



## **INDIAN COUNCIL OF MEDICAL RESEARCH**

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**Indoor air can be 'worse than New Delhi': Study**

April 20, 2019/ Times of India

Whenever someone refers to air pollution, what comes to your mind? Maybe factories emitting smoke or roads filled with vehicles spewing black smoke, right? Well, that is what an ideal picture of a polluted city looks like. You clearly don't imagine your house in that picture, right? But you will be stunned to know that indoor air pollution on certain days is worse than the bad days of New Delhi. The study: When talking about air pollution, we always refer to the level of toxic substances present in the air outdoor and never really worry about the indoor air quality. We all assume that indoor air quality is good and nothing that one should be worried about. Well, researchers have a different view. As per a recent study conducted at the University of Colorado in Boulder, indoor air pollution, on days when we prepare a lavish meal at home is worse than that of air samples from New Delhi. PM 2.5 air particles are small enough to be easily inhaled by a person. When we inhale these particles, they go deep down in the lungs and can cause respiratory and cardiovascular disease. The fine article can even spread from the lungs to the bloodstream and build up in the liver, heart or worse in the brain and cause mental health-related problems. When we prepare a lavish meal at home, PM 2.5 levels in the house rise to 200 micrograms per cubic meter for one hour. In Delhi, it is 143 micrograms per cubic meter. Inhaling these particles are equally bad as inhaling exhaust from vehicle emissions.

**Digital tools boost health services but cannot replace them: WHO**

April 21, 2019/ Hindustan Times

The first international guidelines for prioritising, integrating and regulating digital healthtools, released this week, underline the benefits of 10 digital approaches to improve publichealth and essential services but warn that technology cannot and should not replace traditional health services. With 51% of the world's population having access to broadband internet service, the World Health Organization's (WHO) guidelines on digital interventions use evidence to identify how tools that use smartphones, tablets and computers can make health systems more efficient, responsive and resilient to resource constraints. "Safe and secure digital health technologies can significantly improve the quality, accessibility and sustainability of health services. New digital health technologies can help connect health professionals to patients in hard-to-reach areas, improve detection, diagnosis and treatment of health problems, and support management and monitoring of public health programmes so decision-makers know whether their policies are working," said Dr Poonam Khetrpal Singh, regional director of the World Health Organisation South East Asia Region (SEARO), of which India is a part. "India is emerging as a crucible of innovation in digital technologies and can become the world leader, as in the case of generic drugs. As it sets out to do so, the WHO guidelines will point the direction. In a rapidly emerging and expanding field, WHO will also need to frequently update and revise the guidelines to keep pace with the innovations and evidence," said Dr Reddy. It's imperative to ensure patient safety, privacy, traceability, accountability and security. "This is a very fast-moving area. To take greatest advantage of the potential of digital technologies, people must be confident that information is secure and confidential. With that assurance, the benefits stand to be immense," said Dr Khetrpal Singh.

## **Exhaustion, nose bleed on rise due to heat: Doctors**

April 21, 2019/ Hindustan Times



With the rising temperatures, the number of heat-related diseases is also increasing, doctors in the city said. The Civil Hospital in Civil Lines attended to around 1,000 patients with complaints of dizziness, lightheadedness, heat exhaustions, among other heat-induced illnesses this month, doctors said. During the same period last year, the hospital had treated close to 700 such patients. The hospital staff said many cases of abdominal pain due to the heat have also been reported in the last 15-20 days. The maximum temperature had crossed 38 degrees Celsius in the first week of April. The rains in the second week of the month brought the maximum temperature down to 30 degrees Celsius. However, the day temperatures are expected to touch 40 degrees Celsius around April 23. Private hospitals, too, have seen cases of heat strokes and a rise in the number of people coming in with nose bleeds. “Over the last 15 days, I have attended to more than 10 patients complaining of nose bleeds. Before April, there were hardly any such cases,” said Dr Rajnish Kumar, neurologist at Paras Hospital. A dry, hot weather tends to dry out nasal membranes and can lead to formation of crusts that bleed when picked, he said, adding, “During the summer season, we sweat more and lose salt in our bodies which is the cause of unconsciousness and exhaustion. Make sure you have enough fluids throughout the day to maintain the level of salts.” Doctors advised avoiding exposure to direct sunlight between 11 am and 3 pm. They said people should wear light-coloured clothes as they won’t absorb heat. However, doctors said they haven’t received cases of heat strokes — a more extreme manifestation of heat exhaustion that happens if your body temperature rises to 40 degrees Celsius or higher — yet. Symptoms of a heat stroke include throbbing headache, dizziness, nausea, rapid breathing, muscle weakness among others. They further said that cases of heat stroke start coming in when the temperature rises above 42 degrees Celsius, and advised people to not exert themselves in the coming few days.

