



# DAILY NEWS BULLETIN

LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE DAY

Tuesday

20190416

## Measles cases

### Measles cases up 300% worldwide in 2019, says WHO (The Guardian: 20190416)

<https://www.theguardian.com/society/2019/apr/15/measles-cases-up-300-worldwide-2019-says-who-vaccination>

Data for first three months adds to concerns over impact of anti-vaccination campaigns

Babies are brought to be vaccinated against measles at a health clinic in Madagascar

Babies are brought to be vaccinated against measles at a health clinic in Larintsena, Madagascar. Photograph: Laetitia Bezain/AP

Measles cases worldwide rose by 300% during the first three months of 2019 compared with the same period last year, the World Health Organization (WHO) has said, amid growing concerns over the impact of anti-vaccination campaigns, particularly spread through social media.

Measles, which is highly contagious, can be entirely prevented with a two-dose vaccine, but for some time the WHO has been warning about declining global vaccination rates.

“Preliminary global data shows that reported cases rose by 300% in the first three months of 2019, compared to the same period in 2018. This follows consecutive increases over the past two years,” it said in a statement.

New York City declares emergency over measles as cases double in two months

“While this data is provisional and not yet complete, it indicates a clear trend. Many countries are in the midst of sizeable measles outbreaks, with all regions of the world experiencing sustained rises in cases,” the WHO added.

The agency noted that only about one in 10 actual measles cases were reported, meaning the early trends for 2019 were likely to underestimate the severity of the outbreaks.

So far this year, 170 countries have reported 112,163 measles cases to the WHO. At this time last year, 163 countries had reported 28,124 cases.

“Spikes in case numbers have also occurred in countries with high overall vaccination coverage, including the United States,” the WHO said. “The disease has spread fast among clusters of unvaccinated people.”

The New York mayor, Bill de Blasio, declared a public health emergency in parts of Brooklyn last week after a measles outbreak in an ultra-Orthodox Jewish community, where some distrust modern science and technology, leaving them vulnerable to anti-vaccine scaremongering. More than 300 cases of measles were reported. The state of emergency required families to have their children vaccinated or pay a fine. Some members of the ultra-Orthodox community have filed a lawsuit, claiming the declaration is unjustified.

Israel, Thailand and Tunisia have also experienced alarming outbreaks among unvaccinated groups, despite generally high levels of vaccination coverage, said the WHO. Last month, Unicef warned about the surging numbers of measles cases worldwide and the disastrous consequences for children.

While there are many reasons for the fall in vaccination rates, including supply problems and conflicts in some parts of the world, there is serious concern about the spread of anti-vaccine misinformation, leading to what public health experts call “vaccine hesitancy”.

The internet has spread conspiracy theories and anti-pharmaceutical industry stories across Europe, where there has been major declines in immunisation rates. In some countries, including Italy and France, populist politicians have championed the right of parents not to vaccinate a child – even though 95% immunisation is necessary to prevent vulnerable children who cannot be vaccinated because of a compromised immune system from falling ill with potentially serious consequences.

Unicef said 98 countries reported rising numbers of measles cases in 2018 compared with 2017, including some that had eradicated the disease. Ukraine, the Philippines and Brazil had the biggest increase in numbers.

But there is also concern over Africa, which has less vaccine coverage than other regions. WHO says its Africa region had the biggest rise in cases in the last three months compared with the same time last year – a 700% increase.

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## **Global measles cases up 300 per cent year-on-year**

### **Global measles cases up 300 per cent year-on-year WHO PTI April 15, 2019 21:33 IST (The Week: 20190416)**

<https://www.theweek.in/wire-updates/international/2019/04/15/fgn23-who-ld%20measles.html>

Geneva, Apr 15 (AFP) Measles cases rose 300 percent worldwide through the first three months of 2019 compared to the same period last year, the UN said Monday, as concern grows over the impact of anti-vaccination stigma.

Measles, which is highly contagious, can be entirely prevented through a two-dose vaccine, but the World Health Organisation (WHO) has in recent months sounded the alarm over slipping global vaccination rates.

"Preliminary global data shows that reported cases rose by 300 percent in the first three months of 2019, compared to the same period in 2018. This follows consecutive increases over the past two years," it said in a statement.

"While this data is provisional and not yet complete, it indicates a clear trend. Many countries are in the midst of sizeable measles outbreaks, with all regions of the world experiencing sustained rises in cases," WHO further said.

The agency noted that only about one in 10 actual measles cases are reported, meaning the early trends for 2019 likely underestimate the severity of the outbreaks.

So far this year, 170 countries have reported 112,163 measles cases to WHO. At this time last year, 163 countries had reported 28,124 cases.

"Spikes in case numbers have also occurred in countries with high overall vaccination coverage, including the United States," WHO said.

"The disease has spread fast among clusters of unvaccinated people," it added.

New York's mayor declared a public health emergency in parts of Brooklyn last week, after a measles outbreak emerged in an ultra-Orthodox Jewish community, where some had resisted vaccination on religious grounds.

WHO said the most dramatic rise in cases -- a 700-percent increase compared to last year -- has been reported in Africa, which has weaker vaccination coverage than other regions. (AFP)

## **Human cells, vessels**

### **First' 3D printed heart has human cells, vessels (The Hindu: 20190416)**

<https://www.thehindu.com/sci-tech/science/first-3d-printed-heart-has-human-cells-vessels/article26848023.ece>



It raises possibility for transplants into patients in future

Scientists in Israel unveiled a 3D print of a heart with human tissue and vessels on Monday, calling it a first and a “major medical breakthrough” that advances possibilities for transplants.

