



DAILY NEWS BULLETIN

LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE DAY

Friday

2020710

COVID-19 brain complications

COVID-19 brain complications found across the globe: Lancet (The Tribune: 2020710)

<https://www.tribuneindia.com/news/health/covid-19-brain-complications-found-across-the-globe-lancet-110578>

These include confusion, stroke, inflammation of the brain, spinal cord, and other kinds of nerve disease.

COVID-19 brain complications found across the globe: Lancet

Cases of brain complications linked to Covid-19 are occurring across the globe, according to a new study, published in the journal The Lancet Neurology.

Cases of brain complications linked to Covid-19 are occurring across the globe, according to a new study, published in the journal The Lancet Neurology.

According to the researchers from the University of Liverpool in the UK, Covid-19 has been associated mostly with problems like difficulty breathing, fever and cough.

However, as the pandemic has continued, it has become increasingly clear that other problems can occur in patients. These include confusion, stroke, inflammation of the brain, spinal cord, and other kinds of nerve disease.

“It is really important that doctors around the world recognise that COVID-19 can cause encephalitis and other brain problems, which often have potentially devastating, life-changing consequences for patients,” said study co-author Ava Easton, CEO of the Encephalitis Society in the UK.

A recent Liverpool-led study of Covid-19 patients hospitalised in the UK found a range of neurological and psychiatric complications that may be linked to the disease.

To get a sense of the wider picture, the researchers brought together and analysed findings from Covid-19 studies across the globe that reported on neurological complications.

The review, which included studies from China, Italy and the US among others, found almost 1,000 patients with Covid-19-associated brain, spinal cord and nerve disease.

The study found that strokes, delirium and other neurological complications are reported from most countries where there have been large outbreaks of the disease.

“Whilst these complications are relatively uncommon, the huge numbers of Covid-19 cases globally mean the overall number of patients with neurological problems is likely to be quite large,” said study researcher Suzannah Lant.

According to the researchers, one of the complications found to be linked to Covid-19 is encephalitis, which is inflammation and swelling of the brain.

“We are currently pooling data from individual patients all around the world, so that we can get a more complete picture. Doctors who would like to contribute patients to this analysis can contact us via the Global Covid-Neuro Network website,” the study authors wrote.

Recently another study, published this week in the journal Brain, showed that Covid-19 can cause severe neurological complications, including delirium, brain inflammation, stroke and nerve damage.

The research team had identified one rare and sometimes fatal inflammatory condition, known as ADEM, which appears to be increasing in prevalence due to the pandemic.—IANS

Anti-Covid drug Remdesivir

Anti-Covid drug Remdesivir being sold for up to Rs 60K, drug controller orders clampdown on hoarders (The Tribune: 2020710)

<https://www.tribuneindia.com/news/health/anti-covid-drug-remdesivir-being-sold-for-up-to-rs-60k-drug-controller-orders-clampdown-on-hoarders-110170>

Anti-Covid drug Remdesivir being sold for up to Rs 60K, drug controller orders clampdown on hoarders

The MRP of the drug is Rs 5,400 for a 100 mg vial.

The government has ordered a countrywide crackdown on hoarders and black marketers of antiviral drug Remdesivir—allowed for use in severe COVID-19 cases—after evidence that patients have to pay between Rs 16,000 to Rs 60,000 for it.

The MRP of the drug is Rs 5,400 for a 100 mg vial.

Remdesivir was included in India's COVID clinical management protocol as investigational therapy to be used in patients facing oxygen stress on June 14.

The Drug Controller later clarified that the medicine will not be sold off the rack and will have to be supplied to hospitals for use in severe COVID cases.

In a letter to state drug controllers on July 6, Drug Controller VG Somani said the black marketing of the drug needs to be cracked down on and MRP strictly enforced considering the short supply of the medicine.

Somani said complaints had been received by the Health Ministry saying Remdesivir was being black marketed and sold at overpriced rates.

Remdesivir injectable formulation was recently allowed in India under emergency use authorisation.

Only three Indian companies have been permitted to manufacture its generic version after agreements with US-based drug developer Gilead. Haryana Assistant Drug Controller, Manmohan Taneja, on Wednesday said the state had taken note of the issue and directed every distributor and agent of Remdesivir to submit a daily stock and sale position. The state drug regulator's field officers have been asked to verify the same every day.

He said the state has not yet received any complaint of black marketing of the drug.

Remdesivir is still at experimental stages worldwide and is part of the WHO Solidarity Trial which is soon expected to share results of a large Remdesivir trial undergoing in many places.