## **Gene editing may treat lethal lung diseases before birth**

April 22, 2019/ The Indian Express

Scientists have used a gene editing tool to thwart a lethal lung disease in animals in which a harmful mutation causes death within hours after birth. The proof-of-concept study, published in the journal Science Translational Medicine, showed that in utero editing could be a promising new approach for treating lung diseases before birth. “The developing foetus has many innate properties that make it an attractive recipient for therapeutic gene editing,” said William H Peranteau, an investigator at Children’s Hospital of Philadelphia (CHOP) in the US. “Furthermore, the ability to cure or mitigate a disease via gene editing in mid- to late gestation before birth and the onset of irreversible pathology is very exciting. This is particularly true for diseases that affect the lungs, whose function becomes dramatically more important at the time of birth,” Peranteau said in a statement. The lung conditions the team is hoping to solve — congenital diseases such as surfactant protein deficiency, cystic fibrosis, and alpha-1 antitrypsin — are characterised by respiratory failure at birth or chronic lung disease with few options for therapies. About 22 per cent of all pediatric hospital admissions are because of respiratory disorders, and congenital causes of respiratory diseases are often lethal, despite advances in care and a deeper understanding of their molecular causes. One hundred per cent of untreated mice with this mutation die from respiratory failure within hours of birth. In contrast, prenatal gene editing to inactivate the mutant Sftpc gene resulted in improved lung morphology and survival of over 22 per cent of the animals. Future studies will be directed towards increasing the efficiency of the gene editing in the epithelial lining of lungs as well as evaluating different mechanisms to deliver gene editing technology to lungs. “The current research is a proof-of-concept study highlighting the exciting future prospects for prenatal treatments including gene editing and replacement gene therapy for the treatment of congenital diseases,” Peranteau said. PTI

## **Obesity can impair learning, memory: Study**

April 22, 2019/ The Indian Express



Obesity can break down our protective blood brain barrier resulting in problems with learning and memory, a study has found. Chronic activation of the receptor Adora2a on the endothelial cells that line this important barrier in our brain can let factors from the blood enter the brain and affect the function of our neurons, scientists said. The team from Augusta University in the US have shown that when they block Adora2a in a model of diet-induced obesity, this important barrier function is maintained. “We know that obesity and insulin resistance break down the blood brain barrier in humans and animal models, but exactly how has remained a mystery,” said Alexis M Stranahan, neuroscientist at Augusta University and corresponding author of the study published in The Journal of Neuroscience. In the brain, adenosine is a neurotransmitter that helps us sleep and helps regulate our blood pressure; in the body it’s also a component of the cell fuel adenosine triphosphate, or ATP. Adenosine also activates receptors Adora1a and Adora2a on endothelial cells, which normally supports healthy relationships between brain activity and blood flow. For the study, young mice fed a high-fat diet got fat within two weeks, and by 16 weeks they had increases in fasting glucose and insulin concentrations, all signs that diabetes is in their future. In the minute vasculature of the hippocampus, the researchers saw that obesity first increased permeability of the blood brain barrier to tiny molecules like fluorophore sodium fluorescein, or NaFl. Diet-induced insulin resistance heightened that permeability so that a larger molecule, Evans Blue, which has a high affinity for serum albumin, the most abundant protein in blood, also could get through. When they looked with electron microscopy, they saw a changed landscape. Resulting diabetes promoted shrinkage of the usually tight junctions between endothelial cells and actual holes in those cells. When they gave a drug to temporarily block Adora2a, it also blocked problems with barrier permeability. Whether that could work in humans and long term as a way to avoid cognitive decline in obese humans, remains to be seen, Stranahan said.

