



## **INDIAN COUNCIL OF MEDICAL RESEARCH**

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### [Taking leftover antibiotics is injurious to health, here's why](#)

November 3,2018/Hindustan Times

We have all been there — taking leftover antibiotics to save a second trip to the doctor. However, a recent study has found that giving saved antibiotics to others — within and outside the family — fuels rising rates of antibiotic-resistant infections. The findings will be presented at the American Academy of Pediatrics (AAP) National Conference & Exhibition. Senior author Ruth Milaniak, said the study results show an “alarming” percentage of parents in a national sample report sharing or borrowing antibiotics, a practice called prescription diversion. “This is dangerous not only for those given antibiotics that weren’t prescribed for them, but for entire populations of people who some antibiotics may no longer help when the bacteria they target become resistant to them,” said Dr Milaniak of New York’s Cohen Children’s Medical Center.

For the study, an anonymous online questionnaire was distributed to a national sample of 496 parents through Amazon Mechanical Turk. Nearly half (48.2%) of the parents reported that they had kept leftover antibiotics rather than properly disposing them. Of those, 73% subsequently diverted them to siblings, unrelated children, and unrelated adults — sometimes months after the antibiotic was originally prescribed — all without physician consultation. Parents also used the leftover antibiotics themselves.

### [NIMR scientists develop 2 new medicines for drug-resistant Malaria](#)

November 3,2018/Hindustan times

Scientists from the National Institute of Malaria Research (NIMR) in the city have developed two new drugs against drug-resistant Malaria that target a new protein not targeted by currently available drugs. The findings were published in the Nature group of journals, Scientific Report, this week. The drugs have been tested on mice with encouraging results, the study’s principal author Akanksha Pant, PhD scholar at NIMR said. Malaria is a parasitic infection spread by the anopheles mosquito; it infected 216 million people and killed 445,000 worldwide in 2016. Though the incidence of Malaria has gone down by 18% globally between 2010 and 2016, rising resistance to anti-Malarial drugs threatens to undo these gains, according to the World Health Organization’s World Malaria Report 2017. mIndia reported 1.09 million cases in 2016, down from 1.6 million in 2010, according to the National Vector Borne Disease Control Programme. Malaria is curable if diagnosed and treated early, with the number of deaths in India decreasing from 1,018 to 331 in the same period. mWhen a human being is infected with the Malarial parasite, an enzyme called falcipain in the parasite breaks down haemoglobin in the blood into amino acids.

### [Women with rare cancer mutations likely to develop interval breast cancers](#)

November 4,2018/The Asian Age

According to a recent study, the presence of common breast cancer mutations are not only indicative of increased breast cancer risk, but certain rare mutations are also indicative of increased risk of interval breast cancers and death. The study was published in Cancer Research, a journal of the American Association for Cancer Research. "It is not enough just to know which markers can predict an increase in breast cancer risk. We also need to know which biomarkers can identify women with



increased risk of aggressive interval cancers that are not usually detected during routine mammography screening," said senior study author Jingmei Li. Interval breast cancers are detected between mammography screenings; these cancers are often aggressive and have a poor prognosis. "About 20 per cent of women who partake in routine mammography screening will be diagnosed with interval breast cancer. More sensitive methods to predict and detect these lethal cancers are sorely needed," explained Li.

Li and colleagues analysed data from over 5,000 breast cancer patients diagnosed between 2001 and 2008 through the Stockholm-Gotland Regional Breast Cancer quality register. The researchers studied associations with tumor characteristics and survival outcomes for patients with rare protein-truncating variants (PTVs) in 31 cancer predisposition genes, including BRCA1/2.

### **[Diabetes medication may help reduce severity of Alzheimer's disease](#)**

November 4, 2018/The Asian Age

According to a new research, people with Alzheimer's disease who were treated with diabetes drugs showed considerably fewer markers of the disease including abnormal microvasculature and deregulated gene expressions in their brains, compared to patients who were treated using other kinds of drugs. The study was performed by the researchers of Mount Sinai School of Medicine, results of which were published in the journal of 'PLOS One'. This is the first study to examine what happens in the pathways of brain tissues and endothelial cells, the cells lining blood vessels in the brains of Alzheimer's patients treated with diabetes medication. The results of the study will help future Alzheimer's disease studies and potential new therapies targeting specific cells since they suggest that targeting the brain's capillary system could have beneficial effects in Alzheimer's patients. Many elderly people with diabetes have brain changes that are hallmarks of Alzheimer's. Despite this linkage, two previous Mount Sinai studies on brain tissue found that the brains of people with both Alzheimer's disease and diabetes had fewer Alzheimer's lesions than the brains from people with Alzheimer's disease without diabetes.