The heart marked “the first time anyone has successfully engineered and printed an entire heart replete with cells, blood vessels, ventricles and chambers,” said Tel Aviv University’s Tal Dvir, who led the project.

“People have managed to 3D-print the structure of a heart in the past, but not with cells or with blood vessels,” he said.

But the scientists said many challenges remain before fully working 3D printed hearts will be available for transplant into patients.

Journalists were shown a 3D print of a heart about the size of a cherry at Tel Aviv University on Monday. The findings were published in the journal Advanced Science.

Researchers must now teach the printed hearts “to behave” like real ones. Then they plan to transplant them into animal models, said Mr. Dvir. “Maybe, in 10 years, there will be organ printers in the finest hospitals around the world, and these procedures will be conducted routinely,” he said.

But he said hospitals would likely start with simpler organs than hearts.

## **MDS (Master of Dental Surgery — postgraduate course in dentistry)**

### **Qualifying marks lowered drastically to fill MDS seats (The Tribune: 20190416)**

<https://www.tribuneindia.com/news/punjab/qualifying-marks-lowered-dramatically-to-fill-mds-seats/758944.html>

2 medical colleges announce zero fee for non-clinical courses

Facing shortage of eligible candidates to fill all 139 MDS (Master of Dental Surgery — postgraduate course in dentistry) in 12 dental colleges in the state, the Union Ministry of Health and Family Welfare has lowered the minimum qualifying marks and percentile for admission to these seats.

As 68 out of total 139 MDS state quota seats remained vacant in the first round of counselling, conducted by Baba Farid University of Health Sciences (BFUHS) on April 7, the qualifying percentile for the MDS has been lowered from 50 to 25.835 for the general category candidates and for SC/BC and handicapped candidates, the qualifying percentile has been reduced from 40 to 15.835 and 45 to 20.835, respectively.

If the cut-off score as qualifying criteria for general category candidates was 250 marks last week, now the cut-off score is 172 marks. For the SC/ST and handicapped candidates, the revised cut off score is 140 marks against the 215 and 156 marks against 232 marks, the minimum qualifying marks fixed last week.

With this reduction in qualifying cut-off score, BFUHS on Monday invited additional number of candidates for admission to the dentistry course for the second counselling, which will start on April 24.

It is not only in the MDS course where the dental colleges in the state are facing shortage of aspirant candidates, more worrisome is the status of non-clinical MD seats in seven medical colleges in the state.

Out of the total 403 MD/MS postgraduate courses seats in seven medical colleges in the state, there are 138 non-clinical seats in the subjects like biochemistry, forensic science, microbiology, pharmacology, physiology, anatomy and SPM. In the first round of counselling, conducted on April 8, only three of these non-clinical seats could be filled.

To attract students to non-clinical subjects seats, even two medical colleges — Adesh Medical College and Sri Guru Ram Das Medical College — have announced a complete waiver on the fee for these courses. These colleges have announced zero fees for all non-clinical courses, notwithstanding that the state government has fixed Rs 7.8 lakh fee for these courses. However, for the clinical MD/MS seats, both these colleges have about 100 per cent more tuition fee in comparison to five other medical colleges in the state.

It is really worrisome trend that the students are not opting for non-clinical subjects as it led to shortage of teaching faculty in medical colleges, said Dr Raj Bahadur, Vice Chancellor, BFUHS. The qualifying marks for the MDS had not been lowered for Punjab only, the Union Health Ministry had taken the decision for all dental colleges in the country, he said.

There were high chances that the Union Health Ministry would lower the qualifying percentile for non-clinical seats also in the coming days, said sources in medical colleges in the state.

Worrisome trend, says BFUHS VC

Dr Raj Bahadur, VC, BFUHS, said it was a worrisome trend that students were not opting for non-clinical subjects as it led to shortage of teaching faculty in medical colleges

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## **MCI**

### **MCI warnings ignored, state in a fix over 100 MBBS seats (The Tribune: 20190416)**

<https://www.tribuneindia.com/news/punjab/mci-warnings-ignored-state-in-a-fix-over-100-mbbs-seats/758943.html>

Ever since 50 MBBS seats each were increased at Government Medical Colleges (GMC) in Patiala and Amritsar, successive state governments have failed to comply with the guidelines laid down by the Medical Council of India (MCI) to make these permanent.

If the colleges want to retain the increased seats, they need to comply with the MCI guidelines. However, despite repeated warnings by the MCI to fill the vacant faculty posts — one of the main conditions — the state has failed to do so.

In fact, the MCI, the apex medical governing body of the country, had increased the student intake from 150 to 200 in each college in 2014.

After increasing the seats in any college, the MCI carries out annual inspections for the next five years, till the first batch with increased seats passes out, before making these permanent.

In every report, the MCI has been pointing out faculty shortage but this year – which is the final year of inspection — fulfilling the MCI conditions seems almost impossible.

To retain the seats, the government must complete the recruitment process of faculty before the notification of the new session. But sources have informed the Tribune that the MCI had to notify a number of MBBS seats in the month of May before the NEET UG exam but completing the recruitment till then would not be possible since the model code of conduct was in effect until May 23.

In the prevailing situation, the ball, it seems, is lying in the court of the MCI. Therefore, the said GMCs are likely to lose 100 MBBS seats permanently.

“The losing of 100 seats means it will become more difficult for us to get into a medical college, which is unfair,” said an MBBS aspirant.