## **AI tool can detect PTSD by analysing voices: Study**

April 23, 2019/ The Indian Express

Scientists have developed an artificial intelligence (AI) tool that can help diagnose post-traumatic stress disorder (PTSD) by analysing patient’s voices, a study has found. The research, published in the journal Depression and Anxiety, found that an artificial intelligence tool can distinguish – with 89 per cent accuracy – between the voices of those with or without PTSD. “Our findings suggest that speech-based characteristics can be used to diagnose this disease, and with further refinement and validation, may be employed in the clinic in the near future,” said Charles R Marmar, from New York University. More than 70 per cent of adults worldwide experience a traumatic event at some point in their lives, with up to 12 per cent of people in some struggling countries suffering from PTSD. The researchers first recorded standard, hours-long diagnostic interviews, called Clinician-Administered PTSD Scale (CAPS) of 53 Iraq and Afghanistan veterans with military-service-related PTSD, as well as those of 78 veterans without the disease. The recordings were then fed into voice software from SRI International – the institute that also invented Siri – to yield a total of 40,526 speech-based features captured in short spurts of talk, which the team’s AI programme sifted through for patterns. The random forest programme linked patterns of specific voice features with PTSD, including less clear speech and a lifeless, metallic tone, both of which had long been reported anecdotally as helpful in diagnosis. While the current study did not explore the disease mechanisms behind PTSD, the theory is that traumatic events change brain circuits that process emotion and muscle tone, which affects a person’s voice. “The speech analysis technology used in the current study on PTSD detection falls into the range of capabilities included in our speech analytics platform called SenSay Analytics,” said Dimitra Vergyri, director of SRI International’s Speech Technology and Research (STAR) Laboratory.



## **Turmeric compounds may help combat cancer: Study**

April 23, 2019/The Tribune



Compounds found in turmeric—a condiment commonly used in Indian cuisine—can help prevent prevent and treat stomach cancer, scientists claim. Researchers Federal University of Sao Paulo (UNIFESP) and the Federal University of Para (UFPA) in Brazil identified possible therapeutic effects of curcumin—the yellow powder derived from the roots of the turmeric plant. "We undertook a vast review of the scientific literature on all nutrients and bioactive compounds with the potential to prevent or treat stomach cancer and found that curcumin is one of them," Danielle Queiroz Calcagno, a professor at UFPA.

According to Calcagno, compounds such as cholecalciferol (a form of vitamin D), resveratrol (a polyphenol) and quercetin can prevent or combat stomach cancer because they are natural regulators of histone activity. Histones are proteins in cell nuclei that organise the DNA double helix into structural units called nucleosomes, according to a study published in the journal *Epigenomics*. Recent research has also shown that nutrients and bioactive compounds can regulate the activity of HATs and HDACs, the scientists at UNIFESP and UFPA set out to identify any that might influence histone acetylation and hence help prevent stomach cancer or even treat the disease.

In addition to curcumin, other compounds found to play a key role in modulating histone activity were cholecalciferol, resveratrol (present mainly in grape seeds and red wine), quercetin (abundant in apples, broccoli and onions), garcinol (isolated from the bark of the kokum tree, *Garcinia indica*), and sodium butyrate (produced by gut bacteria via fermentation of dietary fiber). "These compounds can favor the activation or repression of genes involved in the development of stomach cancer by promoting or inhibiting histone acetylation," Calcagno said.

## **Almonds may cut heart disease risk in diabetics: Study**

April 23, 2019/The Tribune

Eating tree nuts, such as almonds, may help reduce the risk of cardiovascular disease for adults with type 2 diabetes, a Harvard study has found. The study shows that people with diabetes who ate at least five servings of nuts per week had a 17 per cent lower risk of total cardiovascular disease incidence compared to those who ate one or less weekly servings. They also had a 20 per cent lower risk of coronary heart disease, a 34 per cent lower risk of cardiovascular disease death and a 31 per cent reduced risk of death from all causes. The study included 16,217 men and women who either had type 2 diabetes at the start of the study or who were diagnosed during the time of the study. A serving in the study was defined as one ounce or 28 grammes of nuts. The researchers from Harvard University in the US said that compared to those who did not change their nut-eating habits after their diabetes diagnosis to those who did begin to eat more nuts had an 11 per cent lower risk of cardiovascular disease, a 15 per cent lower risk of coronary heart disease, a 25 per cent lower risk of cardiovascular disease death and a 27 per cent lower risk of all-cause premature death. Whether they did or did not eat nuts prior to their diabetes diagnosis, adding even a small amount of nuts offered a beneficial effect.

An additional serving of nuts each week was associated with a 3 per cent lower risk of cardiovascular disease and a 6% lower risk of death from cardiovascular disease.

The overall findings of the study held true even when gender, body weight and smoking factors were considered, researchers said. Previous research supports the positive role of nuts in heart health, and having diabetes has long been linked to increased risk of cardiovascular issues.