Emergency use authorisation is granted for drugs still at an experimental stage but showing potential for therapy. They are yet to be proven through all stages of drug clinical trials.

Covid-19: What you need to know today

Covid-19: What you need to know today (Hindustan Times: 2020710)

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

India registered, in the first eight days of July, nearly a fourth of the total Covid-19 cases it has seen till July 8.

Two out of every three currently active cases were registered in these eight days (which is understandable, because it indicates a surge in cases in recent days, and also that a high number of older cases have been resolved — which one would expect with a recovery rate of 62% — but still interesting), as were around 18% of all deaths from the coronavirus disease. There's a lag of roughly two weeks in the correspondence between cases and deaths, so it will probably

make sense to look at deaths between July 14 and July 21 to understand if the country is becoming better at saving lives.

India saw 25,724 new cases of Covid-19 on Wednesday, its highest single-day tally thus far. The number of new cases has increased sharply, from around 10,000 in the middle of June to in excess of 22,000 every day this week. There isn't a similar pattern with deaths — which is, again, understandable — but the number has steadily climbed. The number of daily deaths was in the 300s in mid-June. It has largely been in the late 400s this week.

Clearly, India, as a whole, isn't flattening any curve right now. Nor, for that matter, is the US, which, like India, is seeing daily records in terms of new cases.

But Delhi appears to be — or, at the least, it is showing early signs of doing so. In the first eight days of July, the city registered a sixth of the total Covid-19 cases it has seen till July 8.

In Delhi's case, three out of every four currently active cases were registered in the first eight days of July — which means the city has a better record at resolving older cases than the country as a whole (as reflected in its recovery rate of 75%).

The Capital has seen a rise and a fall in this period. From somewhere in the 2,000s in mid-June, the number of daily cases soared to over 3,000 in the last week of the month before dipping to the early 2,000s this week. Just as with India, there isn't as clear a pattern with deaths, although two days this week have seen numbers in the 40s, the lowest since mid-June.

One reason for this is the city's high testing rate.

What about Tamil Nadu, a state that has been as aggressive as Delhi with testing? Like Delhi, it too has managed to bring its positivity rate, or the proportion of people testing positive to those tested, down from its peak. (Regions that do so are clearly testing adequately, because only that will result in positivity rates first plateauing, and then declining).

In the first eight days of July, the state registered a little more than a fourth of the total Covid-19 cases till July 8.

And almost 70% of currently active cases were registered in the first eight days of July, highlighting the surge of cases that Tamil Nadu has witnessed in this period, as well as its record at resolving older cases (60% — lower than the corresponding number for both Delhi and India as a whole).

The state has seen a sharp increase in number of new cases in this period — the numbers are off their peaks seen last week, but still in the late 3000s, higher than in mid-June. The trend is a bit muddled when it comes to daily deaths, but that number rose to the mid-60s by late June, and have stayed there.

Tamil Nadu is not flattening the curve by any measure.

Why?

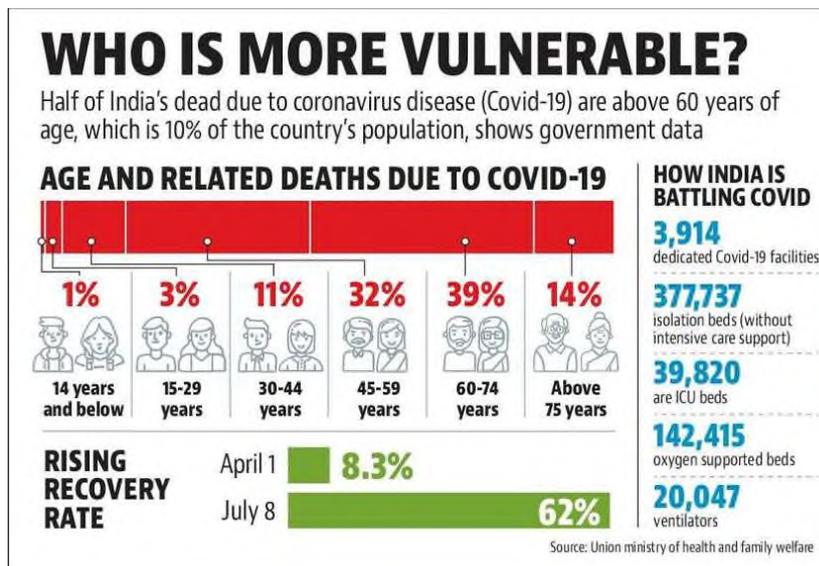
It's possible that while the state has increased the depth of its testing, it hasn't increased the width — unlike Delhi, which launched rapid antigen tests for everyone in a containment zone (and not just those who met the stringent testing criteria).