Colleges facing staff crunch for years

As per the MCI assessment, Patiala GMC had 11.28% staff shortage in 2015, 17.52% in 2016, 19.94% in 2017, 22.5% in 2018 and 23% in 2019

Similarly, Amritsar GMC had 16.32% staff crunch in 2015-16, 11.04% in 2017, 16.09% in 2018 and 16% in 2019

Maximum posts of Assistant Professor, which is an entry-level position, are lying vacant. Sources said no Assistant Professor had been recruited since 2015

In November 2018, the state had invited over 300 applications for Assistant Professor but no recruitments could be made before the imposition of the poll code.

## **Sunstroke cases**

### **Sunstroke cases on the rise in Andhra Pradesh (The Hindu: 20190416)**

<https://www.thehindu.com/news/cities/Vijayawada/sunstroke-cases-on-the-rise-in-state/article26848539.ece>

Andhra Pradesh has reported 346 cases of sunstroke hospitalisations so far.

Even as the State government and the Disaster Management Authority (APSDMA) are implementing the “heat wave action plan” in view of increasing summer heat, several people in the State are being affected by sunstroke.

The number of sunstroke cases registered across the State so far this season has already crossed the total number of sunstroke cases registered during the last summer season.

According to APSDMA, which is at the helm of heat wave impact mitigation, so far 346 cases of sunstroke (hospitalisation) have been reported by the authorities concerned of all the districts up to April 14. The highest number of sunstroke cases occurred in Kadapa district, where 143 cases were reported. It is followed by Guntur and Visakhapatnam districts that registered 84 and 41 cases respectively.

Last year, in the entire summer season, eight cases of sunstroke deaths were reported, and only 242 cases of hospitalisations due to sunstroke were reported, according to officials. So far the highest maximum temperature recorded in the State was 44 degrees Celsius at Gollavidipi of Prakasam district on April 14.

Heat wave

As per the reports, severe heat wave condition is predicted in two mandals and heat wave condition is predicted in 48 mandals of the State on Tuesday. Also, as per the Discomfort Index, 133 mandals will experience very hot weather on Tuesday.

Admitting that there was an increase in the number of sunstroke cases, APSDMA's State Emergency Operation Centre in-charge S. Kishan said the government was leaving no stone unturned to mitigate the impact of rising temperatures.\

He said that SDMA had for the first time prepared a heat wave atlas that consolidates the highest temperatures recorded in the state between 2010 and 2018 and marks vulnerable mandals also called as hot spots so that effective precautions could be taken.

“As per the atlas and heat wave forecast by India Meteorological Department, we have been alerting the local mandal revenue officers (MROs) on a daily basis and necessary support is provided,” Mr. Kishan said.

Mr. Kishan said that SDMA had so far conducted 42,000 heat wave awareness campaigns and distributed 3.27 lakh ORS packages besides setting up 11,107 water kiosks. As a precautionary measure 13,212 emergency shelters were arranged in schools, colleges and other buildings.

The government was also focussing on heat index which is a combination of high temperature and humidity that is usually found high in the coastal districts.

## **Diabetes drug**

### **Diabetes drug has heart and kidney benefits, researchers find (CNN: 20190416)**

<https://edition.cnn.com/2019/04/14/health/canagliflozin-diabetes-kidney-drug-study/index.html>

(CNN)A common diabetes drug has been found to lower the risk of kidney failure in a new study. The finding has raised some eyebrows since diabetes is a major cause of kidney failure worldwide.

The risk of kidney failure and cardiovascular-related problems was lowered in patients with type 2 diabetes and kidney disease who took a daily dose of the drug canagliflozin as part of the study published in The New England Journal of Medicine on Sunday.

The study was funded by the pharmaceutical company Janssen, manufacturer of the drug canagliflozin, which has the brand name Invokana.

In March, the company submitted a supplemental new drug application to the US Food and Drug Administration for canagliflozin to be used to reduce the risk of end-stage kidney disease and renal or cardiovascular death in adults with type 2 diabetes and chronic kidney disease.

Type 2 diabetes hitting a younger generation

Type 2 diabetes hitting a younger generation 02:33

The study included 4,401 patients, aged 30 and older, with type 2 diabetes and chronic kidney disease. Those patients were randomly assigned at 690 sites in 34 countries to take either canagliflozin or a placebo, from March 2014 through May 2017.

They were followed up with at 3, 13 and 26 weeks, during which the effects of the drug were monitored.

The researchers found that in the canagliflozin group the relative risk of death from renal causes was 34% lower, and the relative risk of end-stage kidney disease was 32% lower. The group also had a lower risk of cardiovascular death, heart attack, stroke and hospitalization for heart failure.

Based on data in the study, the researchers estimated that canagliflozin treatment would prevent 22 hospitalizations for heart failure and 25 composite events of cardiovascular death, heart attack or stroke among 1,000 patients.

Diabetes cases have quadrupled in just over 3 decades

Diabetes cases have quadrupled in just over 3 decades

As for harmful outcomes, canagliflozin has been found to increase the risk of having a lower limb amputation as a side effect, but the researchers saw no significant difference in the risk of lower-limb amputation between the two groups in the study. Rates of bone fracture, another known side effect of canagliflozin, were also similar in the two groups, according to the study.

The study also showed that risk of diabetic ketoacidosis, a life-threatening problem when the body starts breaking down fat at an unhealthy fast rate, was low overall but higher in the canagliflozin group.

The study had some limitations, including that it did not include patients who had very advanced kidney disease. Nor did it include patients whose kidney diseases were believed to be due to conditions other than type 2 diabetes. More research is needed to determine whether the study's findings could be generalized to other types of kidney disease.

