



DAILY NEWS BULLETIN

LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE DAY
Wednesday 201901030

Mental health

Poor evidence cannabis improves mental health (The Tribune: 201901030)

<https://www.tribuneindia.com/news/health/poor-evidence-cannabis-improves-mental-health/853545.html>

People with psychiatric disorders may want to pass on the joint—at least until further research is done, a new Australian study suggests.

The paper, published Monday in *The Lancet Psychiatry*, looked at 83 previous studies conducted over almost four decades on medical cannabinoids, including products from the cannabis plant, such as leaves, buds and oils.

The authors found little evidence that the products were safe and effective in treating six common disorders: depression, anxiety, attention-deficit hyperactivity disorder, Tourette syndrome, post-traumatic stress disorder and psychosis.

Cannabis and cannabinoids are increasingly being made available for medicinal use in North America, Britain and Australia without undergoing standard testing, lead author Louisa Degenhardt told AFP.

“One of the most striking things about the spread of legislation in multiple countries permitting cannabis/cannabinoids for medicinal purposes is that this is in many instances happening outside of the regulatory frameworks that medicine development typically occurs within,” said Degenhardt, from the National Drug and Alcohol Research Centre at the University of New South Wales in Sydney.

The study found that after chronic non-cancer pain, mental health is one of the most common reasons for using medicinal cannabinoids.

But no reviews have considered the varying effects of the different types of cannabinoids or their safety, and the only studies into long-term effects were conducted on individuals using cannabis for recreational use.

In most randomised-controlled trials of the effects of cannabinoids on depression and anxiety, the use was related to another condition, like chronic pain or multiple sclerosis.

Some studies showed improvement in anxiety symptoms, but it was unclear if that effect was due to improvements in the primary condition.

In one small study of patients with psychosis, pharmaceutical THC—the active substance in cannabis—actually worsened symptoms.

There are safety concerns as well.

“There are risks of developing dependence upon cannabis,” said Degenhardt. “There are also risks if someone drives while intoxicated, and there [is] evidence that people who use cannabis regularly may be at increased risk of developing depression and psychotic symptoms.” Also, getting the drugs via the illicit market “carries risk of prosecution as well as unknown product content, quality and safety”, added Tom Freeman, of the Addiction and Mental Health Group at the University of Bath.

Medications that are proven to be effective and aren’t addictive already exist for many of the conditions for which cannabis is being used, said Deepak Cyril D’Souza, of Yale University School of Medicine’s Department of Psychiatry, who wrote a commentary on the study.

David Nutt, Head of the Centre for Neuropsychopharmacology at Imperial College London, said the Lancet study somewhat missed the point.

“Cannabis has been a medicine for millennia... so subjecting it to the same requirements as modern synthetic medicines is not the most obvious, nor necessary way to progress,” he said.
— AFP

Depression

Narcissistic people less likely to suffer from depression (The Tribune: 201901030)

<https://www.tribuneindia.com/news/health/narcissistic-people-less-likely-to-suffer-from-depression/853506.html>

Researchers from the Queen's University Belfast have found that people who have grandiose narcissistic traits were more likely to be "mentally tough", feel less stressed and also less vulnerable to depression.

While narcissism may be viewed by many in society as a negative personality trait, the researchers have revealed that it could also have benefits, according to the study published in the journal Personality and Individual Differences.

"Narcissism is part of the 'Dark Tetrad' of personality that also includes Machiavellianism, Psychopathy and Sadism. There are two main dimensions to narcissism - grandiose and vulnerable," said study researcher Kostas Papageorgiou.

"Vulnerable narcissists are likely to be more defensive and view the behaviour of others as hostile whereas grandiose narcissists usually have an over inflated sense of importance and a preoccupation with status and power." According to the researchers, individuals high on the spectrum of dark traits, such as narcissism, engage in risky behaviour, hold an unrealistic superior view of themselves, are overconfident, show little empathy for others, and have little shame or guilt.

The papers include three independent studies each involving more than 700 adults in total and highlights some positive sides of narcissism, such as resilience against symptoms of psychopathology.

A key finding of the research was that grandiose narcissism can increase mental toughness and this can help to offset symptoms of depression.

It also found that people who score high on grandiose narcissism have lower levels of perceived stress and are therefore less likely to view their life as stressful.

"The results from all the studies that we conducted show that grandiose narcissism correlates with very positive components of mental toughness, such as confidence and goal orientation, protecting against symptoms of depression and perceived stress," Papageorgiou said.—IANS

City's air quality

City's air quality dips with spike in stubble burning (The Hindu: 201901030)

<https://www.thehindu.com/news/cities/Delhi/citys-air-quality-dips-with-spike-in-stubble-burning/article29827321.ece>

The AQI on Tuesday was recorded at 400, up from 368 a day before

Delhi's air quality deteriorated further on Tuesday and remained one notch short of the 'severe' category (AQI 401), the worst for this season so far.

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Fitness app data

Indians are the least active, says analysis of fitness app data(The Hindu201901030)

<https://www.thehindu.com/sci-tech/health/indians-are-the-least-active-says-analysis-of-fitness-app-data/article29825918.ece>

Nonymised user data insights from 18 countries studied

India has emerged as the least active country among 18 countries including the U.S., the U.K., Japan and Singapore, according to a report by fitness solutions

Clinical trial of vaccine

Clinical trial of vaccine shows 49.7% efficacy in preventing pulmonary TB infection (The Indian Express: 201901030)

<https://indianexpress.com/article/lifestyle/health/clinical-trial-of-vaccine-shows-49-7-efficacy-in-preventing-pulmonary-tb-infection-6093666/>

The vaccine is, however, a long way from being launched in India, with further trials required on the country's population before it is rolled out.



