



DAILY NEWS BULLETIN

LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE DAY
Thursday 201901219

Blood banks

Blood banks don't have licences, proper test kits: CAG indicts Uttarakhand CM who is also health minister (The Indian Express: 201901219)

<https://indianexpress.com/article/india/blood-banks-dont-have-licences-proper-test-kits-cag-indicts-uttarakhand-cm-who-is-also-health-minister-6173985/>

While the report on blood banks was submitted in June 2018, the CAG said, a reply was awaited till August 2019. Uttarakhand Chief Minister Trivendra Singh Rawat holds the Health portfolio.



A COMPTROLLER and Auditor General of India (CAG) report for the year ended March 31, 2018, tabled in the Uttarakhand Assembly on Tuesday, said that out of 35 blood banks in the state, 13 (including 12 government) have been running with licences that expired five months to 20 years ago. At one blood bank, in B D Pandey District Hospital, Pithoragarh, expired testing kits were utilised for cross-matching of blood, while kits used for testing syphilis were found to be past their expiry date.

While the report on blood banks was submitted in June 2018, the CAG said, a reply was awaited till August 2019. Uttarakhand Chief Minister Trivendra Singh Rawat holds the Health portfolio.

The CAG report also found that equipment at blood banks located in Kashipur, Haldwani and Roorkee had not been calibrated since 2016, at the Pithoragarh hospital since 2015 and at STM College Haldwani since 2017. Non-calibration of equipment at prescribed intervals can lead to inaccurate readings.

Secretary, Medical, Health and Family Welfare, Nitesh Kumar Jha was not available for comment.

The audit on functioning of blood banks in Uttarakhand covered the period 2015-16 to 2017-18 and was carried out between March and May 2018 through a check of records of State Drug Controllers, the State Blood Transfusion Council, office of the Director General, Health, and eight state government blood banks that collected the maximum blood units during the period.

The CAG said one reason the centres got away with the irregularities was non-inspection by licensing authorities.

About the Pithoragarh district hospital blood bank, the CAG report said it violated the Drugs and Cosmetics Act, had been operating without a valid licence since 1998, and had ignored shortcomings pointed out by successive inspection teams, in 2002, 2007 and 2018. These shortcomings included the lack of sterilisation and a wash room, storage of consumable items at a laboratory meant for transmissible diseases, and the use of rapid kits method alone and not ELISA for testing of transmissible diseases. Stock records of the hospital showed the blood bank did not have the required number of test kits for screening of malaria and syphilis either.

The CAG pointed out that no stringent action had been taken by the licensing authority against it despite all these shortcomings, endangering the lives of both donors and recipients.

The Drugs and Cosmetics Act specifies that collected blood be screened for diseases such as HIV, Hepatitis B & C, malaria and syphilis. "During February 2, 2017 to March 31, 2018, 1,194 blood units were screened without screening for malaria and during July 21, 2016, to March 31, 2018, 707 blood units were screened without screening for syphilis," the CAG report said.

Other deficiencies found at the Pithoragarh hospital included unhygienic conditions and the use of candle flame to seal blood bags instead of tube sealers.

Pithoragarh's Chief Medical Officer Dr Usha Gunjyal directed all queries to the hospital's Principal Medical Superintendent H S Kharayat, who has submitted a report on the matter. Speaking to The Indian Express, Kharayat questioned the CAG findings. "After its report, I inspected the blood bank. It got a licence one year back and this is valid till 2022. All equipment are properly maintained and used in hygienic conditions."

Kharayat claimed that when the CAG team visited the blood bank, the staff was on leave. "Audit officials interacted with Class IV staff, like ward boys, and made the report."

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TAGS:Blood BanksUttarakhand

Fine dining - food hygiene

Rating food hygiene in restaurants welcome (The Tribune: 201901219)

<https://www.tribuneindia.com/news/fine-dining-13991>

With the introduction of the display of hygiene ratings on the doors of restaurants as mandated by the Food Safety and Standards Authority of India (FSSAI), Haryana is all set to enhance the dining experience. Under the Eat Right India campaign of the Central government, the food regulator has readied a trained manpower of food supervisors who will periodically check the safety of food served. The hygiene rating serves to benefit all stakeholders. As health-conscious customers report instances of malpractice and naturally veer towards eateries boasting of good quality fare, food business operators that fail to meet the standards of food material, preparation, handling, storage and cleanliness will be forced to either pull up their socks or pull out. But the catch lies in the diligent implementation of the scheme. The temptation of it going the 'inspector raj' way while doling out ratings must be firmly resisted.

While Haryana is taking baby steps by making the scheme voluntary for the restaurants initially, Punjab has gone a step ahead towards offering a healthier platter. With the trend of ordering food online shooting northwards, Punjab has ordered all aggregators, including Swiggy and Zomato, to display the hygiene ratings of the eateries registered with them so as to allow the consumers

to make an informed choice and bridge the physical divide with the eateries they are promoting.

Quality food holds the key to a healthy nation. There has been an exponential rise in diet-related and lifestyle diseases in our country. There is hardly any household that does not have some member or the other not suffering from diabetes, hypertension, malnutrition or obesity. Regulatory measures address this burden and are crucial to preventive healthcare. The FSSAI would do well to also make it compulsory for the eateries to list allergens in the dishes served. The suffering caused to people allergic to various food items — commonly gluten, lactose, nuts and eggs — also needs to be addressed.

Mysterious circular DNA

Mysterious circular DNA linked to pediatric cancer: Study (The Tribune: 201901219)

<https://www.tribuneindia.com/news/mysterious-circular-dna-linked-to-pediatric-cancer-study-13182>

Chromosomes are threadlike structures of DNA and protein found in the nucleus of most living cells.

Mysterious rings of DNA—known as extrachromosomal circular DNA—may contribute to cancer development in children, according to a study which may lead to better diagnosis methods for pediatric cancer.