## **World's first malaria vaccine launched in Africa**

April 24, 2019/The Tribune



The world's first malaria vaccine has been launched in Malawi after concerted efforts of over 30 years to protect children from the deadly disease that claims over 435,000 lives globally every year. The World Health Organization (WHO) welcomed the Government of Malawi's landmark pilot programme. The launch of the first and only malaria vaccine, known as RTS,S, makes Malawi the first of three countries in Africa where it will be made available to children up to 2 years of age. Ghana and Kenya will introduce the vaccine in the coming weeks, WHO said in a statement. Malaria remains one of the world's leading killers, claiming the life of one child every two minutes. Most of these deaths are in Africa, where more than 250,000 children die from the disease every year. WHO estimates that India accounts for 89 per cent malaria cases in South-East Asia. According to National Vector Borne Disease Control Programme (NVBDCP), 1,090,724 cases and 331 deaths due to malaria were reported during 2016 in the country. Children under five are at greatest risk of its life-threatening complications. Worldwide, malaria kills 435 000 people a year, most of them children. "We have seen tremendous gains from bed nets and other measures to control malaria in the last 15 years, but progress has stalled and even reversed in some areas," said Tedros Adhanom Ghebreyesus, WHO Director-General. "We need new solutions to get the malaria response back on track, and this vaccine gives us a promising tool to get there. The malaria vaccine has the potential to save tens of thousands of children's lives," Ghebreyesus said in a statement.

## **Mauritian herbs found to stop growth of cancer cells**

April 24, 2019/Hindustan Times

A recent study has claimed that the extracts of the endemic Mauritian medicinal herb stop the proliferation of oesophageal squamous carcinoma cells, one of the most deadly types of cancer. The details were published in the Journal of Acta Naturae. The researchers have found that the herb contains natural chemical compounds to inhibit the propagation of cancer cells. The herb restrains the cancer stage transition in malignant tumour cells. Having studied the medical herbs of Mauritius, scientists may have accomplished an important step. "About one-third of the local plants are used in traditional medicine, but there is still a lack of scientific evidence of their therapeutic potential, while genocide of nature is most evident on such small pieces of a lost paradise. In particular, further study of the active compounds from the leaves extracts prototypes of the future drugs to treat oesophageal cancer and other deadly diseases," said Alexander Kagansky, the Head of the Center. The lead scientist noted that oesophageal cancer is a growing global concern due to the diets and other detrimental side effects of modern lifestyles, technologies, and culture. At present, there is not enough effective means of its treatment, while the existing radiotherapy, chemotherapy resection may prolong lives by a few months, usually spent in tremendous suffering. The aggressive disease prevents eating, digestion, and come along with a very negative prognosis. Oesophageal squamous carcinoma together with adenocarcinoma is the sixth main death causes in the global oncological practice. Less than 15 per cent of patients survives for five years from the time of the diagnosis.

The scientist pointed out that they are devastated at an incredible rate at which species are being erased from existence as a result of human 'progressive' activities.

So far these unique species do not grow anywhere else on the planet; a few additional five-star hotels, bank building, or a golf-course could end up their existence once and for all.

"Our research should serve the benefit of humanity and show by evidence that on the mechanistic level people depend on natural chemistries, which will reward us by reducing deaths and suffering of ourselves, our parents, and children", the scientist said.



## **World Malaria Day 2019: Early signs, symptoms, causes and theme**

April 25, 2019/Hindustan Times



World Malaria Day is observed each year on 25th April to recognise the global efforts made to control the vector-borne disease. Malaria is caused by the bite of an infected female Anopheles mosquito. The Sub-Saharan Africa region sees the maximum cases and deaths related to malaria. However, regions of South-East Asia, Western Pacific, America and Eastern Mediterranean are also majorly affected by this disease.

### ***Symptoms of Malaria:***

The first symptoms of malaria usually appear after 10-15 days after a mosquito bite. The initial symptoms include fever, headache and chills which are difficult to detect as malaria. If these symptoms are not treated within 24 hours, they can lead to serious illness and death. Children suffering from this illness may develop severe anaemia, respiratory distress or cerebral malaria. Adults who have malaria could experience multi-organ failure. Early diagnosis and treatment is the best way to curb the spread of this disease.

### ***Theme for World Malaria Day 2019:***

World Malaria Day is observed to increase awareness about this disease. Dr. Tedros, Director General of WHO described the theme of this year by saying “Globally, the world has made incredible progress against malaria. But we are still too far from the end point we seek a world free of malaria. Every year, the global tally of new malaria cases exceeds 200 million. And every 2 minutes, a child dies from this preventable and treatable disease. The damage inflicted extends far beyond the loss of life: malaria takes a heavy toll on health systems, sapping productivity and eroding economic growth. Ultimately, investing in universal health care is the best way to ensure that all communities have access to the services they need to beat malaria. Individual and community empowerment through grassroots initiatives like “Zero malaria starts with me” can also play a critical role in driving progress.”