Latent TB means the TB bacteria is present in the body but remains dormant.

The final results of a three-year phase II clinical trial of a tuberculosis vaccine has shown 49.7 per cent efficacy in preventing pulmonary tuberculosis (TB) infection. Although there are about 15 developers globally working to create the TB vaccine, the latest results hold significance as this is the first time such results have been drawn in the last 100 years of research.

The vaccine is, however, a long way from being launched in India, with further trials required on the country's population before it is rolled out.

The study, titled 'Final Analysis of Trial of M72/AS01 Vaccine to Prevent Tuberculosis', was published in the New England Journal of Medicine on Tuesday. The findings suggest the vaccine will help prevent infection risk by 50 per cent in the latent TB population, and come a

day ahead of The 50th Union World Conference on Lung Health in Hyderabad. The global conference is scheduled to begin on October 30 and will run till November 2.

Latent TB means the TB bacteria is present in the body but remains dormant.

Between August 2014 and November 2015, 3,575 non-HIV positive people with latent TB and aged 18 to 50 years were enrolled for the trial in Kenya, South Africa and Zambia. While India was considered for the trial, researchers said sub-Saharan Africa was finally chosen due to higher TB incidence.

Half of latent TB population was given two doses of M72/AS01 vaccine a month apart. Three years later, of 1,626 people, 13 in the group developed active TB infection as opposed to 26 in the other group, which was given a placebo drug.

“The vaccine provided a high-level response in body. It generated antibodies to fight the bacteria. The efficacy remained constant until three years of trial,” said Olivier Van Der Meeren, the study’s co-author and the director of research and development at Glaxo Smith Kline.

Ann Ginsberg, the study’s co-author and technical advisor at International AIDS Vaccine Initiative (IAVI), which funded the trial, said the blood markers of patients who tested TB positive will now be analysed to understand how immune response works. “We don’t know what caused tuberculosis in these patients. More research is needed to understand immunological responses to the bacteria,” she said.

Cases of respiratory illnesses

Cases of respiratory illnesses rise after Diwali; walkers, joggers, cyclists at risk (Hindustan Times: 201901030)

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

Walkers, joggers and cyclists are complaining of difficulty in breathing, itchy throat, and watery eyes after the pollution levels spiked.

Doctors also say there has been an increase in patients with asthma and other respiratory allergies. At the All India Institute of Medical Science, this increase was at 15% since Sunday night.

“We see this spike every year after Diwali. People come in with their symptoms worsening as the pollution levels increase. However, what is more concerning, is healthy people coming in with upper respiratory tract allergies and allergic coughing that refuses to heal. We have to treat it just like asthma,” said Dr Karan Madan, associate professor of pulmonary medicine, AIIMS.

The doctors have to prescribe steroid-based inhalers and nasal drops. “These symptoms sometimes persist for as long as two to three weeks and the patients have to be on the medicines

for three to four weeks. This is like seasonal asthma – the symptoms heal after the pollution levels improve but many in my clinic come back again and again with the symptoms,” he said.

There is a need for a longitudinal study on healthy individuals getting asthma due to prolonged exposure to polluted air, he says.

People have reported these issues despite the air pollution levels after Diwali being lower than last year, after a ban on normal crackers. The level of particulate matter of 10µm or less in size increased from 287 the day before to 337 on the day of Diwali and 368 and 400 the next day.

“The PM2.5 on Deepawali day was found lower by 40 µg/m³ and PM10 was also found lower by 41 µg/m³ in 2019 as compared to 2018 Diwali day,” according to the Central Pollution Control Board.

Nilotpal Dey, who works with the All India Radio, had heard about Delhi’s air pollution on the news but experienced it first-hand last year after moving to the city. “I used to live in Safdarjung and while coming back from work my eyes would start watering. I feel the pollution levels are lower in central Delhi, but there is still some trouble breathing during morning walks,” he said.

After somebody suggested he give up his morning walks, he bought a mask. “I have been following this routine for years now and it is not easy for me to stop. So, as a precaution, I bought a mask. I can actually feel the difference for a few seconds,” said Dey.

Sitla Prasad Tripathi, a regular walker for 28 years, checks the pollution levels before stepping out in the morning. “I can feel the difference in the air post-Diwali. When it gets very high, I switch to Yoga at home,” he said.

“I can feel my speed and stamina going down. I feel breathless while cycling and sometimes get chest congestion, said Uday Bhan Singh, a retired government officer who goes to India Gate every morning.

Two NGOs have even written to BCCI President Saurav Ganguly to change the venue of the India-Bangladesh T20 scheduled for November 3 at Arun Jaitley stadium, citing the example of Sri Lankan players using pollution masks during a 2017 game.

“Any outdoor aerobic activity raises the respiration rate of the human body, thus depositing even higher levels of toxins into our lungs and organs. Any match played outdoors harms the health and very lives of the players ,” the letter said.