Heartburn drugs tied to increased risk of early death, study says

Heartburn drugs tied to increased risk of early death, study says

This study has the potential to influence medical practice, said Dr. Mark Molitch, professor of endocrinology at Northwestern University's Feinberg School of Medicine, who was not involved in the new study but often has prescribed canagliflozin for his own patients.

Canagliflozin, a medication used to treat type 2 diabetes, belongs to a class of drugs called sodium-glucose cotransporter-2, or SGLT2 inhibitors, which lower blood sugar by causing kidneys to remove sugar from the body through urine.

"With this whole class of drugs, we really do need to think about how we're using it, because of the heart benefits and the kidney benefits," Molitch said about SGLT2 inhibitors.

Creation engineering: The art and science of naming drugs

'Creation engineering': The art and science of naming drugs

"This class of drugs really has its primary action on the kidney, from a diabetes perspective. So normally we have lots of glucose -- the main sugar that's circulating in the blood -- and then the kidney filters that glucose. And so most of the time there's no glucose in the urine because the kidney reabsorbs all the glucose that's filtered out of the blood," he said. "What these drugs do is that they block that reabsorption of glucose back into the blood from the urine. And so then you excrete lots of the glucose out into the urine."

Molitch, a member of the Endocrine Society, added that the heart and kidney benefits described in the new study "are over and above" the benefits of simply lowering blood sugar.

"We're still not exactly sure what the mechanisms are that cause these heart and kidney benefits, but they are clearly not solely due to lowering the blood sugar level," he said.

"The heart and kidney benefits occur in patients with more advanced kidney disease, in whom the blood glucose lowering effects of canagliflozin would be minimal," he said. "So, on the basis of this study, we might use canagliflozin just for kidney benefits and possibly heart benefits while using other drugs to control glucose levels in patients with diabetes and kidney disease."

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The effect of the drug "was quite rapid" in the study, Dr. Derek LeRoith, professor of medicine at the Icahn School of Medicine at Mount Sinai in New York, said in an email. LeRoith also is a diabetes guidelines chair for the Endocrine Society.

"This trial was designed to include individuals who had diabetic renal disease, and as such, is the first example of a lowering of risk for kidney failures [as] well as improved cardiovascular outcomes," said LeRoith, who was not involved in the study. "I believe the paper is extremely significant and will have a widely read audience with major implications."

CNN's Nadia Kounang contributed to this report

## **Neurofeedback leads**

### **Neurofeedback leads to strengthening nervous system: Study (New Kerala20190416)**

<https://www.newkerala.com/news/read/128315/neurofeedback-leads-to-strengthening-nervous-systemstudy.html>

A new study claims that brain training with neurofeedback leads to the strengthening of brain areas. The researchers also suggest that the therapy can help a person to develop therapeutic approaches against stroke and Parkinson's.

Neurofeedback (NFB) is a therapy to heal the brain. It is a type of alternative therapy for people with eating disorders, addictions, mood disorders, anxiety, and attention deficit disorder. Neurofeedback, also known as EEG Biofeedback uses real-time displays to illustrate brain activity.

The study was published in journal - Neuroimage.

"We knew that the brain has an amazing ability to adapt itself, but we were not sure that we could observe these changes so quickly. Understanding of how we can impact on brain wiring and functioning is the key to treat neurological disorders," says researcher Theo Marins.

Neurofeedback has been considered a promising way to regulate dysfunctional brain areas associated with disorders. With this technique, the magnetic resonance equipment helps individuals to have access to their own brain activity in real time and quickly gain control over it

Thirty-six healthy subjects participated in the study in which the goal was to increase the activity of brain regions involved in hand movements. However, instead of actually move their hand, participants were asked to only imagine the movement, in total rest.

Nineteen of them received real brain training and the remaining 17 were trained with placebo neurofeedback, for comparisons purposes.

Immediately before and after the brain training, which lasted around 30 minutes, their neural networks were scanned in order to investigate the impact of the neurofeedback (or placebo) on brain wiring and communication.

The results show that the corpus callosum (the major cerebral bridge) that connects the right and left hemispheres exhibited increased integrity. Also, the neural network controlling the movements of the body became strengthened.

"We showed that the neurofeedback can be considered a powerful tool to induce brain changes at record speed. Now, our goal is to develop new studies to test whether patients with neurological disorders can also benefit from it," concludes Fernanda Tovar Moll.

## **Gene**

### **This gene could reduce inflammation after stroke (New Kerala20190416)**

<https://www.newkerala.com/news/read/128198/this-gene-could-reduce-inflammation-after-stroke.html>

Researchers have found that a gene could help the brain heal itself after a stroke or any other head-related injuries.

The study, published in Cell Reports, suggested that a dose of the TRIM9 gene could reduce brain swelling after stroke, prevent damage following a blow to the head (concussion) or encephalitis, which is the inflammation of the brain.

In addition, in a lab model, the researchers from the University of Southern California found that older brains with low TRIM9 levels -- or engineered brains missing the TRIM9 gene entirely -- were prone to extensive swelling following a stroke.

This is because TRIM9 is abundant in the youthful brain but grows scarce with age.

On the other hand, when the team used a harmless virus to carry a dose of the gene directly into TRIM9-deficient brains, the swelling decreased dramatically and recovery improved, the findings further revealed.

It is unlikely that gene therapy delivered by viruses will become the go-to treatment for strokes, head injuries or encephalitis as the best shot at treating stroke is within the first 30 minutes to one hour, said lead author Jae Jung at the varsity.