### **[Brain cancer: This drink makes tumours glow, could make surgery more effective](#)**

November 5, 2018/Hindustan Times

A drink containing a compound that makes tumour cells glow has helped surgeons in Britain to spot and safely remove brain cancer. The research was carried out with patients who had suspected glioma, the most common form of brain cancer. Treatment usually involves surgery to remove as much of the cancer as possible, but it can be challenging for surgeons to identify all of the cancer cells while avoiding healthy brain tissue. In a trial presented at the 2018 National Cancer Research Institute (NCRI) cancer conference in Glasgow, the researchers said that using the fluorescent marker helped surgeons to distinguish the most aggressive cancer cells from other brain tissue and they hope this will ultimately improve patient survival. "We wanted to see if using a fluorescent marker could help surgeons objectively identify high-grade tumour cells during surgery, allowing them to remove as much cancer as possible while leaving normal brain tissue intact," said Kathreena Kurian of the University of Bristol who presented the research. The researchers used a compound called 5-aminolevulinic acid or 5-ALA, which glows pink when a light is shone on it. Previous research had shown that, when consumed, 5-ALA accumulates in fast growing cancer cells and this means it can act as a fluorescent marker of high-grade cells. The study involved patients with suspected high-grade gliomas treated at the Royal Liverpool Hospital, Kings College



Hospital in London or Addenbrooke's Hospital in Cambridge, UK. They were aged between 23 and 77 years, with an average (median) age of 59 years.

### **Coffee may reduce risk of developing Alzheimer's, Parkinson's**

November 6,2018/The Asian Age

Love your coffee? Turns out, there could be more to that morning jolt of goodness than a boost in energy and attention. Drinking coffee may protect you against developing both Alzheimer's and Parkinson's disease. According to a new study, approximately 500 billion cups of coffee are consumed worldwide each year. The findings of the study are published in the Journal of Frontiers in Neuroscience "Coffee consumption does seem to have some correlation to a decreased risk of developing Alzheimer's disease and Parkinson's disease," said Dr. Donald Weaver, a researcher. "But we wanted to investigate why that is -- which compounds are involved and how they may impact age-related cognitive decline." The team of researchers chose to investigate three different types of coffee - light roast, dark roast, and decaffeinated dark roast. "The caffeinated and de-caffeinated dark roast both had identical potencies in our initial experimental tests," said Ross Dr. Mancini, a researcher. "So we observed early on that its protective effect could not be due to caffeine."

### **Aspirin may cut liver cancer risk, says study**

November 7,2018/The Asian Age

Regular use of aspirin -- defined as taking two or more standard-dose tablets a week for over five years -- may reduce the risk of developing primary liver cancer, scientists claim. The study led by Harvard Medical School researchers based at Massachusetts General Hospital in the US support evidence from previous studies aspirin could help reduce the risk of hepatocellular carcinoma (HCC), the second leading cause of cancer death worldwide. "Regular use of aspirin led to significantly lower risk of developing HCC, compared to infrequent or no aspirin use, and we also found that the risk declined progressively with increasing aspirin dose and duration of use," said Tracey Simon, a research fellow at Massachusetts General Hospital. "Since regular aspirin use carries the risk of increased bleeding, the next step should be to study its impact in populations with established liver disease, a group that is already at risk for primary liver cancer," Simon added. While HCC is relatively rare, its mortality rates have accelerated faster than those of any other cancer. The primary risk factor for HCC is cirrhosis -- which can be caused by Hepatitis B or C infection, alcohol use disorder or nonalcoholic fatty liver disease.