The number of people landing up in hospitals due to severe asthma attack, however, went down. “We always see an increase of about 25% in the number of patients with allergic issues at the onset of winters. This is due to multiple factors like cold weather, pollen in the air and pollution. However, there weren’t many cases of asthma on Diwali,” said Dr Nevin Kishore.

Sleeping (Hindustan Times: 201901030)

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

India is the second country after Japan to get the least sleep, with an average nightly sleep of 7 hours 1 minute, shows data released by Fitbit, a leading brand of fitness-tracking products.

The Japanese sleep the least, getting an average of 6 hours and 47 minutes of shuteye every night, showed sleep data from across 18 countries of at least 10.5 billion nights between August 1, 2018 and July 31, 2019. Indians were among the least active people in the world, walking

an average of 6,533 steps each day, which is 3,600 steps lesser than the average of the most active country – Hong Kong.

“A healthy adult needs an average of 7.5 to 8 hours of sleep, but changing lifestyles is resulting in disturbed sleep patterns. There’re several distractions in the form of gadgets, internet etc that I’d say leads to insufficient sleep in about 80% of the people,” says Dr JC Suri, former head, pulmonary and sleep medicine, Safdarjung Hospital. The 77 minutes of rapid eye movement (REM) sleep, a phase where the sleeper dreams vividly, on average is the lowest in the world for Indians. The REM sleep is a crucial aspect for the peak stage of protein synthesis at the cellular level, which ensures that multiple processes work properly.

Most Indians spend 57 minutes awake on an average each night they sleep, representing close to 13.5% of their nightly sleep. The most sleep-deprived age-group is between 75-90 years (6 hours 35 minutes on average). “It’s important to get to the cause for improving the sleep pattern,” adds Suri.

Schizophrenia

Could hair analysis diagnose schizophrenia (Medical News Today: 201901030)

<https://www.medicalnewstoday.com/articles/326837.php>

New research suggests that analyzing human hair may offer clues into a person's mental health.

The recent EMBO Molecular Medicine study also suggests that an enzyme that helps to produce hydrogen sulfide in the brain and leaves a trace in human hair may serve as a presymptomatic biomarker for a subtype of schizophrenia.

The researchers propose that the findings could lead to a new class of drugs for schizophrenia. Current treatments, which target the brain's dopamine and serotonin systems, are not always effective and give rise to side effects.

"Targeting the metabolic pathway of hydrogen sulfide provides a novel therapeutic approach," concluded the authors, whose investigation involved genetically engineered mice, postmortem human brain tissue, and people with and without schizophrenia.

Senior study author Dr. Takeo Yoshikawa, who leads the molecular psychiatry team at the RIKEN Center for Brain Science in Japan, notes that drug companies have stopped developing new treatments for schizophrenia.

"A new paradigm is needed for the development of novel drugs," he observes, adding that "Currently, about 30% of patients with schizophrenia are resistant to dopamine D2-receptor antagonist therapy."

In search of a more reliable marker

In a nutshell, the new study explores the molecular underpinnings of a behavioral marker of schizophrenia called prepulse inhibition to identify a more reliable, objective biochemical marker.

Most people respond to a sudden burst of noise with a startle. However, if they hear a smaller short burst – or prepulse – just beforehand, the bigger burst startles them much less. That is because the prepulse inhibits the startle response.

Schizophrenia: Restoring brain circuitry to improve symptoms

Schizophrenia: Restoring brain circuitry to improve symptoms

Researchers identify faulty brain circuitry behind some schizophrenia symptoms and examine ways to restore it noninvasively.

For decades, scientists have known that many people with schizophrenia have lower prepulse inhibition; their startle response to a sudden loud noise is excessive even when there is a prepulse.

Dr. Yoshikawa and his colleagues took prepulse inhibition as the starting point for their investigation.

They used strains of mice that have different levels of prepulse inhibition to search for patterns of protein expression that might match those levels.

This search identified the enzyme Mpst. The researchers observed how mice with low prepulse inhibition had much higher brain levels of Mpst than mice with high prepulse inhibition.

Knowing that one of the functions of Mpst is to help produce the compound hydrogen sulfide, the team then tested the animals' brains and found that hydrogen sulfide levels were higher in those with low prepulse inhibition.

"Nobody has ever thought about a causal link between hydrogen sulfide and schizophrenia," comments Dr. Yoshikawa.

"Once we discovered this," he adds, "we had to figure out how it happens and if these findings in mice would hold true for people with schizophrenia."

Having identified Mpst as their main suspect, the researchers then went in search of further evidence. They engineered mice lacking in Mpst and showed that they had higher prepulse inhibition than regular mice.

This result implied that reducing Mpst might be a way to restore prepulse inhibition.

In the next stage of evidence gathering, the team compared postmortem brain tissue from people with and without schizophrenia.

The comparison revealed stronger expression in the gene that codes for Mpst in the brain tissue of those with schizophrenia. Also, it appeared that levels of Mpst matched the severity of schizophrenia symptoms before death.

In another set of tests, the researchers examined hair follicles from 149 people with schizophrenia and 166 without the disease. They found higher levels of the protein that transcribes information from the gene that codes for Mpst in the follicles from the people with schizophrenia.

Epigenetic origins of schizophrenia

The chances of developing schizophrenia involve an interplay of genes and the environment. An example of this interplay is epigenetic changes in which chemical tags on DNA can alter gene expression, such as turning them on and off.