Chromosomes are threadlike structures of DNA and protein found in the nucleus of most living cells, and carry genetic information in the form of genes.

The current study, published in the journal *Nature Genetics*, probed into enigmatic rings of DNA that is not present in the chromosomes.

While cancer is associated with the gradual accumulation of defects in the genetic material Deoxyribonucleic Acid (DNA) over time, and is considered an age-related disease, the researchers, including those from the Charité–Universitätsmedizin Berlin in Germany, sought to know why children develop the malignant disease.

According to the researchers, a range of external factors such as tobacco smoke and radiation, may cause damage to the DNA within cells.

Accumulation of these damages over many years, they said, may lead to cells losing control over their replication and growth, resulting in cancer.

However, the current study noted that extrachromosomal DNA can disrupt the genetic information, contributing to cancer development.

While scientists have known about these circular DNA for years, the current study noted that relatively very little has been understood about their functions due to the lack of sufficient technology to analyse them.

As part of the study, the researchers applied advanced techniques to analyse the chemical structure and sequence of these mysterious DNA molecules using leading bioinformatics algorithms.

In the process, they have obtained the first-ever detailed mapping of circular DNA in neuroblastoma—a deadly childhood tumour.

Analysing neuroblastoma tissue samples from a total of 93 children, the researchers revealed that the prevalence and diversity of circular DNA is far greater than previously anticipated.

According to the study, each tissue sample contained on average 5,000 circular DNA copies.

The findings described the process by which specific DNA sections separate from a chromosome to form circular DNA before reintegrating into the chromosome at a different location.

"This can potentially cause cancer if it results in the original sequence of genetic information being disrupted," explained study co-author Anton Henssen, a researcher at the German Cancer Consortium (DKTK) in Germany.

According to the researchers, the current study offers an insight into how even young cells, like those found in children, can transform into cancer cells.

"We were also able to show that certain types of circular DNA may accelerate neuroblastoma growth," said Richard Koche, study co-author from the Memorial Sloan Kettering Cancer Center in the US.

Koche added that testing for the presence of these circular DNA molecules may make it easier to predict the course of cancer.

"Additionally, studying this process in the relatively quiet genomes of these pediatric tumours may help illuminate similar mechanisms which were previously missed in more complex adult cancers," he added.

The researchers said the current study may also have implications for a broad range of tumour types and associated clinical outcomes. — PTI



E-cigarettes

E-cigarettes may raise risk of asthma, bronchitis (The Tribune: 201901219)

<https://www.tribuneindia.com/news/risk-factor-13105>

E-cigarette use significantly increases a person's risk of developing chronic lung diseases like asthma, bronchitis, emphysema or chronic obstructive pulmonary disease, says a new study.

The study also found that people who used e-cigarettes and also smoked tobacco -- by far the most common pattern among adult e-cigarette users -- were at an even higher risk of developing chronic lung disease than those who used either product alone.

"What we found is that for e-cigarette users, the odds of developing lung disease increased by about a third, even after controlling for their tobacco use, " said study senior author Stanton Glantz, PhD, Professor at the University of California in the US.

"We concluded that e-cigarettes are harmful on their own, and the effects are independent of smoking conventional tobacco," Glantz said.

The findings are based on an analysis of publicly available data from the Population Assessment of Tobacco and Health, which tracked e-cigarette and tobacco habits as well as new lung disease diagnoses in over 32,000 American adults from 2013 to 2016.

Though several earlier population studies had found an association between e-cigarette use and lung disease at a single point in time, these cross-sectional studies provided a snapshot that made it impossible for researchers to, severe cases of which sent several e-cigarette users to the hospital. —IANS



Food and Nutrition

Egg intake doesn't up heart disease, stroke risks, say researchers (The Tribune: 201901219)

<https://www.tribuneindia.com/news/egg-intake-doesn%E2%80%99t-up-heart-disease-stroke-risks-say-researchers-12774>

Egg intake doesn't up heart disease, stroke risks, say researchers

According to researchers, it's reasonable to eat one whole egg (or its equivalent such as 3 ounces of shrimp) daily as part of a heart-healthy diet for healthy individuals.

Heart-healthy diets are naturally low in dietary cholesterol and can help reduce the risk of heart disease and stroke, say researchers, adding eating one egg a day is not associated with the risk of cardiovascular disease (CVD).

Too much cholesterol in blood contributes to formation of thick, hard deposits in arteries, a process that underlies most heart diseases and strokes.

Reducing dietary cholesterol by focusing on overall heart-healthy diets that replace saturated fats with polyunsaturated fats remains good advice for keeping artery-clogging LDL (low-density lipoprotein) levels healthy, according to the scientific advisory from the American Heart Association.

"Saturated fats—mostly found in animal products such as meat and full fat dairy, as well as tropical oils—should be replaced with polyunsaturated fats like corn, canola or soybean oils," said Jo Ann S. Carson from UT Southwestern Medical Center in the US.

"Foods high in added sugars and sodium (salt) should be limited," Carson said.

The meta-analysis included in the advisory included randomised, controlled, dietary intervention trials designed to prove cause and effect.

According to the study, published in the journal *Circulation*, there is a dose-dependent relation between dietary cholesterol and higher levels of artery-clogging LDL when the range of dietary cholesterol tested was beyond that normally eaten.

This relationship persists after adjustment for dietary fat type. As per the advisory, in general, egg intake was not significantly associated with the risk of cardiovascular disease in the studies that were examined.

According to researchers, it's reasonable to eat one whole egg (or its equivalent such as 3 ounces of shrimp) daily as part of a heart-healthy diet for healthy individuals.

“Consideration of the relationship between dietary cholesterol and CVD risk can't ignore two aspects of diet. First, most foods contributing cholesterol to the US diet are usually high in saturated fat, which is strongly linked to an increased risk of too much LDL,” Carson said.