That is an important lesson. Broad-based random testing of anyone willing and wanting to be tested is the way ahead.

India's fatality rate lower than in other countries

85% deaths in 45-plus age bracket: Govt data BRIEFING: India's fatality rate lower than in other countries; recoveries improving (Hindustan Times: 2020710)

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



Rhythmia Kaul

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New Delhi : People over the age of 45 years, who form 25% of the country's population, account for 85% of India's Covid-19 deaths, the Union health ministry said on Thursday as it asserted that the country has been able to manage the outbreak "relatively well" with cases and deaths per million of the population here among the lowest in the world.

The findings about the age-wise distribution of deaths due to the coronavirus disease in India are in line with what scientists have observed about the global trends of the disease — it is disproportionately fatal for those who are older. Officials, however, did not release any data about breakup of cases based on gender and comorbidities.

Senior government officials, during the first Covid-19 press briefing by the health ministry in nearly a month, also reiterated that India has not yet reached the community transmission stage and said that there have only been "localised outbreaks in some geographical areas".

"There may be some localised pockets where transmission is high but as a country, there is no community transmission in India," Union health minister Harsh Vardhan said separately on Thursday after chairing 18th meeting of group of ministers on Covid-19.

The health ministry press briefing came a day after India saw the largest single-day spike in Covid-19 cases with 25,724 new infections on Wednesday, the first time more than 25,000 new

cases were reported in 24 hours. As of Thursday night, 794,117 confirmed cases of Covid-19 had been detected in the country and 21,577 people had died, with 25,871 cases and 441 deaths being reported on Thursday, according to HT's Covid-19 dashboard.

Government data showed that 85% of all people who have died due to Covid-19 in the country were over the age of 45 years. People between the ages of 60 and 74 years, who are only 8% of the population, form the largest proportion of fatalities — 39%. Those older than 75 (2% of India's population) account for 14% of the total Covid deaths.

At the other end of the spectrum, people under 14 years of age (35% of the population) make up only 1% of all Covid deaths in the country, and those between 15 and 24 years of age (18% of population) constitute 3% of fatalities. Those between the ages of 30 and 44 (22% of population) account for 11% of Covid deaths, the government said.

This is the first time in two months that the government has released an age-wise breakup of fatalities in the country. The data released on May 1 showed that of the 51.2% who died were above the age of 60, 42% between 60 and 75, and 9.2%, above 75.

“In spite of a population of 1.3 billion people, India has been able to manage Covid-19 relatively well,” Rajesh Bhushan, officer on special duty, Union health ministry, said.

According to the World Health Organization (WHO) report, India has 538 cases per million population while it is at least 16-17 times more in some countries, he said. “We have 15 deaths per million population, whereas we have countries where it is 40 times as much,” he said.

On a question about the Covid-19 outbreak in the country entering the community transmission phase, Bhushan said, “We should not forget that in our country, 49 districts alone account for 80% of Covid-19 cases. In a country of more than 733 districts, if 49 districts account for 80%, then it is not justified to talk about community transmission.”

He also highlighted data that showed that the proportion of patients who have recovered from Covid-19 has been growing steadily over the past three months, which has meant that the number of active cases in the country has not risen at an alarming rate. As the gap between active cases and recovered cases is growing, he said it ensures country's health infrastructure is not “creaking under the pressure”.

As on July 9, there are total a total of 3,914 dedicated Covid-19 facilities in the country, with 377,737 isolation beds (without intensive care support), 39,820 intensive care unit (ICU) beds, and 142,415 oxygen supported beds along with 20,047 ventilators.

On the World Health Organization's acknowledgement about “emerging evidence” of the airborne spread of the virus, officials said the outbreak was an evolving and dynamic situation that the government was tracking.

“We have been keeping abreast with information coming out of WHO headquarters on this aspect, but you would all appreciate and realise that even during the initial stages of the outbreak, we and PM Narendra Modi had repeatedly emphasised the importance of ‘do gaz ki doori (two-metre distance)’ and wearing masks... These concepts protect you from small droplets that may remain suspended in air for longer period of time,” Bhushan added.

When asked about ICMR director general's letter on the launch of Covid-19 vaccine, he said that the 15 August deadline was “only to expedite duly approved clinical trials without compromising on safety and security concerns”.

Even as 100-odd vaccine candidates are at various stages of development globally, trials for two indigenous vaccine candidates that have also made it to the human clinical trials stage in India are about to start, officials said.