Tests on mice and postmortem human brain tissue have shown that higher levels of Mpst correlate with DNA alterations that result in permanent changes to gene expression. Knowing this, the team searched for environmental factors that might cause a permanent rise in Mpst.

Because hydrogen sulfide can protect against inflammation brought on by stress, the team wondered if inflammatory stress during early brain development might contribute to the root cause of schizophrenia.

"We found that anti-oxidative markers — including the production of hydrogen sulfide — that compensate against oxidative stress and neuroinflammation during brain development were correlated with Mpst levels in the brains of people with schizophrenia," notes Dr. Yoshikawa.

Speculating on what this means for the origins of schizophrenia, he suggests that once an epigenetic change switches on the overproduction of hydrogen sulfide, it lasts for the rest of the individual's life. He calls this schizophrenia induced by "sulfide stress."

"Our results provide a new principle or paradigm for designing drugs, and we are currently testing whether inhibiting the synthesis of hydrogen sulfide can alleviate symptoms in mouse models of schizophrenia.

Depression and inflammation

Study challenges link between depression and inflammation (Medical News Today: 201901030)

<https://www.medicalnewstoday.com/articles/326838.php>

In recent years, a growing body of evidence has suggested that inflammation and depression are intimately linked. But new research challenges this notion.

New research undermines the hope that, one day, we could use a simple blood test to diagnose depression.

The idea that inflammation may be what drives and characterizes depression has been gaining more and more ground in recent years.

A study published in 2015, for instance, found that clinical depression is linked with 30% more inflammation in the brain.

A couple of years later, another study found markers of brain inflammation in people with suicidal ideation, and other researchers have suggested that low-grade inflammation may reduce motivation to perform daily tasks.

But a new study challenges this popular notion. A team led by Eiko Fried, Ph.D., an assistant professor of psychology at Universiteit Leiden, in the Netherlands, applied network analysis to study the links between "individual depressive symptoms, inflammatory markers, and covariates."

Their findings appear in the journal *Psychological Medicine*.

Studying depression and inflammation

The researchers started from the observation that the existing studies tackling the link between depression and inflammation have not yielded unanimous results.

This, explain the authors, may be the result of two issues — either the studies have examined different markers of inflammation, or specific symptoms of depression may relate to inflammation in differing ways.

To address these challenges, the authors applied a method called network psychometrics to examine existing data from the database of the Netherlands Study of Depression and Anxiety.

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The database included information from more than 2,300 people, some of whom did not have depression, and some of whom had the condition, with symptoms ranging in extremity among the study cohort.

Applying network analysis enabled the researchers to study the link between 28 individual symptoms of depression, various lifestyle factors, and inflammatory markers, such as C-reactive protein, interleukin-6, and tumor necrosis factor alpha.

The researchers adjusted for covariates, including sex, age, body mass index (BMI), exercise, smoking patterns, drinking behavior, and the presence of chronic illnesses.

Link with inflammation challenged

The research found no direct link between depression and inflammation, but it has revealed insights into the effects of individual symptoms and lifestyle factors.

For instance, "Some specific depression symptoms appear to be related to increased inflammation," reports Fried, "such as sleep problems."

Turmeric

Could turmeric help solve the antibiotic resistance crisis? Medical News Today: 201901030)

<https://www.medicalnewstoday.com/articles/326809.php>

Published Monday 28 October 2019 By Lisa Templeton Fact checked by Paula Field

Researchers around the globe are scrambling to find ways to tackle the superbug crisis. Now, scientists have found an interesting way to foil a common antibiotic resistant bacteria, using turmeric.

Turmeric

Turmeric may contain a compound that could be helpful in the fight against superbugs.

Resistance to antibiotics poses a significant threat to our health. Around 24–79% of the world's population is infected with the bacterium *Helicobacter pylori* (*H. pylori*).

Like other bacteria, *H. pylori* has grown ever more resistant to traditional treatment using antibiotics.

Indeed, drug resistant bacteria are one of the biggest threats to global health, according to the World Health Organization (WHO). Some experts predict that it will cause more deaths than cancer by 2050 unless scientists can find some way to counter the threat.

However, scientists from the United Kingdom and Germany may have found an innovative way of stopping *H. pylori* infection without using antibiotics. Instead, they used minuscule capsules filled with natural ingredients, notably curcumin, to stop the infection. Some studies have suggested that curcumin, which is an ingredient in turmeric, has anti-inflammatory and antioxidant qualities.

"[H. pylori] is a globally-spread pathogen. It is estimated that up to 70% of people host this pathogen worldwide," says professor Francisco Goycoolea of the School of Food Science and Nutrition in Leeds in the UK, and co-author of the paper that the team recently published in the journal ACS Applied Bio Materials.

Goycoolea adds that scientists need to find 'new integral approaches [...] to tackle antimicrobial resistance,' and must try to find new alternatives to antibiotics.

He believes that "this novel formulation, consisting of small capsules made of natural ingredients, could offer a new means to deter a globally-spread 'superbug' pathogen."

In 2017, the WHO included antibiotic resistant H. pylori strains as a high priority pathogen on their list of drug resistant bacteria that present the biggest threat to global health.

Resistance occurs because bacteria change and adapt, meaning that antibiotics can no longer cure bacterial infections. Although resistance does happen naturally, the inappropriate use of antibiotics to cure colds, for example, has exacerbated the situation.