Second, we know from an enormous body of scientific studies that heart-healthy dietary patterns, such as Mediterranean and DASH (Dietary Approaches to Stop Hypertension) diets are inherently low in cholesterol,” Carson said.

CGHS cashless services

+Suspension of CGHS cashless services: Empanelled hospitals to take call today (The Indian Express: 201901219)

Over 18 lakh beneficiaries across the country used services under ECHS in 2018-19, shows government data.

<https://indianexpress.com/article/business/suspension-of-cghs-cashless-services-empanelled-hospitals-to-take-call-today-6173910/>



In the meantime, an association representing these hospitals has written to Prime Minister Narendra Modi highlighting issues with unpaid dues from CGHS as well as other healthcare schemes like Ex-Servicemen Contributory Health Scheme (ECHS).

Several private hospitals empanelled under the Central Government Health Scheme (CGHS) have decided to meet in the Capital on Thursday to take a call on whether and when they will suspend cashless services to beneficiaries of the healthcare programme. In the meantime, an association representing these hospitals has written to Prime Minister Narendra Modi

highlighting issues with unpaid dues from CGHS as well as other healthcare schemes like Ex-Servicemen Contributory Health Scheme (ECHS).

CGHS promises comprehensive medical care to approximately 35 lakh Central government employees and pensioners. Ex- and sitting Members of Parliament, pensioners, freedom fighters and employees serving at CGHS, Directorate General of Health Services and the Health Ministry are entitled to cashless services at empanelled providers. Pensioners and their dependents account for around 11 lakh of registered beneficiaries, government sources earlier said. It is not clear how many beneficiaries fall under the other categories eligible for cashless services.

Over 18 lakh beneficiaries across the country used services under ECHS in 2018-19, shows government data.

“All the leaders in cashless services under CGHS (major hospitals) are assembling tomorrow morning to deliberate whether we should suspend cashless services and, if so, what the date (to stop this facility) should be,” said Girdhar Gyani, director general, Association of Healthcare Providers (India), or AHPI.

This includes large hospitals like Max, Medanta and Fortis, which provide cashless services to CGHS beneficiaries, a majority of whom are in Delhi, he told The Indian Express. These hospitals are members of AHPI, which represents around 9,000 hospitals across the country.

“We have tried to bring the plight of our members (private hospitals) to the attention of the Prime Minister also. We wrote to him today (Wednesday),” said Gyani.

“Thousands of crores in dues have long been pending from CGHS as well as other schemes like ECHS. The CGHS rates have also not been revised since 2014, which is making it even more difficult for hospitals to function under this scheme,” he added.

The Health Ministry has not been approached by any hospital, hospital group or association informing it of plans to exit CGHS or stop cashless treatment to beneficiaries, Alok Saxena, Joint Secretary, Ministry of Health and Family Welfare, told The Indian Express. “This year so far, around Rs 1,400 crore have been released to service providers for cashless services. More payments are under process.”

In October, The Indian Express reported that several hospitals were contemplating the move to stop providing cashless services to CGHS patients citing frustration with delays in payment of dues from the government. The Health Ministry, at that time, had already sent a request for additional funds of over Rs 1,000 crore for CGHS in the next Budget and a majority of these funds were expected to be used “towards payment of hospital bills and procurement of medicines”, senior government officials had said then.

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Viral ailments (The Asian Age: 201901219)

IISc research may help prevent viral ailments

B.R. SRIKANTH
BENGALURU, DEC. 18

Just why are viral infections curable in some people, turn chronic in others, and even prove fatal for certain others?

Researchers at Indian Institute of Science (IISc), who probed infections in man, chimpanzees and mice, have published new insights into illness caused by viruses, and their findings could help in prevention of chronic ailments, and use of drugs with best results. Unlike the original school of thought about the outcome being determined by complex interplay of many factors, this team

has discovered that infections depend on interactions of just two key entities – cells which the viruses infect and immune cells that kill these infected cells.

“By accurately describing the interactions between these two entities, we show how all the major outcomes of viral infections are realised. We developed a mathematical model of viral infections based on the essential interactions, and showed how and when different outcomes are realised,” says Prof. Narendra M Dixit, Department of Chemical Engineering, IISc.

He, however, said such

models might not work with all viruses. “For instance, HIV can hide in some infected cells in a way that immune cells cannot recognize it. In other studies in our group, we are examining ways of deploying drugs that can bring HIV out of its hiding. We are also considering immunization strategies that can improve our bodies’ ability to produce powerful antibodies, an arm of our immune response distinct from but complementary to the cells that kill infected cells. Together, these strategies may help combat difficult infections like HIV,” he added.

Prof. Dixit said his team

plans to take the research forward by building advanced and customized models for different viral infections. “Clinical trials would be considered subsequently,” he added.

Meanwhile, scientists of the Institute for Stem Cell Science and Regenerative Medicine (inStem) and Unilever, who joined forces to develop innovative strategies to deal with antimicrobial resistance, have discovered that antimicrobial peptides (AMPs), which are natural antibiotics produced by skin cells to combat bacteria, are best suited for treating antibiotic-resistant bacterial infections. Apart from their role as

natural antibiotics, AMPs are also known to be involved in wound healing in the skin. This fact spurred Dr. Amitabha Majumdar (Unilever R&D) to hypothesize that the same machinery used to release AMPs during wound healing could be harnessed to control AMP release from skin cells for treating or preventing infections. To test this, Dr. Majumdar teamed up with Dr. Colin Jamora of the Joint IFOM-inStem Research Laboratory at inStem’s Centre for Inflammation and Tissue Homeostasis, whose group works extensively on the mechanisms of wound healing in skin.