## **Researchers uncover how bad cholesterol enters the walls of artery**

April 25, 2019/Hindustan Times

Researchers have unveiled how bad cholesterol enters the artery which leads to narrowing of the blood formation due to the formation of plaque. The narrow blood vessels cause heart attack and strokes, according to a study. The study published in the journal Nature reveals for the first time how a protein called SR-B1 (short for scavenger receptor class B, type 1) ferries LDL particles into and then across the endothelial cells that line arteries. The study also found that a second protein called dedicator of cytokinesis 4, or DOCK4, partners with SR-B1 and is necessary for the process. Since low-density lipoprotein, or LDL, cholesterol entry into the artery wall drives the development of atherosclerosis or hardening of the arteries, and atherosclerosis leads to heart attacks and strokes, future treatments preventing the process may help decrease the occurrence of these life-threatening conditions, said Dr. Philip Shaul, senior author of the study.

They found higher levels of SR-B1 and DOCK4 in the disease-prone regions long before atherosclerotic plaques form. This finding suggests that atherosclerotic lesions may be more common in particular artery sites because of more SR-B1 and DOCK4 present there, said Dr. Shaul. To determine if these findings might apply to people, the researchers reviewed data on atherosclerotic and normal arteries from humans in three independent databases maintained by the National Institutes of Health (NIH). In all three databases, SR-B1 and DOCK4 were more abundant in atherosclerotic arteries compared with normal arteries. The researchers are now exploring the possibility of using gene therapy to turn off or reduce the function of SR-B1 or DOCK4 in the endothelial cells that line arteries in order to prevent atherosclerosis, Dr. Shaul said.

## **Breastfeeding important for brain growth of premature babies**

April 27, 2019/Hindustan Times



Feeding premature babies mostly breast milk during the first month of life appears to stimulate more robust brain growth, suggests a recent study. The details were presented in the Meeting Pediatric Academic Societies. “Our previous research established that vulnerable preterm infants who are fed breast milk early in life have improved brain growth and neurodevelopmental outcomes. It was unclear what makes breastfeeding so beneficial for newborns’ developing brains. Proton magnetic resonance spectroscopy, a non-invasive imaging technique that describes the chemical composition of specific brain structures, enables us to measure metabolites essential for growth and answer that lingering question,” said Catherine Limperopoulos, Director of MRI Research.

The research-clinicians enrolled babies with low birth weight (less than 1,500 grams) and 32 weeks gestational age or younger at birth in the first week of life. The team then gathered data from the right frontal white matter and the cerebellum - a brain region that enables people to maintain balance and proper muscle coordination and that supports high-order cognitive functions. “Key metabolite levels ramp up during the time babies’ brains experience exponential growth. Seeing greater quantities of this metabolite denotes more rapid changes and higher cellular maturation. Choline is a marker of cell membrane turnover; when new cells are generated, we see choline levels rise,” said Katherine M. Ottolini, the study’s lead author. Already, children’s national leverages an array of imaging options that describe normal brain growth, which makes it easier to spot when fetal or neonatal brain development goes awry, enabling earlier intervention and more effective treatment. “Proton magnetic resonance spectroscopy may serve as an important additional tool to advance our understanding of how breastfeeding boosts neurodevelopment for preterm infants,” Limperopoulos adds.

## **Store water in a copper vessel for good health. Top 5 benefits**

April 28, 2019/Hindustan Times

Decades back when the level of technology was low – there weren’t any water purifiers or water heaters – old traditional ways were used to heat water, purify it and store. As we grow, we forget these basic utility ideas and move to easier options available. When we spoke to nutritionists, they hooted for one such important nuskha – drinking water from a copper vessel.

### ***Here’s why it is good for you:***

Copper is a micro-nutrient, it helps complete the nutrition and mineral requirement of the body. Eating or drinking out of copper vessels healthy as it is great for the immune system, digestion and also reduces the risk of cancer. “Water stored in a copper vessel is alkaline and drinking it cools the body down. Our body has toxins due to the food we eat and stress which makes the ph of the body acidic, so to avoid acidic ph, we need to have food alkaline in nature,” suggests nutritionist Kavita Devgan who says one should store water in a copper vessel at night and drink it up in the morning.

### ***Top 5 benefits:***

1. Improved immunity – People who are falling sick frequently with flu and have low immunity benefit from copper
2. Copper is anti-cancer agent – It reduces risk of all forms of cancer as it works as an anti-oxidant and thus, reducing toxic load in the body
3. It completely destroys common bacteria such as E.coli, salmonella etc.
4. It prevents food-borne infections as it doesn’t allow the bacteria to multiply
5. As per Ayurveda, copper vessels should be used to cut down doshas (physical and mental ailments) like acidity, heart burn, congestion, phlegm, cough, mucus, etc.