Jung further added that not all inflammation in the brain is bad as it plays a role in fighting infection and helps clear away dead tissue. However, inflammation for a long duration could lead to the death of neurons.

## **Pregnancy**

### **Diabetes in pregnancy ups the risk in kids later (New Kerala: 20190416)**

<https://www.newkerala.com/news/read/128042/diabetes-in-pregnancy-ups-the-risk-in-kids-later.html>

Diabetes in pregnancy ups the risk in kids later

Children and youths whose mothers had diabetes during their pregnancy are themselves at an increased risk of the disorder, say researchers, including one of Indian-origin.

The study showed that a child or teenager whose mother had gestational diabetes -- diabetes during pregnancy -- was nearly twice as likely to develop diabetes before the age of 22 years.

The association was found in children from birth to the age of 22 years, from birth to 12 years, and from 12 to 22 years, said the study, published in Canadian Medical Association Journal.

"Although Type-1 and Type-2 diabetes in parents are well-established risk factors for diabetes, we show that gestational diabetes mellitus may be a risk indicator for diabetes in the mother's children before age 22," said Kaberi Dasgupta, clinician-scientist from the McGill University in Canada.

"This link of diabetes in children and youth with gestational diabetes in the mother has the potential to stimulate clinicians, parents, and children and youth themselves to consider the possibility of diabetes if offspring of a mother with gestational diabetes mellitus develop signs and symptoms such as frequent urination, abnormal thirst, weight loss or fatigue," said Dasgupta.

According to World Health Organization, diabetes can be treated and its consequences can be avoided or delayed with diet, physical activity, medication and regular screening and treatment for complications.

For the study, the researchers included 73,180 mothers.

## **Immune system**

### **How does bereavement impact the immune system? (Medical News Today: 20190416)**

A recent paper discusses loss and the immune system.

For years, researchers and laypeople alike have noted that when someone loses a partner, their risk of mortality increases significantly.

In days gone by, we might have referred to this as a death from a broken heart.

The phenomenon has been under investigation for decades.

For instance, researchers using data from a Finnish population published their findings in 1987. They found that "For all natural causes, mortality during the first week [following the death of a spouse] was over two-fold, compared to expected rates."

Another study, published in 1995, concluded that, following the death of a spouse, mortality "was significantly elevated in both men and women." This elevation was most pronounced 7–12 months after the bereavement.

Although scientists have collected a fair amount of evidence demonstrating this effect, there is less information about the biological mechanism that drives it.

#### Bereavement and the immune system

Now, a literature review has attempted to tie previous findings together to create a clearer picture of this phenomenon. Specifically, the authors were interested in how bereavement and grief might negatively influence the immune system, thereby increasing mortality risk.

The authors, from the University of Arizona, in Tucson, recently published their paper in the journal *Psychosomatic Medicine*.

The researchers conducted a systematic review of published research from 1977 to now. In all, 33 studies met the grade to be considered for analysis and the scientists focused on 13, which were of the highest quality.

When asked why they conducted the research, one of the authors, Lindsey Knowles, explained that "There is strong evidence that spousal bereavement increases morbidity and risk for early mortality in widows and widowers; however, we have yet to discover how the stress of bereavement impacts health."

#### Gut microbes can spur immune system to attack cancer

#### Gut microbes can spur immune system to attack cancer

A recent study identifies gut bacteria that can boost the immune system's ability to fight cancer.

It was in the late 1970s that scientists started looking to the immune system's role in increased mortality risk after bereavement.

A paper published in *The Lancet* in 1977 claims to be the first to measure an abnormality in immune function following bereavement.

A new review of the evidence

Knowles explains that she wanted to create a document that includes "all published data on the association between bereavement and immune function — to establish a knowledge base and suggest specific directions for future research."

The paper outlines the primary findings from studies that have been carried out to date.

In particular, they identify that people who are bereaved have increased levels of inflammation, faulty immune cell gene expression, and reduced antibody responses to immune challenges.

These changes are all significant when trying to understand why people who are bereaved have a higher risk of death; for instance, scientists already know that chronic inflammation plays a part in a range of conditions, including obesity, heart disease, and diabetes.

The authors also conclude that there is a link between the psychological impacts of bereavement — such as grief and depression — and how severely bereavement impacts immune function.

A study published in 1994, for instance, found that, overall, individuals who had been bereaved did not have significant differences in their immune profiles. However, those who also met the diagnostic criteria for depression did have impaired immune function.

This type of research is important; there is still an air of mystery around the topic, so any new insight is vital. Scientists know that grief increases the risk of an earlier death, so understanding what is happening on a physiological basis could help guide how doctors treat these people in the future.

Another of the paper's authors, associate professor Mary-Frances O'Connor, explains how, "Someday, clinicians may be able to track changes in patients' immunity and prevent medical complications after this difficult experience."

When asked about the contribution that this paper lends to the field, O'Connor says:

"This systematic review gives researchers a resource to read all that research in one place, with a modern perspective on how the field has changed and a visual model to help move the field forward in a more organized way."

Although this line of inquiry has a long history, there are still many gaps that scientists need to fill with fresh research.

As the authors explain, there is a great need for large longitudinal studies; for instance, if researchers could assess an individual's immune profile before bereavement occurs and throughout the aftermath, this would provide a much-needed depth of information. Of course, this approach would require a great many resources.

Hopefully, this review will ignite a fascination in the next generation of researchers who are destined to tackle this topic.