“In record time, indigenous vaccine candidates have been developed for the new disease. The aim of the letter was to ask sites to fast-track it. We need the vaccine today, if we go by conventional methods to develop the vaccine and take two years then it would be of no use,” said Dr Nivedita Gupta, senior scientist, epidemiology division, ICMR.

Health Care Services

650 more beds in two hospitals in push for infra to fight CovidICU CAPACITY: Two Delhi govt hospitals in Ambedkar Nagar and Burari to open with 200 and 450 Covid beds respectively (Hindustan Times: 2020710)

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



The Burari facility, which has a capacity of 700 beds, will also have 250 beds with oxygen

New Delhi : To ramp up the city’s hospital bed infrastructure amid a rise in Covid-19 cases, the Delhi government will next week open a newly constructed hospital in Burari and partially start another one in south Delhi’s Ambedkar Nagar by the end of this month for coronavirus disease (Covid-19) patients, senior government officials said on Thursday.

The health department has prepared a proposal to first start 200 beds in the 600-bed facility Ambedkar Nagar — seven years after it was first approved — all of which will be dedicated to Covid-19 patients. The proposal is likely to be tabled in the next cabinet meeting, the date for which is yet to be finalised.

Before this hospital is opened, the government will start another of its new hospitals in Burari for Covid-19 patients. The facility, which has a capacity of 700 beds, will start with 450 beds from next week.

“In the case of Burari hospital, just the fire safety clearance is awaited. We are expecting to start 450 beds for Covid patients there from next week. In Ambedkar Nagar, fire safety clearance will take a few more days, so we are expecting to start 200 beds in that facility by the end of the month,” said an official from deputy chief minister Manish Sisodia’s office. Sisodia is also presently Delhi’s health minister.

Government officials, however, clarified that neither the Burari nor the Ambedkar Nagar facilities will have ICU beds. In both hospitals, arrangements have been made for medical and supporting staff, officials said.

“Some of these beds will have oxygen supply and oxygen cylinders, but no ICU bed is being readied in these two facilities yet,” a government official said.

In Burari, 250 beds will have oxygen support. “Every third bed here will have an oxygen supply attached to it. Around 125 beds have oxygen supply, and 125 will be provided through oxygen cylinders,” the official said.

The hospital in Ambedkar Nagar was approved in 2013 at a cost of Rs 125.9 crore by the Congress government. While initially it planned to house 200 beds, the Aam Aadmi Party government increased the capacity to 600.

Residents of Ambedkar Nagar said the hospital would benefit not just them but also those in nearby areas such as Sangam Vihar, Deoli, Khanpur, Madangir and Dakshinpuri.

“Right now, we just have Batra hospital, which is a private facility. For Covid-19 treatment, there was no government facility in the area. This would help many get free treatment if it is opened,” said Satish, who goes by his first name and is a resident of E-Block.

Lalit Kant, a scientist and former head of epidemiology and communicable diseases at ICMR, said the government must focus on increasing ICU beds and ventilator beds. “On Thursday, there were more than 10,300 beds vacant in various hospitals in Delhi. But almost 66% ICU beds in private hospitals and 40% in government hospitals are already occupied. So, the authorities should scale up ICU beds and ventilator beds,” he said.

No Community Sprid (The Asian Age: 2020710)

<http://onlinepaper.asianage.com/articledetailpage.aspx?id=14981864>

■ High number of Covid cases largely localised outbreaks: Govt 'No community spread in India'

AGE CORRESPONDENT
NEW DELHI, JULY 9

Union health ministry on Thursday reiterated that the high number of novel coronavirus cases in India are largely localised outbreaks in some pockets and the deadly virus has still not entered the community transmission stage in the country.

The ministry said that 8 states, including Maharashtra, Tamil Nadu, Delhi, Karnataka and Telangana, account for around 90 per cent of the total active cases in the country and 80 per cent of the active cases have been reported from 49 districts. Similarly, highest fatalities have been largely recorded in 6 states — Maharashtra, Delhi, Gujarat, Tamil

Nadu, Uttar Pradesh and West Bengal — where 86 per cent of the total deaths caused by the virus have occurred. In all, 32 districts account for 80 per cent of these fatalities.

The government is happy with the improving recovery rate which is now 62.09 per cent and the number of recovered persons is 1.75 times that of active cases. The gap between the recovered and active cases is widening and has crossed 2 lakhs. On Thursday, 7,67,296 total cases were recorded in the country out of which 24,879 are fresh ones. In one day, 487 deaths were reported taking total fatalities to 21,129. There are now 2, 69, 789 active cases and 4,76, 377 cured.