Chewing Gum (The Asian Age: 201901219)

<http://onlinepaper.asianage.com/articledetailpage.aspx?id=14302834>

RARE | EXTRACT

Analysis showed the birch pitch gum was chewed by a female

Genome found in ‘ancient’ chewing gum

London, Dec. 18: For the first time, researchers have extracted an entire ancient human genome from a sample other than bones, in a gum chewed by a 5,700-year-old female, unearthing details about the diet and oral microbes of stone age people.

The researchers, including those from the University of Copenhagen in Denmark, extracted the complete ancient human genome from a sample of birch pitch – a gummy substance derived from the distillation of the birch tree’s bark.

According to the study, published in the journal *Nature Communications*, the ‘chewing gum’ was found during archaeological excavations at Syllholm in southern Denmark.

“It is amazing to have gotten a complete ancient human genome from anything other than bone,” said study co-author Hannes Schroeder from the University of Copenhagen.

Based on the analysis of the genome, the researchers could tell that the birch pitch was



A 5,700-year-old type of ‘chewing gum’ made from birch pitch found during archaeological excavations at Syllholm, southern Denmark.

– AFP

chewed by a female. “The individual who chewed the pitch was female and that she was genetically more closely related to western hunter-gatherers from mainland Europe than hunter-gatherers from central Scandinavia,” the researchers wrote in the study.

The archeologists also found that she probably had dark skin, dark hair, and blue eyes.

Additionally, the scientists could also extract DNA of oral bacteria and infectious microbes from the pitch sample, proving that these kinds of gums can be a very valuable source of ancient DNA, especially for time periods which have no human remains.

According to the researchers, the environmental conditions at the site where the birch pitch was found contributed to preserving the sample.

“Syllholm is completely unique. Almost everything is sealed in mud, which means that the preservation of organic remains is absolutely phenomenal,” said Theis Jensen, a study co-author from the University of Copenhagen. The study noted that Syllholm is one of the biggest Stone Age sites in Denmark.

According to the findings, the people who occupied the region were heavily exploiting wild resources well into the Neolithic Age, which began about 12,000 years ago.

– AFP

Robotic Surgery (The Asian Age: 201901219)

<http://onlinepaper.asianage.com/articledetailpage.aspx?id=14303063>

Robotic surgery gives man new lease of life

AGE CORRESPONDENT
NEW DELHI, DEC. 18

Surgeons at a city hospital claimed to have removed a large chest tumour from a 54-year-old man, resident of Tuvalu, through minimal invasive robotic surgery.

According to doctors, Iakopo Molotii had been having a cough and suffering from breathing trouble for the past few years. He had consulted many doctors in his coun-

try, but of no avail. He was diagnosed to have a large tumour in anterior mediastinum within the chest and was advised to undergo open chest surgery. After many searches on the Internet about robotic chest surgery services in India, the patient approached BLK Super Speciality Hospital in the national capital. A team of highly experienced specialists removed the largest-ever thyroid

▶ The patient was diagnosed to have a large tumour in anterior mediastinum within the chest

tumour within the thoracic cavity, (12x10 cm). Doctors at the hospital claimed it to be one of the largest retrosternal thyroid gland removal surgeries in India through

robotic surgery. The surgery was done by the chief of surgical oncology and robotic services at BLK Hospital, Dr Surender Dabas and his team involving Dr Ashwani Sharma and Dr Navdeep Singh Nanda.

The tumour that was removed after a five-hour-long surgery gave Iakopo a new lease of life. The patient has recovered well and has been discharged after four days of operation.

Breast cancer treatment

WHO moves a step closer to cheaper breast cancer treatment? (The Hindu: 201901219)

<https://www.thehindu.com/sci-tech/health/who-moves-step-closer-to-cheaper-breast-cancer-treatment/article30345252.ece>

A WHO statement says the Trastuzumab drug has shown “high efficacy” in curing early stage breast cancer and in some cases more advanced forms of the disease

The World Health Organization (WHO) announced Wednesday that it had for the first time approved a “biosimilar” medicine — one derived from living sources rather than chemicals — to make breast cancer treatment affordable to women globally.

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Diabetes

Number of children, adolescents with diabetes rising in India, warns IDF (The Hindu: 201901219)

<https://www.thehindu.com/sci-tech/health/number-of-children-adolescents-with-diabetes-rising-in-india-warns-idf/article30339937.ece>

Global federation releases 9th edition of Diabetes Atlas, calls for urgent national actions

“The number of children and adolescents with diabetes is increasing every year in India,” warned the International Diabetes Federation (IDF), which released the 9th edition of the IDF Diabetes Atlas recently.

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Ayurvedica

Can ayurvedic clothes heal you? (The Hindu: 201901219)

<https://www.thehindu.com/sci-tech/health/can-ayurvedic-clothes-heal-you/article30297802.ece>

As fashion brands promise the benefits of herbs and spices in a kaftan or a kurta, it is time to identify what these garments can really do

'Medicinal herb-dyed', 'immunity boosting', 'no toxic irritants'. These terms are commonly found on clothing tags of Ayurvedic apparel. Marketed with attention to healing properties and doshas, these textiles are rooted in the philosophy of the ancient medicinal system.

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Happiness

Now, happiness being taught as a subject in schools (The Hindu: 201901219)

<https://www.thehindu.com/sci-tech/health/happiness-being-taught-as-subject-in-schools/article30318210.ece>

The year of happiness: Schools and universities have decided to teach it as a subject, to help grow mental and emotional health

Happiness is different things to different people, says the song by Ray Conniff from 1966. Over the last year though, our post-meditation, post-mindfulness

Cancer drug

Cancer drug shows promise in Parkinson's disease safety trial (The Hindu: 201901219)

<https://www.medicalnewstoday.com/articles/327350.php#1>

Nilotinib, a drug that regulators have approved for the treatment of leukemia, has shown promise in a small clinical trial of people with Parkinson's disease.