### **How eating veggies, fish can keep your heart healthy, lower heart disease risk**

November 8,2018/Hindustan Times

If you are suffering from high blood pressure, consuming fish, seafood and a primarily vegetarian diet may help reduce hypertension-related heart disease symptoms, a study suggests. mIntake of fish, seafood and vegetarian food increases levels of a compound called trimethylamine N-oxide (TMAO), known to boost heart health, said researchers from the Medical University of Warsaw in Poland. The study showed that low-dose treatment with TMAO reduced heart thickening (cardiac fibrosis) and markers of heart failure in an animal model of hypertension. "Our study provides new evidence for a potential beneficial effect of a moderate increase in plasma TMAO on pressure-overloaded heart," the researchers said. For the study, published in the American Journal of Physiology - Heart and Circulatory Physiology, researchers analysed the effect



of TMAO on rats, which have a genetic tendency to develop high blood pressure. One group of hypertensive rats were given low-dose TMAO supplements in their drinking water, and another group received plain water. They were given the TMAO therapy for either 12 weeks or 56 weeks and were assessed for heart and kidney damage as well as high blood pressure.

### **[Delhi gasps for breath after Diwali firework frenzy](#)**

November 8,2018/Hindustan Times

Air pollution in New Delhi hit hazardous levels Thursday after a night of free-for-all Diwali fireworks, despite Supreme Court efforts to curb the smog-fuelling partying. Major monuments including the India Gate and Red Fort were hidden by a toxic haze and commuters donned masks as visibility on major roads was reduced to barely 50 metres (160 feet). Diwali is the biggest Hindu festival of the year, when firecrackers are traditionally let off. Early morning ambient air quality readings in Delhi -- the world's most polluted major city, according to the World Health Organization -- touched 526, according to the US embassy in the city which independently monitors pollution levels. The air quality index used by the embassy is a combined measure of poisonous gases and fine airborne particles. Any figure above 500 causes serious aggravation of heart and lung diseases, with doctors advising residents to skip outdoor activity. The Supreme Court ruled last month that only environmentally friendly crackers -- that emit less smoke and soot -- can be sold in Delhi, in a bid to cut the smog that has scarred the city's international reputation.

### **[Air pollution: How toxic smog is hampering children's lungs and brain!](#)**

November 9,2018/The Times of India

Air pollution levels are rising by deadly levels every given day, making it harder to take in fresh breath. Be it healthy adults or the kids, nobody is safe from smog and pollution. However, it is riskiest for young kids, whose bodies are still in the development stage. For adults and seniors, air pollution can be very treacherous, increasing the risk of developing cardiovascular and other respiratory disorders. In a study conducted, it was found that air pollution can also cut down the lifespan by a minimum 15-16 months. Infants and younger children are more at risk because their bodies are still developing. The smog finds its way in through the nasal passageways. Kids have shorter and narrower airways and breathe through their mouths often, forcing them to be more at risk for small particles and dust to go in. Another tricky thing is since kids play outside and carry home a lot of dirt, dangerous components of smog get absorbed and settled in the digestive and chest cavities more easily. Asthma and Bronchitis are some of the most common problems seen in growing children. And now, scientists have pointed out a startling evidence linking polluted air with mental health.

### **[Zika virus kills two in Madhya Pradesh, 84 affected in state](#)**

November 10,2018/Hindustan Times

Two persons who tested positive for the Zika virus died over the past week, as the number of positive cases in Madhya Pradesh climbed to 84. State health department officials familiar with the matter, however, said on Saturday that the deaths were not because of the virus but other diseases. Of the two deaths, the first was of a 21-year-old man on Tuesday night. The second was of a 19-year-old woman on Thursday, the officials said. But they refused to disclose where exactly the deaths had taken place to prevent the spread of panic. "The deaths were not due to Zika virus. A 21-year-old man



died as he was suffering from Japanese encephalitis while a young woman died as she was infected with diabetes mellitus. It is incidental that they also tested positive for Zika virus,” said Dr Himanshu Jayswar, the official spokesperson for the department of health, Madhya Pradesh. The officials, however, conceded that the virus was spreading and 84 people, including 17 pregnant women, had tested positive over the last 10 days.

The affected areas include Sironj in Vidisha district, a village in Sehore, three localities in Bhopal and a locality in Sagar, they said, refusing to give further details.

### **Defeating pneumonia**

November 11,2018/The Hindu

“Air Pollution and Child Health: Prescribing Clean Air”, a new World Health Organisation report, says that 98% of children under the age of five from countries such as India are exposed to toxic air. Acute Respiratory Infections — which are the leading cause of death among children under five, and claiming the lives of approximately 2,400 children a day — accounted for approximately 16% of the 5.6 million under-five deaths, killing around 880,000 children in 2016. Most victims are less than two years old.