Officials said it would be

Eight states, including Maharashtra, Tamil Nadu, Delhi, Karnataka and Telangana, account for around 90 per cent of the total active cases in the country and 80 per cent of the active cases have been reported from 49 districts.

unfair to compare India with other countries in terms of absolute numbers, India has 195.5 cases per million population which is amongst the lowest in the world. They said deaths per million population in India are 15.31 which translates to a fatality rate of 2.75% while the global deaths per million population stands at 68.7%.

"Cases per million population in some countries

are at least 16-17 times more than what it is in India. We have 15 deaths per million population whereas in other countries it is 40 times higher," said Rajesh Bhushan, OSD, ministry of health. On the MIT Study that claimed India will have 2.87 lakh cases per day by February 2021, Mr Bhsuahn said a lot of parameters cannot be interpreted in mathematical models and there is no account of how the virus will behave and how the communities will respond to it.

Meanwhile, Union home ministry said that the situation in Delhi has shown remarkable improvement as the recovery rate goes over 72 per cent and doubling rate is now nearly 30 days.

Food and Nutrition

Add fruit, veggies and grains to diet to reduce type 2 diabetes risk (New Kerala: 2020710)

<https://www.newkerala.com/news/2020/122415.htm>

Add fruit, veggies and grains to diet to reduce type 2 diabetes risk

London, July 9 : Higher consumption of fruit, vegetables and whole-grain foods are associated with a lower risk of developing type 2 diabetes, say researchers.

The findings, published in the journal The BMJ, suggest that even a modest increase in consumption of these foods as part of a healthy diet could help prevent type 2 diabetes.

In the first study, a team of European researchers examined the association between blood levels of vitamin C and carotenoids (pigments found in colourful fruits and vegetables) with the risk of developing type 2 diabetes.

Vitamin C and carotenoid levels are more reliable indicators of fruit and vegetable intake than using dietary questionnaires. The research team compared 9,754 adults with new-onset type 2 diabetes to a group of 13,662 adults who remained free of diabetes.

The researchers calculate that every 66 grams per day increase in total fruit and vegetable intake was associated with a 25 per cent lower risk of developing type 2 diabetes.

In the second study, the research team used questionnaires to measure the whole grain intake of more than 158,000 women and nearly 37,000 men who were free from diabetes, heart disease and cancer.

After adjusting for lifestyle and dietary risk factors for diabetes, participants in the highest category for total whole grain consumption had a 29 per cent lower rate of type 2 diabetes compared with those in the lowest category.

For individual whole-grain foods, the researchers found that consuming one or more servings a day of whole-grain cold breakfast cereal or dark bread was associated with a lower risk of type 2 diabetes compared with consuming less than one serving a month.

The findings showed that eating two or more servings a week of oatmeal was associated with a 21 per cent lower risk of diabetes, a 15 per cent lower risk for added bran and a 12 per cent lower risk for brown rice and wheat germ, when compared to eating less than one serving a month.

And for fruit and vegetables, the findings also suggest that consumption of even a moderately increased amount among populations who typically consume low levels could help to prevent type 2 diabetes.

Mental health

Hate desk job? It may be good for your mental health (New Kerala: 2020710)

<https://www.newkerala.com/news/2020/122413.htm>

Hate desk job? It may be good for your mental health

London, July 9 : People who work in jobs that require less physical activity - typically office and desk-based jobs - are at a lower risk of subsequent poor cognition than those whose work is more physically active, according to a study.

Lack of physical activity and exercise are known risk factors for major health conditions, including cognitive impairments such as memory and concentration problems.

"Our analysis shows that the relationship between physical activity and cognitive is not straightforward," said study author Shabina Hayat from the University of Cambridge in the UK.

"While regular physical activity has considerable benefits for protection against many chronic diseases, other factors may influence its effect on future poor cognition," Hayat explained.

For the findings, published in the International Journal of Epidemiology, the research team examined patterns of physical activity among 8,500 men and women who were aged 40-79 years old at the start of the study and who had a wide range of socioeconomic backgrounds and educational attainment.

In particular, the team were able to separate physical activity during work and leisure to see if these had different associations with later-life cognition. As part of the study, participants completed a health and lifestyle questionnaire, including information on the level of physical activity during both work and leisure, and underwent a health examination. After an average 12 years, the volunteers were invited back and completed a battery of tests that measured aspects of their cognition, including memory, attention, visual processing speed and a reading ability test that approximates IQ.