At the moment, doctors treat superbugs with a cocktail of antibiotics, which has only served to encourage resistant strains.

Natural ingredients help fight the superbug

Estimates suggest that 4.4 billion people globally carry H. pylori. It does not always show symptoms, although it can result in ulcers, inflammation of the lining of the stomach, and an increased risk of stomach cancer. Doctors find H. pylori very challenging to treat.

"The bacteria hide under the gastric mucous layer where antibiotics do not penetrate effectively. This often leads to recurrent infections and gives rise to resistant strains," says Goycoolea.

Now the research team, based at the universities of Leeds in the UK, and Münster and Erlangen in Germany, has discovered that billions of minute nanocapsules loaded with curcumin and used in the right dose, can stop the bacteria from sticking to stomach cells. This in turn, could help antibiotics do their jobs.

This new compound could fight potent 'superbugs'

This new compound could fight potent 'superbugs'

A newly developed compound may help tackle multidrug resistant bacteria.

This novel solution uses nontoxic food and pharmaceutical grade ingredients. The scientists coated the nanocapsules with the enzyme lysozyme, which helps to fight bacterial infections. The scientists also used a small amount of dextran sulfate, which scientists have used to suppress H. pylori infection.

"Small capsules made of natural ingredients could offer a new means to deter a globally-spread 'superbug' pathogen," says Goycoolea.

The scientists carried out the research in vitro, using stomach cells and the bacteria.

"A new generation of antibacterials might be based on more specific molecular targets of the bacteria, acting probably not as broad as the older compounds, but therefore more precisely against specific virulence factors of specific bacteria," says co-author professor Andreas Hensel of the Institute for Pharmaceutical Biology and Phytochemistry at the University of Münster.

"The research published in ACS Applied Bio Materials might pinpoint a new way towards controlled drug targeting against H. pylori and its specific adhesion and virulence factors."

Dementia risk higher

Dementia risk higher in those who eat more trans fats (Medical News Today: 201901030)

<https://www.medicalnewstoday.com/articles/326820.php>

Published Monday 28 October 2019 By Catharine Paddock, Ph.D. Fact checked by Paula Field

A new study of older adults in a Japanese town has found that those whose blood contained higher levels of trans fats were more likely to develop dementia than those with lower levels.

close up of women eating pastry and drinking coffee

Sweet pastry can be a rich source of trans fats, which may raise the risk of dementia in some people, according to new research.

The researchers also found that sweet pastries were likely the biggest source of dietary trans fats in that population.

There are two primary sources of trans fats in the human diet: natural and artificial. Natural trans fats are present in small amounts in dairy products and the meat of some animals.

Artificial trans fats, or trans fatty acids, are the primary source of trans fats in the diet and are the product of an industrial process that adds hydrogen to vegetable oil to make it solid.

According to the American Heart Association, consumption of trans fats can raise the risk of heart disease, stroke, and has links to a higher risk of type 2 diabetes.

In a recent Neurology paper, the new study authors describe how they linked trans fats to a higher risk of dementia using data from an ongoing health study of people living in the town of Hisayama in Japan.

"These results," says senior study author Toshiharu Ninomiya, "give us even more reason to avoid trans fats." He adds that "In the United States, the small amounts still allowed in foods

can really add up if people eat multiple servings of these foods, and trans fats are still allowed in many other countries."

Ninomiya is a professor in the department of epidemiology and public health at Kyushu University in Japan.

52–74% higher chance of dementia

The new study used data on 1,628 people who were at least 60 years of age and without dementia when they gave blood samples during a screening exam in 2002–2003. The researchers followed them for another 10 years and noted any incidences of dementia that occurred.

During the follow-up, 377 of the participants received a diagnosis of dementia, including 247 for Alzheimer's disease.

Study links severe gum disease to raised dementia risk

Study links severe gum disease to raised dementia risk

A large South Korea study of people aged 50 and older found a 6% higher risk of dementia among those with chronic periodontitis.

For the analysis, the team ranged the participants in four equal groups according to their blood levels of trans fats.

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In the group with the highest blood level of trans fats, the incidence rate of dementia was 29.8 per 1,000 person-years.

In the next highest trans fats group, the dementia incidence rate was 27.6 per 1,000 person-years. In the lowest trans fat group, the incidence rate of dementia was 21.3 per 1,000 person-years.

The researchers adjusted the results for other factors that might influence the risk of dementia. These factors included smoking status and conditions, such as high blood pressure and diabetes.

After the adjustment, the team found that participants in the highest blood trans fat group had a 52% higher chance of developing dementia during the follow-up compared with the lowest blood trans fat group. For the second highest group, this chance was 74%.

The authors note that the link "remained significant after adjustment for dietary factors, including total energy intake and intakes of saturated and polyunsaturated fatty acids."

Trans fats banned in United States

The Food and Drug Administration (FDA) in the U.S. banned artificial trans fats in 2018, declaring that removing partially hydrogenated oils from processed foods could "prevent thousands of heart attacks and deaths every year."

However, the ban contains a provision that allows labels on food containing less than 0.5 grams (g) of trans fats to say that they contain 0 g. This means that some foods may still contain very small amounts of partially hydrogenated oils.

In outlining the reasons for their investigation, the researchers note that few studies had examined the link between trans fats and dementia. Also, those that had investigated the relationship did not yield consistent results.