## **Heavier, taller children at higher risk of kidney cancer: Study**

April 29, 2019/The Tribune



Heavier and taller children may be at an increased risk of developing kidney cancer as adults, a study has found. Renal cell carcinoma (RCC) is the most common form of kidney cancer found in adults. Although it often occurs in men between the ages of 50 and 70, the cancer can be diagnosed throughout adulthood. Medical experts do not know the exact causes of RCC. "We know that overweight in adulthood is associated with an increased risk of RCC. We also know that cancers take many years to develop," said Britt Wang Jensen, from the Bispebjerg and Frederiksberg Hospital in Denmark. "We therefore had a theory that already being overweight in childhood would increase the risk of RCC later in life," Jensen said in a statement. During about 32 years of observation, 1,010 individuals (680 men) were diagnosed with RCC. Among men and women significant and positive associations were observed between childhood BMI and height, respectively, and RCC risk. When comparing two 13-year old children with one z-score difference in BMI—equivalent to 5.9 kg for boys and 6.8 kg for girls—but with similar height, the heaviest child had a 14 per cent higher risk of RCC than the leaner child. For height, a one z-score difference in two 13-year old children was associated with a 12 per cent increased risk of RCC later in life for the taller boy or girl. "We have found in other studies that childhood height is positively associated with several cancer forms. Therefore, we did expect to find that tall children have a higher risk of RCC than average-sized children," researchers said. "Our findings that heavier and taller children have increased risks of RCC opens the door to new ways to explore the causes of kidney cancer," they said.

## **Herbal meds, anti-TB drugs can cause liver failure: Docs**

April 30, 2019/The Times of India

Alter native and "herbal" medicines may not always be without side-effects. Doctors say unmonitored use of such medication, as also long-term drugs for ailments such as tuberculosis and body-building protein supplements, may lead to liver failure even among patients with no history of liver disease. Take the case of Rashmi Khare (name changed). The 27-year-old Delhi girl was admitted to Institute of Liver and Biliary Sciences (ILBS) with acute liver failure resulting in internal bleeding and fatigue. She had been on medication for TB for a long time but the drug's effect on the liver was not monitored. "She is being managed with plasma exchange therapy. But the need for a transplant in future cannot be ruled out," said Dr S K Sarin, director, ILBS. Dr Sarin added that he gets one-two cases of drug-induced liver failure every week. "Alternative medicines or herbal drugs are the most common culprits followed by anti-TB medications, body-building protein supplements, painkillers and antibiotics," he said. Dr A S Soin, head of liver transplant unit at Medanta Medicity, Gurgaon, and Dr Subhash Gupta of Apollo hospital confirmed the trend.

## **Oral infections in childhood may increase risk of cardiovascular diseases in adulthood**

April 30, 2019/Hindustan Times

A new study has suggested that common oral infection in childhood is associated with an increased risk of cardiovascular diseases such as atherosclerosis in adulthood. Atherosclerosis is a disease of the arteries characterised by the deposition of fatty material on their inner walls. "The observation is novel since there are no earlier follow-up studies on childhood oral infections and the risk of cardiovascular diseases," said researcher Pirkko Pussinen. More progressed oral infections and inflammations are known to be associated with several cardiovascular risk factors and disease risk in adults according to the details published in the Journal of JAMA Network Open. Periodontitis in particular has been studied extensively, and currently, it is considered an independent risk factor for atherosclerotic vascular diseases. The treatment of periodontitis is also known to decrease cardiovascular risk factors. The study was initiated in 1980 when clinical oral

examinations were conducted. Cardiovascular risk factors were measured at several times. Cumulative exposure to the risk factor was calculated in both childhood and adulthood. The signs of oral infections and inflammation collected in the study included caries, fillings, bleeding on probing, and probing pocket depth. There were no differences between the boys and the girls. Thickening of the carotid artery wall indicates the progression of atherosclerosis and an increased risk for myocardial or cerebral infarction. The researchers emphasise, in conclusion, "Oral infections were an independent risk factor for subclinical atherosclerosis, and their association with cardiovascular risk factors persevered through the entire follow-up. Prevention and treatment of oral infections are important already in childhood."

### **New treatment for diabetic kids shows promise**

May 1, 2019/The Times of India

A new treatment for Type-2 diabetes in children has shown promise in a clinical trial, according to a study. The drug, liraglutide, in combination with an existing medication, metformin, showed a robust effect in treating children with Type-2 diabetes, the results showed. "This adult diabetes medication was very effective in our trial of youth with Type-2 diabetes and was well tolerated," said study co-author Jane Lynch, Professor at University of Texas Health Science Center at San Antonio in the US. Currently only two drugs, metformin and insulin, are approved for the treatment of Type 2 diabetes in children in the US. "We urgently need other options for medical treatment of Type-2 diabetes in our youth under age 18. If approved, this drug would be a fantastic new option to complement oral metformin therapy as an alternative to insulin for our youth and adolescents with Type 2 diabetes," said Lynch. The study compared outcomes of 66 children who received liraglutide shots plus metformin pills for 26 weeks with the outcomes of 68 other children who received metformin and a placebo. Children between ages 10 and 17 were eligible for the study. The research, published in The New England Journal of Medicine, was a randomised, parallel-group, placebo-controlled trial. The average age of the participant children was 14.6 years, and more than 60 per cent were female.