Cancer drug

Cancer drug shows promise in Parkinson's disease safety trial (Medical News Today: 201901219)

<https://www.medicalnewstoday.com/articles/327350.php#1>

Nilotinib, a drug that regulators have approved for the treatment of leukemia, has shown promise in a small clinical trial of people with Parkinson's disease.

The main purpose of the trial was to assess the repurposed drug's safety and tolerability and how it behaves in the body in people with moderately severe Parkinson's disease.

A secondary goal was to investigate the impact of nilotinib on certain substances that scientists think could be useful biomarkers for tracking disease progress and the effectiveness of therapies.

These biomarkers include products of dopamine metabolism and levels of alpha-synuclein and tau — two proteins that build up in the brain in Parkinson's disease. Doctors can measure the biomarkers by sampling cerebrospinal fluid through a lumbar puncture.

The trial investigators, from Georgetown University Medical Center (GUMC) in Washington DC, also tracked changes in motor and nonmotor Parkinson's symptoms at various stages during the 15-month trial.

They describe the methods and findings in a recent JAMA Neurology study paper.

"Determining the safety of nilotinib in people with Parkinson's was our primary objective," says senior study author Charbel Moussa, who is an associate professor of neurology at GUMC and director of its Translational Neurotherapeutics Program.

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Parkinson's symptoms and hallmarks

Parkinson's disease arises when brain cells that produce dopamine, a chemical messenger that helps to control movement, stop working and die.

The disease gives rise to motor, or movement-related, symptoms and nonmotor symptoms.

Motor symptoms include tremor, slowness, stiffness, and balance difficulties. Nonmotor symptoms of Parkinson's disease include depression, memory problems, emotional changes, and constipation.

Because Parkinson's is a lifelong, relentless, progressive disease, the symptoms gradually worsen over time.

No two people with Parkinson's will have exactly the same symptoms, and it is difficult to predict which symptoms will emerge and when and how rapidly they will progress in individuals.

According to the Parkinson's Foundation, around 60,000 people receive a diagnosis of Parkinson's per year in the United States, where nearly 1 million are living with the disease.

Parkinson's usually affects people after the age of 60 and is more common in males than females. As the symptoms progress, they can interfere with daily living and the ability to lead an independent life.

One of the biological hallmarks of Parkinson's disease is the accumulation of badly-folded alpha-synuclein protein in the affected areas of the brain. Pathologists can see these clumps in postmortem brain tissue of people with Parkinson's disease.

The potential of nilotinib

The Food and Drug Administration (FDA) have approved nilotinib for the treatment of a particular type of myeloid leukemia in children.

Moussa and colleagues are interested in the potential for repurposing the drug for use in the treatment of Parkinson's disease.

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In their study paper, they cite research reports of how low doses of nilotinib entered the brain and reduced alpha-synuclein and tau proteins in animal models of neurodegeneration.

In addition, they refer to another study that found "that nilotinib may increase dopamine metabolism and potentially treat motor and nonmotor symptoms of [Parkinson's disease]."

For the new trial, the team randomly assigned 75 participants of average age 68.4 years with moderately advanced Parkinson's disease to three groups.

One group received 150 milligrams (mg), and another received 300 mg of nilotinib per day. The third group received a placebo. These are lower doses than the twice-daily 300 mg dose that cancer patients receive.

The participants took the daily oral dose of drug or placebo for 12 months. After this, they underwent a "washout" period with no nilotinib or placebo for 3 months.

Neither the participants nor the administrators knew which individuals received the placebo and which received the active drug until the end of each participant's trial period. The purpose of this double-blinding is to prevent bias in reporting the results.

Nilotinib 'reasonably safe'

The results showed that doses of 150 mg and 300 mg of nilotinib "were reasonably safe." However, people in the two nilotinib groups experienced more severe side effects than those in the placebo group.

Nilotinib blocks Abl tyrosine kinase, which is a protein essential for cell functioning. Because of this, the FDA require nilotinib to carry a black box warning about the risk of sudden death due to this effect. However, this warning relates to the higher doses in leukemia treatment and not to the lower doses that the investigators used in the Parkinson's disease trial.

"Our study shows that at these lower doses," Moussa notes, "nilotinib does not seem to cause Abl inhibition, suggesting it shouldn't have the same safety concerns that are potentially associated with Abl inhibition as might be the case at higher doses."

When they examined the potential biomarkers, the team found that participants who took nilotinib had lower levels of alpha-synuclein and tau.

"Individually, these are very important findings, but taken together, it means that the clearance of these neurotoxic proteins may not solely depend on Abl inhibition — other tyrosine kinases or alternate mechanisms may be involved," Moussa explains.

He and his colleagues also found higher levels of dopamine metabolites — typically more than 50% — in participants who took nilotinib. This would suggest that because the drug cleared away the toxic proteins, their brains were able to make better use of their own dopamine.

Impact on motor, nonmotor symptoms

Other results suggest that nilotinib was able to slow the progression of nonmotor symptoms compared with the placebo. The symptoms became progressively worse over the study period in the placebo group.

When they looked at effects on motor symptoms, the researchers found that all groups improved after 6 months of taking their doses. However, at the 12- and 15-month exam, those taking the 300 mg dose and placebo appeared to remain stable, whereas those on the 150 mg nilotinib dose improved over the 15 months.

Dr. Fernando L. Pagan was the principal trial investigator and first author of the study. He is also professor of neurology at GUMC and medical director of its Translational Neurotherapeutics Program.

He says that they saw overall improvements in motor symptoms in the participants who took nilotinib compared with the placebo group. The nilotinib groups also scored higher on quality of life measures during the trial.

He adds that researchers need to carry out more extensive studies in more diverse populations to confirm these results.

"These are important observations suggesting that nilotinib stabilized the disease – a potential disease-modifying effect that we haven't observed with any other agents."