They suggest that the reason for inconsistent results in the previous studies was that they lacked an accurate method for assessing dietary intake of trans fats.

In their study paper, the authors describe how they used blood levels of elaidic acid as "an objective biomarker for industrial trans fat."

Elaidic acid is a major trans fat in partially hydrogenated vegetable oils. It also occurs in small amounts in milk and some meats.

Sweet pastries accounted for most trans fats

As part of the screening, the participants had also filled in questionnaires about their food intake.

By correlating this information with the other results, the researchers were able to assess which foods likely contributed the most to the higher levels of blood trans fats.

"Sweet pastries were the strongest contributor," write the authors, "followed by margarine, sugar confectioneries (candies, caramels, and chewing gum), and croissants."

"Nondairy creamers, ice cream, and rice crackers also remained in the final model," they add.

One of the study's limitations was the fact that it only measured blood levels of trans fats at the outset.

The researchers also note that since the data came from a single town in Japan, they cannot say whether the results would be the same in other populations with different patterns of trans fats intake.

Exercising

Exercising before breakfast may be most healthful choice(Medical News Today: 201901030)

<https://www.medicalnewstoday.com/articles/326811.php#4>

Figuring out when to exercise could be just as important as the exercise itself, according to new research on the relationship between meal times and workouts.

New research suggests that working out before breakfast has 'profound' health benefits.

Some studies Trusted Source suggest that the effectiveness of exercise may be tied to when a person eats.

However, it is rarely possible to translate findings from studies in lean people to those with obesity.

So, scientists from the Universities of Bath and Birmingham, both in the United Kingdom, set out to see if meal and exercise timing had a similar link in people with overweight or obesity.

Having obesity and living a relatively sedentary life can lead to an increased risk of cardiovascular disease.

This is because insulin sensitivity is reduced, and hyperinsulinemia — a condition characterized by excess insulin levels — is increased.

Finding a way to prevent these insulin-related effects could potentially prove to be life-saving.

'Profound' benefits

The study, which now appears in the Journal of Clinical Endocrinology and Metabolism, aimed to examine how exercising before and after eating affected muscle fat stores and insulin response. It was the first to look at this relationship in people with overweight or obesity.

The experiment, which lasted for 6 weeks, involved 30 men the researchers categorized as either overweight or obese.

The team split these men into three groups:

one that ate breakfast before exercising

one that ate breakfast after exercising

one that made no lifestyle alterations

"Our results suggest that changing the timing of when you eat in relation to when you exercise can bring about profound and positive changes to your overall health," says Dr. Javier Gonzalez, from the University of Bath's Department for Health.

A greater burn

Participants who exercised before breakfast burned twice as much fat as those who exercised after eating the same meal.

There is a simple reason for this: When people fast overnight, they have lower insulin levels during exercise, allowing their body to use up more fat.

"Importantly, while this didn't have any effect on weight loss, it did dramatically improve their overall health," notes Dr. Gonzalez.

The muscles of those who exercised before breakfast responded better to insulin, better controlling blood sugar levels in the body.

Dr. Gonzalez says that this effect is "all the more remarkable, given that both exercise groups lost a similar amount of weight and both gained a similar amount of fitness."

"The only difference was the timing of the food intake," he adds.

The muscles of those in the group who exercised before breakfast also exhibited bigger increases in certain proteins — especially those responsible for delivering glucose to the muscles.

Even more notable was the fact that those who ate breakfast before exercising were no better off in terms of insulin response after eating than the control group.

Future focus

"This work suggests that performing exercise in the overnight-fasted state can increase the health benefits of exercise for individuals, without changing the intensity, duration, or perception of their effort," states study co-author Dr. Gareth Wallis, from the University of Birmingham.

These particular findings are sex-specific, as the researchers only worked with men. Therefore, further studies will need to replicate the conditions in women to see if they, too, benefit from exercising before breakfast.

The breakfast that the participants consumed was high in carbohydrates, so future research may also need to examine whether low carb meals produce the same effects.

Longer studies will also need to take place before researchers can form any solid conclusions.

However, fasting overnight and exercising before breakfast could be the key to increasing the effectiveness of exercise in people with overweight or obesity.

Sports Medicine / Fitness Nutrition / Diet Obesity / Weight Loss / Fitness

Pollution (Navbharat Times: 201901030)

<http://epaper.navbharattimes.com/details/71145-69857-1.html>

जहर 400 के पार आज से खुल रहे स्कूल, मास्क की पड़ेगी ज़रूरत सुबह की सैर को ब्रेक देने वाला टाइम आया

आज आएगा और ज्यादा पराली का धुआं, बढ़ाएगा दिल्ली की घुटन

ऐसे खतरनाक हुई हवा

पराली का धुआं : मंगलवार को इराकी वजह से 25% प्रदूषित हुई दिल्ली, आज 29 बीसवीं हो सकती है

सापगमन : सीजन में पहली बार सापगमन 30 डिग्री से नीचे आया। नमी बढ़ी और धूल वातावरण में जमा होती गई

हवाएं : हवाओं का रुख उत्तर-पश्चिम है। इससे पराली का धुआं आसानी से दिल्ली तक पहुंच रहा है