### **Heavy, tall kids at higher risk of kidney cancer**

May 1, 2019/The Times of India

Heavier and taller children are more likely to develop kidney cancer as adults than their average-sized peers, warn researchers. "We know that overweight in adulthood is associated with an increased risk of renal cell carcinoma (RCC). We also know that cancers take many years to develop. We therefore had a theory that already being overweight in childhood would increase the risk of RCC later in life," said lead author Britt Wang Jensen from Bispebjerg and Frederiksberg Hospital in Denmark. RCC is the most common form of kidney cancer found in adults. For the study, the researchers included 301,422 individuals from the Copenhagen School Health Records Register born from 1930 to 1985. The weights and heights were measured at the ages seven to 13 years, and body mass index (BMI) was used to categorise the children as normal-weight or overweight, suggested by the International Obesity Task Force. During a median of 32 years of observation, 1,010 individuals (680 men) were diagnosed with RCC. Among men and women, significant and positive associations were observed between childhood BMI and height, respectively, and RCC risk. Children who grew from average to above average height had an eight per cent increased risk of RCC, the study said. "Our findings that heavier and taller children have increased risks of RCC open the door to new ways to explore the causes of kidney cancer," Jensen said.

## **Increased stress during examination associated with intake of junk food**

May 1, 2019/The Asian Age

While it becomes almost impossible to suppress those junk food cravings during university examinations, submitting to these cravings might not be the best thing to do. According to the recent study, increased stress during university examinations is associated with eating a poorer quality diet including less fruit and vegetables and more fast food.

"Stress has long been implicated in a poor diet. People tend to report overeating and comfort eating foods high in fat, sugar, and calories in times of stress. Our findings looking at the eating habits of students during exam periods confirm this stress-induced dietary deterioration hypothesis," said Nathalie Michels, lead researcher of the study.

The findings suggest that emotional eaters (who eat in response to negative emotions), external eaters (who eat in response to the sight or smell of food), sweet/fat lovers, people who are highly motivated by health (with health as a food choice motive), sensitive to reward and punishment, highly sedentary, and with higher stress levels are at greatest risk of making unhealthy food choices during this stressful time.

According to the researchers, to fight against stress-induced eating, prevention strategies should integrate psychological and lifestyle aspects including stress management (eg. emotion regulation training, mindfulness, yoga), nutritional education with techniques for self-effectiveness, awareness of eating-without-hunger, and creating an environment that stimulates a healthy diet and physical activity.

## **Premature birth linked to increased risk of chronic kidney disease: Study**

May 2, 2019/Hindustan Times

As part of a recent study, researchers have discovered links between premature birth and increased risk of chronic kidney disease. According to the study, preterm and early term birth are strong risk factors for the development of chronic kidney disease (CKD) from childhood into mid-adulthood. The researchers claim that given the high levels of preterm birth, and better survival into adulthood, these findings have important public health implications. Preterm birth (before 37 weeks of pregnancy) interrupts kidney development and maturity during late-stage pregnancy, resulting in fewer nephrons forming (filters that remove waste and toxins from the body). Lower nephron number has been associated with the development of high blood pressure and progressive kidney disease later in life, but the long-term risks for adults who were born prematurely remain unclear. As part of the study, a team of researchers set out to investigate the relation between preterm birth and risk of CKD from childhood into mid-adulthood. Findings of the study published in the Journal of The BMJ. Using nationwide birth records, they analysed data for over 4 million single live births in Sweden during 1973-2014. Cases of CKD were then identified from nationwide hospital and clinic records through 2015 (maximum age 43 years).

Overall, 4,305 (0.1 pc) of participants had a diagnosis of CKD, yielding an overall incidence rate of 4.95 per 100,000 person-years across all ages (0-43 years). These associations affected both males and females and did not seem to be related to shared genetic or environmental factors in families. This is an observational study, and as such, can't establish cause, and the researchers acknowledge some limitations, such as a lack of detailed clinical data to validate CKD diagnoses and potential misclassification of CKD, especially beyond childhood. However, the large sample size and long-term follow up prompt the researchers to conclude that preterm and early term births are strong risk factors for the development of CKD from childhood into mid-adulthood.