## **Cystic fibrosis**

### **Common virus could speed up cystic fibrosis (Medical News Today: 20190416)**

A new study has found that cytomegalovirus, which is normally dormant in people who have it, can become active again in people with cystic fibrosis who develop lung infections.

doctor looking at chest xrays

New research explores the role of cytomegalovirus in cystic fibrosis.

Cystic fibrosis is an inherited condition. It causes damage to the lungs and digestive system, and it is life-threatening.

Common symptoms of cystic fibrosis include persistent coughing, inflamed nasal passages, wheezing, breathlessness, severe constipation, and lung infections.

Cystic fibrosis occurs due to a gene mutation that affects the protein that regulates the movement of salt in and out of cells.

The mucus, which is normally thin and slippery, becomes sticky and thick and clogs the tubes that carry air in and out of the lungs.

This makes it hard to cough the mucus out of the lungs. Breathing can become difficult and cause complications including chronic lung infections, nasal polyps, coughing up blood, respiratory failure, diabetes, and reproductive system complications.

Studying cytomegalovirus and cystic fibrosis

Cytomegalovirus is a common, typically harmless type of herpes virus that people tend to contract during late adolescence and early adulthood. The virus does not usually cause symptoms, but it may become active again and spread more quickly after infection with other bacteria.

New research in the European Respiratory Journal found that people with cystic fibrosis who also have the virus may experience faster disease progression compared with those who do not have the virus.

Drug resistance: 'Trojan horse' compound kills bacteria from within

Gallium successfully treated lung infections in mice and humans.

"We already know that the cytomegalovirus can harm the health of [people with cystic fibrosis] who have had a lung transplant, as it can increase the risk of organ rejection," says co-lead researcher Michael Parkins, of the University of Calgary in Canada.

"But," he goes on to say, "we know very little about how this virus affects pretransplant cystic fibrosis patients."

th cystic fibrosis — all of whom doctors had referred for a lung transplant at the Calgary Adult Cystic Fibrosis Clinic — to participate in the study.

They recorded their sex, body mass index (BMI), and education levels, and the presence of other infections. Of those people, 30 (54.6 percent) had cytomegalovirus.

The researchers' results revealed that doctors referred people with cytomegalovirus for lung transplants about 8 years before those who did not have the virus. Those with the virus also died 10 years earlier, on average, compared with people who did not have the virus.

"Cytomegalovirus is normally dormant in people who have it, but it can become active again and spread more quickly after infection with other bacteria," explains Parkins.

"We know that [people with cystic fibrosis] are more likely to develop lung infections," he claims, "so it's possible that repeated cycles of activation of the virus exaggerates the damage to [the] lungs, contributing to faster disease progression."

Paving the way for further research

Parkins notes that scientists have been investigating several cytomegalovirus vaccines that could prevent possible infection. In the future, treatment might involve regular medication to slow the spread of the virus, or people may receive treatment only when the virus activates.

"The association we found does not necessarily mean that cytomegalovirus directly causes more rapid disease progression — further studies are needed before such a bold statement could be made," says Parkins.

"However, our findings provide the first indication that this virus may have an impact on progression of cystic fibrosis, potentially leading to earlier transplant referral and even death."

Michael Parkins

These findings suggest that the virus may be an unrecognized contributor to cystic fibrosis, but the study was limited by the small number of participants. The researchers caution that the results of the study do not confirm the role of the virus.

They are "conducting further research in this area using larger international registries and multiple patient centers."

## **'Bad cholesterol'**

### **Low levels of 'bad cholesterol' may actually increase stroke risk (Medical News Today: 20190416)**

<https://www.medicalnewstoday.com/articles/324954.php>

A recent study warns that women with low levels of low-density lipoprotein cholesterol, sometimes called "bad cholesterol," may face an increased risk of bleeding stroke.

woman checking cholesterol measurements

Women with low LDL cholesterol levels may be more at risk of bleeding stroke, new research finds.

According to the latest guidelines from the American College of Cardiology and the American Heart Association, a person's levels of low-density lipoprotein (LDL) cholesterol should remain under 100 milligrams per deciliter (mg/dl) to maintain health.

That is because, generally, specialists have considered LDL to be "bad" cholesterol. LDL carries cholesterol to the cells that need to make use of it, but if its levels are too high, it can stick to the arteries, leading to all manner of cardiovascular problems.

However, new research from the Brigham and Women's Hospital and Harvard Medical School in Boston, MA, has found that women with LDL levels below 100 mg/dl may actually be more at risk of hemorrhagic (bleeding) stroke. This type of stroke, though less common than an ischemic stroke, is harder to treat and thus more dangerous to the person experiencing it.

"Strategies to lower cholesterol and triglyceride levels, like modifying diet or taking statins, are widely used to prevent cardiovascular disease," explains study author Pamela Rist, from Brigham and Women's Hospital.

"But, our large study shows that in women, very low levels may also carry some risks. Women already have a higher risk of stroke than men, in part because they live longer, so clearly defining ways to reduce their risk is important."

Pamela Rist

The new study's findings now appear online ahead of print in the journal *Neurology*.

Low LDL levels more than double risk

In this study, the researchers looked at the data of 27,937 women aged 45 years and over who took part in the Women's Health Study. The data included measurements of each participant's

LDL cholesterol, high-density lipoprotein (HDL) cholesterol, and triglyceride levels at the beginning of the study.

Rist and team looked at both these data and the participants' medical records over an average 19-year follow-up period.