Prof. Fernando L. Pagan

Parkinson's Disease Clinical Trials / Drug Trials Neurology / Neuroscience Pharmacy /

Brain activity

Why is it so difficult to make people change their minds? (Medical News Today: 201901219)

<https://www.medicalnewstoday.com/articles/327341.php#5>

A new study looks at participants' brain activity as they compare their own opinions to others' to find out why it can be so very difficult to change someone's mind.

Why can it be so hard for people to change their minds?

Whether or not we like to admit it, each and every one of us is liable to exhibit confirmation bias. That is, we are more likely to seek people and information that appear to agree with our own beliefs.

In part, this explains why debates can be so stressful and often unrewarding: individuals are usually more inclined to stick to their own ideas, sometimes even when faced with solid evidence against them.

A team of researchers from City University and University College London — both in the United Kingdom — and Virginia Tech Carilion in Ronake, and the Museum of Science and Industry in Chicago, IL, questioned what, exactly, happens in the brain that makes people unlikely to change their opinions.

In their study paper — which now features in Nature Neuroscience — the investigators explain that, as previous research shows, "[p]eople are more influenced when others express judgments with high confidence than low confidence."

The researchers illustrate this point with a couple of hypothetical examples: "All else being equal, if an eye witness is confident she observed Jim stabbing George, the jury would treat such testimony as strong evidence that Jim is guilty and would be more likely to convict Jim than if the eye witness was unsure it was Jim they observed. If a doctor is confident in her diagnosis, the patient is more likely to follow the recommended treatment."

However, they go on to add, in many cases, people refuse to believe the ideas put forth by others, regardless of who they are and how strong — and evidence-based — they are.

"For instance," the researchers note, "over the last decade climate scientists have expressed greater confidence that climate change is man-made. Yet, the percentage of the population that believes this notion to be true has dropped over the same period of time."

Confirmation bias at work

To understand why there is this disconnect, and what makes it sometimes virtually impossible to change other people's minds, the researchers recruited 42 participants who agreed to take part in an experiment that also involved undergoing functional MRI scans.

The researchers first split the participants randomly into pairs, showed them images of properties listed on a real estate website. They asked each person to decide how much they thought the asking price of these various houses was — whether more or less than an amount set by the investigators.

Every participant then had to decide how much they would be willing to invest in each one of those properties.

Finally, the researchers asked the participant pairs to undertake functional MRI scans. Paired participants lay in twinned scanners that faced each other, with a glass screen dividing them.

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On the side of the screen that was facing them, each participant in a pair could see images of the properties, as well as their asking price estimates, and how much they said they would be willing to invest.

After these reminders, the screens showed what their partners had said — their house value estimates, and the sum they would be willing to pay for those properties.

The researchers found that, when their partners agreed with their evaluation of the property value, they would be more likely to say then that they would be willing to invest more in those houses, especially if their partners had said they would invest larger sums.

Yet when the partnered participants disagreed about the property value, their opinions would fail to influence each other's final decision as to how much they would be willing to invest in that house. This was the case even when a disagreeing partner said they would pay a higher sum for the property, suggesting a high level of confidence in their evaluation of the house.

'Brains fail to encode' opposing views

When they studied participants' brain activity, as revealed by the functional MRI scans, the researchers zeroed in on the brain area that appeared to be involved in evaluating and absorbing someone else's ideas: the posterior medial prefrontal cortex.

The team saw that brain activity in the posterior medial prefrontal cortex fluctuated, depending on the strength of a partner's conviction, as suggested by the value of the investment they were willing to make.

However, this was only the case when paired participants agreed about the value of the house. When they were in disagreement, there was no change in brain activity in the posterior medial prefrontal cortex.

"We found that when people disagree, their brains fail to encode the quality of the other person's opinion, giving them less reason to change their mind."

Senior author. Prof. Tali Sharot

This makes sense, the researchers note, considering that neuroscientists already know that this brain region plays an important role in decision making processes.

And, it is the fact that our brains ignore the strength or urgency of ideas that contradict our own that may explain why so many people are likely to persist in mistaken beliefs, establishing a gap between themselves and individuals with different ideas and belief systems.

"Our findings could help make sense of some puzzling observations in domains including science and politics," says first author Andreas Kappes, Ph.D.

"Opinions of others are especially susceptible to the confirmation bias, perhaps because they are relatively easy to dismiss as subjective," senior author Prof. Tali Sharot also notes.

"Because humans make the vast majority of decisions — including professional, personal, political and purchase decisions — based on information received from others, the identified bias in using the strength of others' opinions is likely to have a profound effect on human behavior," she points out.

Chili peppers

Could hot chili peppers reduce mortality risk? (Medical News Today: 201901219)

<https://www.medicalnewstoday.com/articles/327324.php#7>

According to a recent study, people who regularly consume chili peppers have a reduced mortality risk compared with those who never eat chilis.

A new study concludes that chilis might reduce mortality risk.

Chili peppers are now a global phenomenon. From Cambodia to California, and from Birmingham, Alabama to Birmingham, United Kingdom, spicy food is ubiquitous.

Throughout history, cultures have associated various health benefits with eating chili peppers. However, as one of the authors of the recent study, Prof. Licia Iacoviello, explains, many of these beneficial properties have been ascribed "mostly on the basis of anecdotes or traditions, if not magic."

In more recent times, scientists have focused on capsaicin, the compound that gives chili their unmistakable punch. According to the authors of the latest study, capsaicin "has been observed to favorably improve cardiovascular function and metabolic regulation in experimental and population studies."

Other researchers have concluded that capsaicin might be useful in the fight against neuropathic pain, arthritis, gastrointestinal disorders, and even cancer.

Chilis on a population level

Although interest is mounting, only a few studies have investigated the impact of regularly eating chilis on overall health and mortality.