## **Living alone may increase risk of mental disorders: Study**

May 2, 2019/The Tribune



Mental disorders are more common in people who live alone, regardless of their age and sex, according to a study. Researchers from the University of Versailles Saint-Quentin-en-Yvelines in France noted that the number of people living alone has increased in recent years due to population ageing, decreasing marriage rates and lowering fertility.

Previous studies have investigated the link between living alone and mental disorders but have generally been conducted in elderly populations and are not generalisable to younger adults. The latest study, published in the journal PLOS ONE, used data on 20,500 individuals aged 16-64 living in England who participated in the 1993, 2000, or 2007 National Psychiatric Morbidity Surveys. "Living alone is positively associated with common mental disorders in the general population in England," Louis Jacob from University of Versailles Saint-Quentin-en-Yvelines said in a statement. Whether a person had a common mental disorder (CMD) was assessed using the Clinical Interview Schedule-Revised (CIS-R), a questionnaire focusing on neurotic symptoms during the previous week.

In addition to the number of people living in a household, data was available on factors including weight and height, alcohol dependence, drug use, social support, and loneliness. The prevalence of people living alone in 1993, 2000, and 2007 was 8.8 per cent, 9.8 per cent, and 10.7 per cent. In those years, the rates of CMD was 14.1 per cent, 16.3 per cent, and 16.4 per cent. In all years, all ages, and both men and women, there was a positive association between living alone and CMD, researchers said. In different subgroups of people, living alone increased a person's risk for CMD by 1.39 to 2.43 times. Overall, loneliness explained 84 per cent of the living alone-CMD association, they said.

## **Eating walnuts daily may lower heart disease risk: Study**

May 2, 2019/The Tribune

Eating whole walnuts daily may help lower blood pressure in people at the risk of developing cardiovascular disease (CVD), according to a study. The research, published in the Journal of the American Heart Association, examined the effects of replacing some of the saturated fats in participants' diets with walnuts. Researchers from Pennsylvania State University (Penn State) in the US found that when participants ate whole walnuts daily in combination with lower overall amounts of saturated fat, they had lower central blood pressure. According to the researchers, central pressure is the pressure that is exerted on organs like the heart. This measure, like blood pressure measured in the arm the traditional way, provides information about a person's risk of developing CVD.

Following each diet period, the researchers assessed the participants for several cardiovascular risk factors including central systolic and diastolic blood pressure, brachial pressure, cholesterol, and arterial stiffness. They found that while all treatment diets had a positive effect on cardiovascular outcomes, the diet with whole walnuts provided the greatest benefits, including lower central diastolic blood pressure. In contrast to brachial pressure—which is the pressure moving away from your heart and measured with an arm cuff in the doctor's office—central pressure is the pressure moving towards your heart.

Tindall said that the results underline the importance of replacing saturated fat with healthier alternatives. "Seeing the positive benefits from all three diets sends a message that regardless of whether you replace saturated fats with unsaturated fats from walnuts or vegetable oils, you should see cardiovascular benefits," Tindall said.



## Can intermittent fasting help you lose weight?

May 3, 2019/The Indian Express



With everyone trying to live and eat healthy these days, hearing about new diet plans, fitness trends and exercise regimes is no longer uncommon. From eating vegan products to trying the Keto or Flexitarian diet, people are trying everything to keep themselves fit and healthy. Another fitness trend that gained tremendous following in the recent past is Intermittent Fasting. Not a diet plan, Intermittent Fasting is a timed approach to eating, which does not specify which foods to eat or avoid, but when to eat meals. It is not as bad as it sounds, as when you're intermittent fasting, you eat all the food your body needs but during a shorter period of time. Like you choose a cycle from 10 am to 6pm or 11 am to 7 pm or 12 noon to 8 pm. So you eat during a 6- to 8-hour window and fast for the remaining 14 to 16 hours, giving the body enough time to break down the fats from the body. But does it help in losing weight? A 2015 systematic review in the journal *Molecular and Cellular Endocrinology* examined data from 40 different studies on intermittent fasting. The researchers concluded that such timed eating is useful for reducing body weight. The plan can help fast-track your weight loss goals by busting stubborn fats and rewiring your metabolism for better performance. A study done by the Harvard School of Public health, however, says that this type of dietary pattern would be difficult for someone who eats every few hours (e.g., snacks between meals, grazes). It would also not be appropriate for those with conditions that require food at regular intervals due to metabolic changes caused by their medications, such as with diabetes. Also, patients suffering from anorexia or bulimia nervosa, and adolescents, pregnant women and mothers who are breastfeeding are not advised to follow this diet.

With regards,

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