidence so far on cell-mediated immune response to infection with SARS-CoV-2?

AIIMS Director Dr Randeep Guleria said data emerging on immune response shows that cell-mediated immunity is also activated in some cases and is giving protection through T cells in the blood.

In a study published in the journal *Cell*, researchers from Germany found that T cell clusters emerge over the course of disease in recovering patients. It said T cells reactive to SARS-CoV-2 have been identified in “individuals exposed to other common cold coronaviruses”, therefore suggesting that T-cell response detected in healthy individuals is likely to be activated from the memory T cells derived from this earlier exposure.

In a commentary published in *Nature* on July 7, researchers from the US said T-cell reactivity against SARS-CoV-2 was observed in unexposed people. “However, the source and clinical relevance of the reactivity remains unknown. It is speculated that this reflects T cell memory to circulating ‘common cold’ coronaviruses. It will be important to define the specificities of these T cells and assess their association with Covid-19 disease severity and vaccine responses.”

In another article, published in the journal *Immunity*, researchers from the US reviewed the immunology of Covid-19 and posed two questions relating to T-cell response: first, what is the contribution of T cells to initial virus control and tissue damage in the context of Covid-19; and second, how do memory T cells established thereafter contribute to protective immunity upon reinfection. The researchers wrote: “While the induction of robust T cell immunity is likely essential for efficient virus control, dysregulated T cell responses may cause immunopathology and contribute to disease severity in Covid-19.”