The findings showed that individuals with no qualifications were more likely to have physically active jobs, but less likely to be physically active outside of work. The study found that a physically inactive job (typically a desk-job), is associated with lower risk of poor cognition, irrespective of the level of education. Those who remained in this type of work throughout the study period were the most likely to be in the top 10 per cent of performers.

Those in manual work had almost three times increased risk of poor cognition than those with an inactive job, the researchers said. "People who have less active jobs - typically office-based, desk jobs - performed better at cognitive tests regardless of their education," Hayat said.

"This suggests that because desk jobs tend to be more mentally challenging than manual occupations, they may offer protection against cognitive decline," Hayat noted.

Dementia risk

Hearing, visual impairments linked to elevated dementia risk (New Kerala: 2020710)

<https://www.newkerala.com/news/2020/122405.htm>

Researchers have found that older adults with both hearing and visual impairments--or dual sensory impairment--had a significantly higher risk for dementia.

The study, published in the journal Alzheimer's and Dementia Diagnosis, Assessment and Disease Monitoring, said that hearing and vision loss are independently associated with dementia, but the impact of dual sensory impairment on dementia risk is not well understood.

"Evaluation of vision and hearing in older adults may predict who will develop dementia and Alzheimer's," said study lead author Phillip H Hwang from the University of Washington in the US.

"This has important implications on identifying potential participants in prevention trials for Alzheimer's disease, as well as whether treatments for vision and hearing loss can modify risk for dementia," Hwang added.

In the study of 2,051 older adults (22.8 per cent with hearing or visual impairment and 5.1 per cent with both impairments) who were followed over eight years, dual sensory impairment was associated with an 86 per cent higher risk for dementia compared with having no sensory impairments.

During follow-up, dementia developed in 14.3 per cent in those with no sensory impairments, 16.9 per cent in those with one sensory impairment, and 28.8 per cent in those with dual sensory impairment.

The findings showed that participants with dual sensory impairment were also twice as likely to develop Alzheimer's disease (the most common form of dementia) than those without sensory impairments.

"Dual sensory impairment was independently and strongly associated with an increased risk of all-cause dementia and Alzheimer's disease," the study author wrote.

The researchers noted that further research is needed to characterise the exact role of sensory impairments and whether treatments that improve sensory function, such as surgery or sensory aids, devices, and prostheses, can modify this risk.

Heart disease

How good gut bacteria help reduce the risk for heart disease (New Kerala: 2020710)

Scientists have discovered that one of the good bacteria found in the human gut has a benefit that has remained unrecognized until now -- the potential to reduce the risk for heart disease.

The bacteria's activity in the intestines reduces the production of a chemical that has been linked to the development of clogged arteries. After it's manufactured in the gut, the chemical enters the bloodstream and travels to the liver, where it is converted into its most harmful form.

Ohio State University researchers have traced the bacteria's behaviour to a family of proteins that they suspect could explain other ways that good gut organisms can contribute to human health.

In essence, these microbes compete with bad bacteria for access to the same nutrients in the gut - and if the good bacteria win, they may prevent health problems that can result from how the body metabolizes food.

Much more work is ahead, but the scientists see the potential for this microbe, *Eubacterium limosum*, to be used for therapeutic purposes in the future. Previous research has already shown the bacteria is "good" because it calms inflammation in the gut.

"Over the last decade, it has become apparent that bacteria in the human gut influence our health in many ways. The organism we studied affects health by preventing a problematic compound from becoming a worse one," said Joseph Krzycki, professor of microbiology at Ohio State and senior author of the study.

"It's too soon to say whether this bacteria could have therapeutic value. But that's what we're working toward," added Krzycki.

The research appears online and will be published in a future edition of the *Journal of Biological Chemistry*.

The chemical linked to the clogged arteries that characterize atherosclerosis is called trimethylamine, or TMA. It is produced during metabolism when some intestinal microbes - generally the bacteria considered unhelpful to humans - interact with certain nutrients from food. Among those nutrients is L-carnitine, a chemical compound found in meat and fish that is also used as a nutritional supplement to improve recovery after exercise.

Krzycki and his colleagues discovered that *E. limosum* interacts with L-carnitine in a different way in the gut and that interaction eliminates L-carnitine's role in the production of TMA (other nutrients also participate in TMA production in the gut).

The researchers attribute the bacteria's beneficial behaviour to a protein called MtcB, an enzyme that cuts specific molecules off of compounds to help bacteria generate energy and survive. The process is called demethylation, and involves the removal of one methyl group - a carbon atom surrounded by three hydrogen atoms - to change a compound's structure or function.