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मनीषी का डाने बेतान है। दिल्ली में एयर क्वालिटी इंडेक्स 400 था, जो गंभीर से रिस्क 1 अंक कम है। एयरपॉल्यूशन को रोकने के लिए और भी चयन है। एयरपॉल्यूशन में सबसे अधिक प्रदूषित यंत्रों का धुआं दिल्ली को अपने चोट पहुंचा रहा है। एयर इंडेक्स 439, फेद गैर-हवा के तुरंत बंद कई दस घंटे के कई वक्रे हैं। इससे सबसे आम प्रदूषक पराली, बढ़ते ठंड और हवाओं ने निर्यात है।

पराली का धुआं, अस्पष्ट को पराली के मामले में सापगमन में कमी और हवाओं ने राजधानी को बकबत पैर फेर कर रुक भी उत्तर-पश्चिम का है। इस वक्रे से पराली का धुआं आसानी से दिल्ली पहुंच रहा है। अपने दो दिन एयर क्वालिटी इंडेक्स इतने तक कम रहे। हालांकि दिन में कभी-कभी यह संभव है। 1 नवंबर से ही दिल्ली में एयर क्वालिटी इंडेक्स 400 से नीचे आया है।

हवा कितनी साफ

100 तक - अच्छा
200 तक - संतोख
300 तक - मध्यम
400 या ऊपर - खतरनाक

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स्रोत: एयर क्वालिटी इंडेक्स, CPCB

Hungry ((Navbharat Times: 201901030)

<http://epaper.navbharattimes.com/details/71139-58296-1.html>

जलवायु परिवर्तन ने खाद्य उत्पादन और पोषण को कमजोर किया है, जिसकी मार गरीबों पर पड़ी है भुखमरी से लड़ना है तो पर्यावरण सुधारें



अनिल पी. जोशी

इस इंडेक्स में भुखमरी और कुपोषण के मामले में भारत अपने छोट पड़ोसी देशों पाकिस्तान, बांग्लादेश और नेपाल से भी पीछे है। 2018 में भारत 119 देशों में 103 वें स्थान पर था जबकि साल 2000 में यह 113 देशों में 83 वें स्थान पर था। इस सूचकांक को तैयार करने के लिए विभिन्न देशों को चार प्रमुख संकेतकों के आधार पर रैंकिंग दी जाती है- अल्प पोषण, बाल मृत्यु, पांच साल तक के कमजोर बच्चे और बच्चों का अवरुद्ध शारीरिक विकास।

■ मौसम का मिजाज

आखिर ऐसा क्या हुआ कि हम इस मामले में नीचे होते चले जा रहे हैं। एक तरफ भारतीय अर्थव्यवस्था के लगातार आगे बढ़ने की बात की जाती है, दूसरी तरफ देश की एक बड़ी आबादी भुखमरी और कुपोषण से ग्रस्त है। दरअसल विकास को बड़ी इमारतों और गाड़ियों से नहीं मापा जा सकता। अगर देश में हर नागरिक को पेट नहीं भरा है, उसे संतुलित भोजन नहीं मिल रहा, यह स्वस्थ और प्रसन्न नहीं है तो यह डिवेलपमेंट अधूरा ही कहा जाएगा। भारत में विकास का जो विरोधाभास दिखाई देता है, उसके लिए सरकार की नीतियां जिम्मेवार हैं। शिक्षा और स्वास्थ्य ही नहीं, खेती-बाड़ी, बाल विकास, महिला कल्याण

को सहायता से जुड़ी सारी मंदा पर होने वाले खर्च के आंकड़े साफ बताते हैं कि सरकार की प्राथमिकता सूची में इनकी जगह बहुत नीचे है। किसी भी कोमत पर विकास दर बढ़ाने में जुटी सरकार ने अपनी सारी आर्थिक ताकत देश का औद्योगिक माहौल सुधारने में झोंक रखी है।

यह कोई गलत बात नहीं है लेकिन गहरी विषमताओं वाले भारतीय समाज में पहले से ही कमजोर सामाजिक निवेश का और कमजोर होना एक बड़ी आवादी के लिए मुश्किले खड़ी करता है। लेकिन बात सिर्फ इतनी नहीं है। सामाजिक निवेश बढ़ाने के साथ-साथ अब पर्यावरणीय चुनौतियों की ओर भी ध्यान देना होगा। हमें तमाम नीतियां इन चुनौतियों को ध्यान में रखकर ही बनानी होंगी क्योंकि पूरी दुनिया में खाद्य सुरक्षा को यह तत्व बड़े स्तर पर प्रभावित करने लगा है। जलवायु परिवर्तन ने वैश्विक खाद्य उत्पादन और पोषण पर नकारात्मक असर डालना शुरू कर दिया है जिसकी मार सबसे ज्यादा कमजोर तबके

एफएओ के अनुसार 1990 के दशक से मौसम-संबंधी भीषण आपदाओं की संख्या दोगुनी हो गई है, जिससे प्रमुख फसलों की उत्पादकता प्रभावित हुई है। सूखा, बाढ़ और तूफान जैसी जलवायु से संबंधित आपदाएं अंतरराष्ट्रीय आपदाओं का 80 फीसदी हैं। 2011-2016 के दौरान गंभीर सूखे ने विश्व के बड़े हिस्से को प्रभावित किया। अनुमान है कि इससे 51 देशों के लगभग 12.40 करोड़ लोग भयानक खाद्य असुरक्षा से प्रभावित हुए थे। 2015-2016 के अल नीनो प्रभाव ने कई मुल्कों को अपनी चपेट में लिया, जहां गंभीर सूखा पड़ा। अल सल्वाडोर, ग्वाटेमाला, होंदुरास आदि देशों में इसने 50 से 90 प्रतिशत तक फसलों को प्रभावित किया। आने वाले समय में बढ़ती