The authors, from the Mediterranean Neurological Institute in Italy, mention two population studies designed to answer this question. One took place in China, and the other in the United States. Both reported lower mortality risk in the individuals who consumed the most chili peppers.

In this recent study, the authors set out to confirm or deny these earlier findings in a European population. Also, by analyzing cardiovascular disease biomarkers, such as lipid levels in the blood, they hoped to identify how chili peppers might reduce mortality risk.

To investigate, they took data from the Molisani study; this data set includes 24,325 men and women living in Molise, Italy. After excluding individuals with missing data, 22,811 people took part.

They published their findings in the *Journal of the American College of Cardiology*.

All participants were over 35 years of age, and researchers followed them for an average of 8.2 years. During this time, the researchers captured information about the 1,236 participants who died during the study.

The scientists also had access to information about other factors that can influence health outcomes, including medical history, leisure-time physical activity, smoking status, alcohol intake, and socioeconomic data.

Each participant completed a questionnaire about their dietary habits during the year before enrollment in the study, including questions about chili peppers.

In total, 24.3% of the participants consumed chili peppers four or more times each week, and 33.7% consumed chili peppers either rarely or never. The authors summarize their findings:

"In a model adjusted only for age, sex, and energy intake, regular consumption [4 or more times each week] of chili pepper was associated with 23% lower risk of all-cause mortality, as opposed to none/rare intake, and results remained substantially unchanged in the fully adjusted model."

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Chilis and cardiovascular health

When considering heart disease, the authors found that regular consumers of chili peppers had a 34% lower risk of cardiovascular mortality than those who rarely consumed chili peppers.

The beneficial effect was most pronounced in cerebrovascular-related deaths and ischemic heart disease.

When they investigated cancer mortality, they found that although chili peppers were associated with a drop in risk, it did not reach statistical significance.

The authors analyzed deaths caused by anything other than cancer and cardiovascular disease. Here, too, chili peppers seemed to provide a benefit. The authors write that "regular intakes were associated with [a] lower risk of other causes of mortality."

Interestingly, when the scientists controlled for diet quality, it did not influence the findings.

"[P]rotection from mortality risk was independent of the type of diet people followed. In other words, someone can follow the healthy Mediterranean diet; someone else can eat less healthily, but, for all of them, chili pepper has a protective effect."

First author Dr. Marialaura Bonaccio

More surprises

Compared with those who ate the least chilis, those who ate the most were more likely to be male, more highly educated, and older.

Surprisingly, given the conclusions of the study, those who ate the most chilis were also more likely to have diabetes and hypertension, higher levels of blood lipids, and a higher BMI, compared with those who rarely ate chilis.

Because these are risk factors for cardiovascular disease, the authors believe that this suggests the mechanism by which chilis reduce mortality risk is independent of classic cardiovascular risk factors.

How chili peppers might benefit health is still up for debate, though. Some scientists have theorized that, because capsaicin might aid weight loss, this could explain the benefits. However, in this study population, the group that consumed the most chilis had a higher average BMI.

Limitations and the future

Although the study echoes the findings of two extensive studies carried out in the U.S. and China and involved a large pool of participants, the authors do recognize some limitations. First and foremost, this was an observational study, meaning that it is difficult to tease apart cause and effect. In these studies, it is always possible that other factors that researchers did not measure influenced the results.

They also note that although the overall number of participants was high, the number of deaths in each category was relatively low. As an example, there were only 173 cancer-related deaths in the group that rarely ate chilis.

Also, dietary information was only collected once at the beginning of the trial. People's diets change over time; this is an issue that plagues research into health and nutrition.

In this study, the top category of chili consumption included those who ate hot chilis four or more times each week. In follow up work, it would be interesting to see if the effect differed in individuals who ate chilis once or twice each day.

Overall, the authors conclude that "[r]egular consumption of chili peppers is associated with [a] lower risk of total and [cardiovascular disease] mortality." The evidence that chilis might benefit health is mounting; the next step will be to understand how.

Cardiovascular disease

FDA approve fish oil drug for cardiovascular disease (Medical News Today: 201901219)

<https://www.medicalnewstoday.com/articles/327334.php#4>

The Food and Drug Administration (FDA) have recently approved a drug derived from fish oil as an adjuvant therapy for people at risk of experiencing cardiovascular events.

The FDA approve a new fish oil drug to help reduce cardiovascular risk.

According to the Centers for Disease Control and Prevention (CDC), heart disease is the leading cause of death among adults in the United States.

In fact, every 37 seconds, one person dies due to a cardiovascular event in the U.S.

For this reason, it is important to try to prevent poor cardiovascular outcomes in people at risk. Elevated triglyceride levels, which are a marker of blood lipids (fats), are one key risk factor to look out for.

Last week, the FDA issued a statement explaining that they had approved the use of a new drug as an adjuvant therapy to help prevent cardiovascular disease in adults with triglyceride levels of 150 milligrams per deciliter or higher, which count as elevated levels.

The drug, Vascepa, comes in capsule form. Its main active ingredient is eicosapentaenoic acid. This is an omega-3 fatty acid extracted from fish oil.

As per the FDA recommendations, doctors should only prescribe Vascepa to those with abnormally high triglyceride levels and as an additional therapy to the maximum tolerated dosage of statins. These are the drugs that people usually take to keep their cholesterol levels in check and minimize cardiovascular risk.

"The FDA [recognize that] there is a need for additional medical treatments for cardiovascular disease," says Dr. John Sharretts, the acting deputy director of the Division of Metabolism and Endocrinology Products in the FDA's Center for Drug Evaluation and Research.

"[This] approval will give [people] with elevated triglycerides and other important risk factors, including heart disease, stroke and diabetes, an adjunctive treatment option that can help decrease their risk of cardiovascular events."

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Vascepa effectively lowers triglycerides

When triglyceride levels in the blood become too high, it can contribute to the thickening and stiffening of the artery walls. This increases a person's risk of experiencing a cardiovascular event, such as a stroke or heart attack.