They found that during this time, 137 women had experienced a bleeding stroke. They noted that nine (or 0.8 percent) of the 1,069 women with LDL levels of 70 mg/dl or lower experienced this type of cardiovascular event, whereas it affected 40 (or 0.4 percent) of the 10,067 women with LDL cholesterol levels of 100–130 mg/dl.

After adjusting for possible confounding factors, the researchers concluded that women with the lowest levels of LDL cholesterol were more than twice (2.2 times) as likely to have a bleeding stroke as those with high LDL cholesterol levels.

Does 'bad' cholesterol deserve its bad name?

Does 'bad' cholesterol deserve its bad name?

New research asks if doctors have been wrong about "bad cholesterol" all this time.

They identified a similar association in relation to triglyceride levels: 34 (or 0.6 percent) of the 5,714 women with the lowest triglyceride levels had experienced a bleeding stroke, whereas this event had occurred in 29 (0.4 percent) of the 7,989 women with the highest triglyceride levels.

Once more, after adjusting for other potential risk factors, the team concluded that women with the lowest triglyceride levels had a risk of bleeding stroke that was twice as high as that of the women with the highest triglyceride levels.

**3D Print Heart (Hindustan: 20190416)**

# उपलब्धि : वैज्ञानिकों ने 3डी प्रिंटर से बनाया दिल

तेल अवीव | एजेंसी

वैज्ञानिकों ने मानव चिकित्सा के क्षेत्र में बड़ी उपलब्धि हासिल की है। इजरायल की तेल अवीव यूनिवर्सिटी में वैज्ञानिकों ने 3डी प्रिंटर से एक दिल बनाया है। यह हृदय मानव उत्तक और धमनियों की मदद से बनाया गया है। अभी जो दिल 3डी प्रिंटर की मदद से बनाया गया है वह खरगोश के दिल के आकार का है। लेकिन वैज्ञानिकों

को उम्मीद है कि जल्द ही इससे मनुष्य के हृदय को भी बनाया जा सकेगा।

**कोशिकाएं और रक्त धमनियां भी हैं :** इस परियोजना के प्रमुख रहे ताल द्वीर का कहना है कि पहले भी कई सारे दिल प्रिंट किए जा चुके हैं लेकिन उनमें रक्त धमनियां और कोशिकाएं नहीं होती थीं। ये पहली बार है जब एक दिल प्रिंट किया गया हो जिसमें कोशिकाएं, रक्त धमनियां, निलय और चैंबर है।



**जानवरों में ट्रांसप्लांट हो सकेगा**

चेरी के आकार का दिल को पहले जानवरों में ट्रांसप्लांट कर देखा जाएगा कि ये काम कर पाता है या नहीं। इसमें कोशिकाएं हैं लेकिन अभी यह खून पंप कर दूसरी कोशिकाओं तक पहुंचाने में सक्षम नहीं है।

लेकिन अभी भी एक मानव दिल बनाने में काफी मुश्किलें हैं।

**दुनियाभर के अस्पतालों में लगे होंगे :** द्वीर का कहना है कि अगर

यह प्रयोग सफल रहा तो अगले दस साल में दुनियाभर के अस्पतालों में अंग प्रिंट करने के लिए 3डी प्रिंटर लगे होंगे।

**Food and Nutrition (Hindustan: 20190416)**

[http://epaper.livehindustan.com/imageview\\_40002\\_96082466\\_4\\_1\\_16-04-2019\\_i\\_18.pagezoomsinwindows.php](http://epaper.livehindustan.com/imageview_40002_96082466_4_1_16-04-2019_i_18.pagezoomsinwindows.php)

# बच्चों में सीखने की क्षमता घटी

## शोध

लंदन | एजेन्सी

शारीरिक और मानसिक रूप से स्वस्थ रहने के लिए नियमित रूप से पौष्टिक आहार लेना बेहद जरूरी माना जाता है। खासतौर पर बढ़ते बच्चों के लिए पौष्टिक आहार लेना बेहद जरूरी होता है। सही खानपान से शरीर के साथ-साथ उनकी बौद्धिक क्षमता भी विकसित होती है। मगर आज की बिगड़ती जीवनशैली के चलते भारतीय बच्चे पौष्टिक आहार नहीं ले पा रहे हैं, जिसके चलते उनमें सीखने की क्षमता कम होती जा रही है।

एक अध्ययन में पता चला है कि घर में पर्याप्त और पौष्टिक भोजन नहीं मिलने की वजह से भारतीय बच्चों की सीखने की क्षमता पर नकारात्मक असर पड़ रहा है। बिट्स पिलानी और यूके के इम्पिरियल कॉलेज लंदन के शोधकर्ताओं ने एक परीक्षण के जरिए 12 साल तक के बच्चों में सीखने की क्षमता की जांच की। इसमें उनको काफी असमानताएं मिलीं।

पत्रिका इकोनॉमिक्स ऑफ एजुकेशन रिव्यू में प्रकाशित अध्ययन के मुताबिक, बचपन के तीन चरणों (प्रारंभिक, मध्य और किशोरावस्था) पर यह परीक्षण किया गया। इसमें यह देखा गया कि घर पर पर्याप्त और पौष्टिक भोजन नहीं मिलने की वजह से 5, 8