पर पड़ रही है। जलवायु परिवर्तन का प्रमुख कारण ग्लोबल वार्मिंग और वायुमंडल में बड़े पैमाने पर कार्बन डाइऑक्साइड का छोड़ा जाना है, जो एक साथ मिलकर हीट वेव, सूखे और बाढ़ जैसी भीषण मौसमी घटनाओं को जन्म देती हैं। इन खतरों के चलते खाद्य उत्पादन कम होने और उनकी गुणवत्ता में कमी आने की भी आशंका है।



C Suresh Kumar

चेन्नै में मरीना बीच पर ग्लोबल वार्मिंग के खिलाफ एक जनजागृति अभियान

खाद्य एवं कृषि संगठन (एफएओ) के अनुसार 1990 के दशक के बाद से मौसम-संबंधी भीषण आपदाओं की संख्या दोगुनी हो गई है, जिससे प्रमुख फसलों की उत्पादकता प्रभावित हुई है। सूखा, बाढ़ और तूफान जैसी जलवायु से संबंधित आपदाएं अंतरराष्ट्रीय आपदाओं का 80 फीसदी हैं। 2011-2016 के दौरान गंभीर सूखे ने विश्व के बड़े हिस्से को प्रभावित किया। अनुमान है कि इससे 51 देशों के लगभग 12.40 करोड़ लोग भयानक खाद्य असुरक्षा से प्रभावित हुए थे। 2015-2016 के अल नीनो प्रभाव ने कई मुल्कों को अपनी चपेट में लिया, जहां गंभीर सूखा पड़ा। अल सल्वाडोर, ग्वाटेमाला, होंदुरास आदि देशों में इसने 50 से 90 प्रतिशत तक फसलों को प्रभावित किया। आने वाले समय में बढ़ती

ग्लोबल वार्मिंग और कार्बन उत्सर्जन से वैश्विक स्तर पर खाद्य उत्पादकता तेजी से कम होगी। जाहिर है, इसका खामियाजा दक्षिण पर पड़े और पहले से ही भुखमरी के सूचकांक में निचले स्तर पर मौजूद देशों को भूतना पड़ेगा।

जलवायु परिवर्तन ने भोजन के पोषण स्तर को भी प्रभावित किया है। खातावरण में उच्च कार्बन डाइऑक्साइड सांद्रता फसलों में प्रोटीन, जिंक और लोहे की कमी पैदा करती है। विशेषज्ञ मानते हैं कि 2050 तक अनुमानित 17.50 करोड़ नए लोगों को जिंक की कमी हो सकती है और अतिरिक्त 12.20 करोड़ लोग प्रोटीन की कमी की मार झेल सकते हैं। इसका सबसे ज्यादा नुकसान उठे होगा जो अपने पोषण संबंधी जरूरतों को पूरा करने के लिए लगभग पूरी तरह से फसलों पर

निर्भर है। दक्षिण और दक्षिण पूर्व एशिया, अफ्रीका और पश्चिम एशिया में गरीब तबके का स्वास्थ्य सबसे ज्यादा खतरे में है। गौर करने की बात है कि इन क्षेत्रों में सार्वजनिक स्वास्थ्य प्रणाली काफी कमजोर है। खाद्य पदार्थों के पोषक तत्वों पर जलवायु परिवर्तन का प्रभाव उनके स्वास्थ्य को बदतर बना देगा। ऐसे में भारत सरकार की प्राथमिकता जीडीपी नहीं होना चाहिए क्योंकि यह मुद्दा भर अमीर लोगों के विकास का सूचक है और लक्ष्य मायने में यह कुपोषण तो संपन्न लोगों में भी एक समस्या का रूप ले चुका है। बदलती फूड हैबिट के कारण उनमें भी कुपोषण बढ़ा है। इसलिए विकास के सूचक जीवन से जुड़े होने चाहिए, न कि सुविधाओं और वित्तीयता से।

■ नदी और तालाब

ग्लोबल वार्मिंग की चुनौती को देखते हुए भारत को घरेलू नदियों के लिए कोयले पर निर्भरता कम करनी होगी। भारत में ग्रीनहाउस गैस उत्सर्जन में 68 फीसदी हिस्सेदारी ऊर्जा उत्पादन सेक्टर की है। पिछले कुछ समय से नवीकरणीय ऊर्जा क्षमता बढ़ाने की कोशिश जारी है। इसे और रफ्तार देने की जरूरत है। हमें पर्यावरण के अनुकूल कृषि नीति बनानी होगी। बिजली और यूरिया पर सख्ती तब फसलों का न्यूनतम समर्थन मूल्य किसानों को ऐसे राज्य में भी धान और गन्ना जैसे फसलें लगाने के लिए प्रेरित करता है जहां पानी की उपलब्धता कम है। दूरदर्शी कृषि नीति न होने की वजह से पानी की कमी और परती जलाने जैसी समस्याएं बढ़ रही हैं। इसलिए वर्तमान चुनौतियों के अनुरूप कृषि नीति बनाने और सूख रहे नदी-तालाबों को नया जीवन देने की जरूरत है।