Vascepa can safely lower triglyceride levels, thus also helping reduce cardiovascular risk. However, the mechanisms through which the drug achieves this remain unclear.

Nevertheless, a clinical trial involving 8,179 participants has demonstrated the drug's effectiveness and safety, ultimately leading to its approval by the FDA.

The participants were all aged 45 or older with a history of various heart, vascular, or metabolic conditions. These included coronary artery disease, cerebrovascular disease, carotid artery disease, peripheral artery disease, or diabetes. They also had additional risk factors for cardiovascular disease.

The trial showed that people who took Vascepa had a lower risk of experiencing a cardiovascular event than those who did not take the drug.

According to its manufacturers, Vascepa can lower blood triglyceride levels by around 33%.

The researchers who conducted the clinical trial did, however, note that the drug was sometimes associated with an increased risk of heart problems — specifically atrial fibrillation or atrial flutter — that called for hospitalization. However, this risk was more pronounced in people who already had a history of these two conditions.

Another potential side effect is a higher risk of bleeding — though, again, this is more likely to occur in people already taking other drugs associated with a higher risk of bleeding events, such as aspirin, clopidogrel, or warfarin.

The makers of Vascepa advise that people who receive a prescription for the drug take two 1-gram capsules or four 0.5-gram capsules twice per day with food.

However, they warn that people with known allergies to fish or shellfish may experience allergic reactions to this drug, and that they should only take it as advised by their doctor and discontinue the treatment if they do experience any symptoms of an allergic reaction.

Lung Diseases (Hindustan: 201901219)

https://epaper.livehindustan.com/imageview_450018_48908636_4_1_19-12-2019_20_i_1_sf.html

ई-सिगरेट के सेवन से बढ़ जाता है कई तरह की बीमारियों का खतरा

फेफड़ों के लिए काल बन रही ई-सिगरेट



लॉस एंजेलिस | एजेसी

ई-सिगरेट ज्यादा पीने से फेफड़ों की गंभीर बीमारी होने का जोखिम बढ़ सकता है। इनमें अस्थमा, ब्रोंकाइटिस और इमफाइसीमा जैसी कई बीमारियां शामिल हैं। एक हालिया शोध में यह खुलासा हुआ है।

सैन फ्रांसिस्को की यूनिवर्सिटी ऑफ कैलिफोर्निया के शोधकर्ताओं ने पाया कि जिन लोगों ने ई-सिगरेट के साथ सामान्य सिगरेट भी पी है, उनमें फेफड़ों की गंभीर बीमारियां होने का खतरा उन लोगों से कहीं ज्यादा था जिन्होंने एक ही तरह के उत्पाद का सेवन किया।

ऐसे किया विश्लेषण : अमेरिकन जर्नल ऑफ प्रीवेंटिव मेडिसिन में प्रकाशित शोध में पॉपुलेशन असेसमेंट



1.3 गुना तक ज्यादा था फेफड़ों की बीमारी होने का खतरा ई-सिगरेट पीने वालों में

ऑफ टोबैको एंड हेल्थ में मौजूद डाटा का विश्लेषण किया गया है। इन असेसमेंट में ई-सिगरेट और तंबाकू की आदतों की निगरानी की गई और इसके साथ ही 2013 से लेकर 2016 के बीच 32 हजार अमेरिकियों को हुई गंभीर फेफड़ों की बीमारी की भी निगरानी की गई। पूर्व में हुए शोधों में भी ई-सिगरेट

और गंभीर फेफड़ों की बीमारियों के बीच मजबूत संबंध पाया गया है।

हालांकि, इन शोधों से स्पष्ट तौर पर यह पता नहीं चल पाया कि ई-सिगरेट के कारण गंभीर फेफड़ों की बीमारी होती है या फेफड़ों की बीमारी से पीड़ित लोगों ने ज्यादा ई-सिगरेट पी। शोधकर्ताओं ने ऐसे लोगों पर अध्ययन किया जिन्हें कोई फेफड़े की बीमारी नहीं थी। इस दौरान इनके ई-सिगरेट और सामान्य सिगरेट के पीने की मॉनिटरिंग की गई। इन प्रतिभागियों की तीन साल तक निगरानी की गई।

शोधकर्ता स्टैनटन ग्लैनट ने कहा, हमें पता चला कि धूम्रपान को नियंत्रित करने के बाद भी ई-सिगरेट पीने के कारण प्रतिभागियों में फेफड़ों की बीमारी होने का खतरा एक तिहाई गुना तक ज्यादा था। सामान्य सिगरेट पीने वालों की तुलना ई-सिगरेट पीने वालों में बीमारी होने का खतरा 1.3 गुना तक ज्यादा था।

Sleeping ((Hindustan: 201901219)

https://epaper.livehindustan.com/imageview/450018_48906466_4_1_19-12-2019_20_i_1_sf.html

नाइट मोड से होती है अनिद्रा की शिकायत

लंदन। लोग अक्सर यह सोचकर स्मार्टफोन को नाइट मोड में कर देते हैं कि इससे रात में उनकी आंखों पर कम असर पड़ेगा और सोने में तकलीफ नहीं होगी। लेकिन ऐसा नहीं है। एक नए शोध में पता चला है कि नींद के लिए फोन को नाइट मोड में रखने से निकलने वाली पीली रोशनी फोन की नीली रोशनी से ज्यादा घातक है। इससे अनिद्रा का खतरा बढ़ जाता है।

शोधकर्ताओं ने अपने अध्ययन में पाया कि स्मार्टफोन के नाइट मोड की पीली रोशनी शरीर की जैविक घड़ी को प्रभावित करती है। इसके कारण जैविक घड़ी इस असमंजस में आ जाती है कि अभी दिन है या रात।