12 साल तक के बच्चों के सीखने की क्षमता पर वैज्ञानिकों ने किया परीक्षण

47 फीसदी बच्चों को कुछ समय के लिए ही मिला घर पर बना पौष्टिक खाना

18 फीसदी धनी परिवार शामिल थे अध्ययन में, जिन्हें खाने की कोई कमी नहीं थी

05 आठ और 12 साल के बच्चों का लर्निंग टेस्ट का स्कोर काफी कम था

बच्चों में सामान्य ज्ञान का है अभाव

काफी लंबे समय से सही खानपान न मिलने के चलते 12 वर्ष तक की उम्र के बच्चों में सामान्य जानकारी का अभाव देखने को मिला। खासतौर पर उनको किताब पढ़ने में काफी दिक्कत हो रही थी। वहीं कुछ बच्चों को गणित और अंग्रेजी में कमजोर पाया गया। बच्चों के बौद्धिक विकास में बाधा के चलते उन्हें नौकरी में भी दिक्कत हो सकती है।

और 12 वर्ष की आयु के बच्चे का टेस्ट स्कोर बेहद कम था या नहीं।

अध्ययन में शामिल 47 फीसदी बच्चों ने कुछ अवस्थाओं के दौरान घर पर बना खाना खाया। इसमें कुछ बच्चे ऐसे थे, जिन्होंने खाने को बीच में ही भोजन छोड़ दिया, किसी ने जरूरत से खाना कम खाया, तो किसी ने परिवारों के पास खाने के लिए पर्याप्त धन न होने की वजह से आधा पेट खाया।

यूके की लैंकेस्टर यूनिवर्सिटी की शोधकर्ता जैसमीन फ्लेडरजोहान ने कहा, हमारे निष्कर्ष वास्तव में यह बताते हैं कि सही खानपान नहीं मिलने की वजह से जीवनभर उसका नकारात्मक परिणाम भुगतना पड़ सकता है। अध्ययन में लगभग 18 फीसदी ऐसे परिवार भी

शामिल थे, जो सबसे धनी होने के बावजूद पर्याप्त और पौष्टिक भोजन से अछूते थे। इस बात से यह स्पष्ट है कि पर्याप्त और पौष्टिक भोजन न मिलना विशेष रूप से गरीबी का विषय नहीं है। अगर किसी भी उम्र में सही खानपान नहीं मिलता है तो इससे कुछ भी सीखने में परेशानी पैदा होती है।

आंकड़ों के जरिए पता चला कि किशोरावस्था की शुरुआत में शब्द सीखना, पढ़ना, मैथ, तेलुगु और अंग्रेजी सीखने की क्षमता बेहद कम थी। वहीं, पांच वर्ष की उम्र में पौष्टिक व पर्याप्त आहार न मिल पाने से बच्चों ने टेस्ट में भी काफी कम अंक हासिल किए।

काफी लंबे समय से सही खानपान न मिलने के चलते 12 वर्ष तक की उम्र

के बच्चों में सामान्य जानकारी का अभाव देखने को मिला। खासतौर पर उनको किताब पढ़ने में काफी दिक्कत हो रही थी। वहीं कुछ बच्चों को गणित और अंग्रेजी में कमजोर पाया गया। हालांकि, विषयों के आधार पर बच्चों में यह फर्क देखने को मिला। किताब पढ़ना, शब्दों के अर्थ समझना जैसी चीजें शुरुआत से ही सीखना बहुत जरूरी होता है। जीवन की शुरुआत में पर्याप्त और पौष्टिक भोजन न मिलने की वजह से ये बाधा उत्पन्न हो सकती है।

शोधकर्ताओं ने कहा कि भारत में यह पहला ऐसा अध्ययन था, जिससे किशोरों में सीखने और घर के बने अच्छे खानपान मिलने के बीच के अंतर को देखा गया।

**Garlic (Hindustan: 20190416)**

[http://epaper.livehindustan.com/imageview\\_40002\\_96082156\\_4\\_1\\_16-04-2019\\_i\\_18.pagezoomsinwindows.php](http://epaper.livehindustan.com/imageview_40002_96082156_4_1_16-04-2019_i_18.pagezoomsinwindows.php)

# लहसुन याददाश्त बढ़ाने में मददगार

नई दिल्ली | हिटी

उम्र बढ़ने के साथ-साथ याददाश्त में कमी आने लगती है। मगर एक हालिया शोध की मानें, तो लहसुन का सेवन याददाश्त को बेहतर बनाने में मददगार साबित हो सकता है।

यह अल्जाइमर और पार्किंसन के रोगियों के लिए लाभकारी है। लहसुन में मौजूद प्राकृतिक तत्व, एलिल सल्फाइड पेट में सेहतमंद बैक्टीरिया को संतुलित

## खुलासा

- अल्जाइमर और पार्किंसन रोगियों को पहुंचेगा फायदा
- लहसुन में मौजूद एलिल सल्फाइड आंतों में बैक्टीरिया को बढ़ाता है

रखता है और बुजुर्गावस्था में लोगों की सेहत को दुरुस्त रखता है। अध्ययन में अमेरिकी वैज्ञानिकों ने यौगिक को आंत में खरबों सूक्ष्मजीवों की पुनर्स्थापना

करते पाया। इसे गट माइक्रोबीटा भी कहते हैं। पिछले कई अध्ययनों में भी यह उभर कर आया है कि गट माइक्रोबीटा सेहत के लिए लाभकारी हैं, लेकिन पेट की सेहत पर कुछ ही अध्ययन हुए हैं।

लुइसविले विश्वविद्यालय के डॉ. ज्योतिर्मय बहेरा का कहना है कि हमारे परिणाम दर्शाते हैं कि एलिल सल्फाइड युक्त लहसुन का सेवन पेट में स्वस्थ सूक्ष्मजीव बनाए रखने और बुजुर्गावस्था में याददाश्त बेहतर करने में मददगार है।