"The bacteria does this for its own benefit, but it has the downstream effect of reducing the toxicity of TMA," Krzycki said. "Up until now, the only known gut microbial reactions with L-carnitine involved converting it into its bad form. We've discovered that a bacteria known to be beneficial could remove a methyl group and send the resulting product down another pathway without making any other harmful compounds in the process."

In these interactions, L-carnitine functions as a growth substrate - a compound consumed so the organism can live and grow, and also a target for enzyme activity. In the study, the researchers fed *E. limosum* cultures an assortment of potential substrates, including L-carnitine. Only when offered L-carnitine did the microbe synthesize the MtcB protein specifically to lop off L-carnitine's methyl group - in essence, MtcB is part of the bacteria's natural way to consume the nutrient.

Krzycki said finding this one significant health benefit in one species of gut bacteria suggests there is still a lot to learn about how gut bacteria can influence health outcomes associated with human metabolism.

"MtcB is part of a family of proteins with thousands of representatives that may use different compounds and change what nutrients bacteria consume in the gut," he said. "These proteins

may behave very similar chemically, but using different compounds obviously can create big changes as far as biology goes."

Knee osteoarthritis

Study link certain jobs to higher risk of knee osteoarthritis (New Kerala: 2020710)

<https://www.newkerala.com/news/2020/122173.htm>

Sydney [Australia], July 8: Workers in jobs that typically involve frequent climbing, heavy lifting, prolonged kneeling, squatting, and standing are likely to face an increased risk of developing knee osteoarthritis, according to a new study.

Knee osteoarthritis is a highly prevalent, chronic condition and one of the leading contributors to loss of work and disability. To see if certain jobs put individuals at higher risk, investigators analyzed the results of relevant studies published to date. The latest study results are published in Arthritis Care and Research.

The combined results from 71 studies with over 950,000 participants revealed significantly higher odds of knee osteoarthritis in physically demanding job titles including farmers, builders, metal workers, floor layers, miners, cleaners, and service workers.

Compared with sedentary (or low physically active) workers, agricultural workers had up to a 64 per cent increased odds of knee osteoarthritis. Similarly, builders and floor layers had a 63 per cent increased odds of knee osteoarthritis.

"This collaborative research informs workplace regulators by identifying people frequently involved in specific work activities who may be susceptible to knee osteoarthritis, the most common joint disorder worldwide," said lead author Xia Wang, MMed, PhD, of the University of Sydney, in Australia.

"Thus, tailored preventive strategies need to be implemented early on to adapt the aging workforces in many countries that push for longer employment trajectories," Xia Wang added.

Private Lab (Hindustan: 2020710)

https://epaper.livehindustan.com/imageview_187175_86299412_4_1_10-07-2020_6_i_1_sf.html

जांच के लिए 900 से 1400 रुपये तक शुल्क, छह घंटे में रिपोर्ट

निजी लैब में कोरोना की एंटीबॉडी जांच फिर शुरू

नई दिल्ली | वरिष्ठ संवाददाता

दिल्ली के निजी लैब में फिर से एंटीबॉडी जांच की अनुमति मिलने के साथ ही यह जांच फिर से शुरू हो गई है। एंटीबॉडी आईजीजी जांच का मकसद यह पता लगाना है कि कोई व्यक्ति पहले कोरोना संक्रमित हुआ था। अगर हुआ था तो क्या उसके शरीर में कोरोना वायरस के संक्रमण से लड़ने के लिए एंटीबॉडी पैदा हो गए हैं। दिल्ली के निजी लैब में यह जांच 900 से लेकर 1400 रुपये तक में की जा रही है।

23000 नमूने लिए गए हैं : दिल्ली के लोगों में कोरोना से लड़ने के लिए क्षमता विकसित हुई है या नहीं, यह जानने के लिए राजधानी में सिरोलॉजिकल सर्वे किया जा रहा है। यह सर्वे 27 जून से शुरू हुआ था और 10 जुलाई तक किया जाएगा। यह सर्वे राष्ट्रीय रोग नियंत्रण केंद्र और दिल्ली सरकार के स्वास्थ्य विभाग द्वारा संयुक्त रूप किया जा रहा है। एनसीडीसी द्वारा इस सर्वे में दिल्ली के सभी 11 जिलों की जनसंख्या के मुताबिक नमूने लिए जा रहे हैं। इसमें दिल्ली में अलग-अलग वर्ग और उम्र के 23 हजार लोगों के खून के नमूने लेकर जांच की जा रही है। इस सर्वे में एंटीबॉडी जांच की जा रही है।

खून से होती है एंटीबॉडी जांच : कोई व्यक्ति किसी वायरस का शिकार होता है तो उसके शरीर में वायरस से लड़ने के लिए एंटीबॉडी बन जाती है। शरीर में एंटीबॉडीज का पता लगाने के लिए एंटीबॉडी जांच की जाती है। एंटीबॉडी टेस्ट में ब्लड सैमपल लिया

दिल्ली में तीन तरह की जांच

राजधानी में कोरोना से जुड़ी तीन तरह की जांच हो रही है। सबसे सटीक आरटीपीसीआर है। इसके अलावा रैपिड एंटीजन और एंटीबॉडी जांच शामिल हैं।

एंटीबॉडी

1 इस जांच में यह पता लगाया जाता है कि कोरोना संक्रमण से लड़ने के लिए शरीर में एंटीबॉडी यानी लड़ने की क्षमता विकसित हुई है या नहीं। अगर इस जांच में व्यक्ति के शरीर में एंटीबॉडी पैदा नहीं हुए हैं तो संभव है इस जांच से यह पता न लगे कि कोरोना संक्रमण हुआ है या नहीं। जांच में एंटीबॉडी मिलने का मतलब है कि व्यक्ति को कोरोना संक्रमण हुआ है और शरीर में वायरस के प्रति लड़ने की क्षमता विकसित हुई है। अगर जांच निगेटिव है तो फिर से आरटीपीसीआर जांच करानी होगी। एंटीबॉडी जांच में खून का सैमपल लिया जाता है।



2 आरटीपीसीआर : जांच में नाक और मुंह दोनों से नमूने लिए जाते हैं। जांच लैब में होती है, इसकी रिपोर्ट मिलने में 48 घंटे भी लग जाते हैं।

3 एंटीजन जांच : रैपिड एंटीजन टेस्ट में नाक से नमूना लिया जाता है। नतीजे 30 मिनट में आ जाते हैं। एंटीजन जांच किट 2 से 30 डिग्री तापमान में रखी जाती हैं।

विशेषज्ञ की नजर में कौन बेहतर

गंगाराम अस्पताल के वरिष्ठ डॉक्टर धीरेन गुप्ता के मुताबिक आरटी पीसीआर जांच रैपिड एंटीजन जांच से बेहतर परिणाम देती है। आरटी पीसीआर जांच में वायरस के आरएनए या डीएनए का पता लगाया जाता है। कोरोना एक आरएनए वायरस है। जांच में आरएनए का पता लगाते हैं। एंटीजन टेस्ट में वायरस के एंटीजन का पता लगाते हैं। यह वायरस का एक प्रोटीन है। ये ऐसे बाहरी तत्व होते हैं जो प्रतिरक्षा तंत्र को एंटीबॉडी बनाने के लिए प्रेरित करते हैं। जांच में निगेटिव परिणाम आने पर आरटीपीसीआर जांच करानी होती है।

जाता है। अंगुली से एक या दो बूंद रक्त लेकर जांच की जाती है, जिससे पता चलता है कि इम्यून सिस्टम ने वायरस

को बेअसर करने के लिए एंटीबॉडीज बनाए हैं या नहीं। इसकी रिपोर्ट चार से छह घंटे में आ जाती है।

अक्टूबर में कोरोना से जंग जीत सकता है भारत: स्टडी

■ एनबीटी, नई दिल्ली: भारत अक्टूबर में कोरोना से जंग जीत सकता है। टाइम्स नाउ द्वारा ग्लोबल कंसल्टिंग फर्म प्रोटिविटी के साथ मिलकर की गई ताजा स्टडी में ये बात निकलकर सामने आई है। इसमें कहा गया भारत मौजूदा समय में कोरोना के पीक ऐक्टिव केसों की तरफ बढ़ रहा है। यह संख्या अधिकतम 6,45,700 के करीब पहुंच सकती है। बता दें कि कोरोना को मात देने वालों की संख्या तेजी से बढ़ रही है और रिकवरी रेट अब 62.09 पर पहुंच गया है। इसी बीच देश में बीते 24 घंटे में कोरोना के रेकॉर्ड 24 हजार 879 नए मामले सामने आए हैं। वहीं, राजधानी दिल्ली में गुरुवार को 2187 नए मामले आए। 4027 लोग ठीक भी हुए। देश में कुल मरीजों का आंकड़ा 7,67296 हो गया है। अबतक 4,76378 लोग कोरोना से जंग जीत चुके हैं।