A report by Save the Children (“Fighting for Breath”) showed that pneumonia kills two children in this age group every minute — more than malaria, diarrhoea and measles combined. More than 80% of victims have weakened immune systems caused by malnutrition or insufficient breastfeeding and unable to fight the infection. For countries with high levels of toxicity in the air, delivering on the pledge of the UN’s Sustainable Development Goals (SDGs) will require an unrelenting focus on the most disadvantaged children. Children born into poverty, and also those living in the hardest-to-reach places, and facing discrimination are the ones who face the greatest risks.

### **Managing cholesterol might help reduce risk of Alzheimer’s disease**

November 12,2018/Hindustan Times

Managing cholesterol might help reduce Alzheimer’s risk, says researchers, including one of Indian-origin, who identified a genetic link between the progressive brain disorder and heart disease. Examining DNA from more than 1.5 million people, the study showed that risk factors for heart disease such as elevated triglyceride and cholesterol levels (HDL, LDL, and total cholesterol) were genetically related to Alzheimer’s risk.

However, genes that contribute to other cardiovascular risk factors, like body mass index and Type-2 diabetes, did not seem to contribute to genetic risk for Alzheimer’s.

“The genes that influenced lipid metabolism were the ones that also were related to Alzheimer’s disease risk,” said Celeste M. Karch, Assistant Professor at the Washington University’s School of Medicine. Thus, if the right genes and proteins could be targeted, it may be possible to lower the risk for Alzheimer’s disease in some people by managing their cholesterol and triglycerides, added Rahul S. Desikan, Assistant Professor at the UCSF. For the study, published in the journal Acta Neuropathologica, the team identified points of DNA that increase the risk of cardiovascular disease and also heighten the risk for Alzheimer’s disease.

### **New cell phone-based tool to detect HIV**

November 12,2018/Hindustan Times

Scientists have designed a portable and low-cost diagnostic tool, utilising a cell phone and nanotechnology, which can detect HIV and monitor its management in resource-limited regions. Management of human immunodeficiency virus 1 (HIV), a disorder that



cripples the immune system by attacking healthy cells, remains a major global health challenge in developing countries that lack infrastructure and trained medical professionals. “Early detection of HIV is critical to prevent disease progression and transmission, and it requires long-term monitoring, which can be a burden for families that have to travel to reach a clinic or hospital,” said Hadi Shafiee from Brigham and Women’s Hospital in the US. “This rapid and low-cost cell phone system represents a new method for detecting acute infection, which would reduce the risk of virus transmission and could also be used to detect early treatment failure,” Shafiee said. Traditional virus monitoring methods for HIV are expensive, requiring the use of polymerase chain reaction (PCR), according to the study published in the journal Nature Communications. Shafiee and his colleagues designed an affordable, simple tool that makes HIV testing and monitoring possible for individuals in developing countries with less access to medical care.

### **[Pollution linked to 3.2 million new cases of diabetes in one year](#)**

November 13,2018/The Times of India

With an increase in the number of cases from 108 million to 422 million in 24 years, diabetes has become one of the fastest growing diseases. Though the main causes of diabetes include an unhealthy diet, sedentary lifestyle and obesity, new researches indicate that outdoor pollution also plays a role. The findings were published in the Lancet Planetary Health. When looked at the particulate matter, airborne microscopic pieces of dust, smoke, dust, liquid droplets and soot, it was found that these particles can enter the lungs and invade the bloodstream and contribute to health issues like stroke, kidney failure, cancer and heart disease. When it comes to diabetes, pollution is considered as one of the major culprits because it triggers inflammation that reduces the production of insulin leading to diabetes. According to the research, pollution contributed to 3.2 million new diabetes cases in the year 2016. Also, 8.2 million healthy lives were lost due to pollution linked diabetes. The risk of pollution related diabetes is more in countries with low income such as India, China and Indonesia. The lack of resources for environmental mitigation systems and clean air policies lead to increased level of pollution in these countries.

### **[Almonds may boost heart health in diabetic people](#)**

November 13,2018/The Indian Express

Including almonds in the diet may reduce the risk of cardiovascular disease in people with type 2 diabetes, researchers have found. According to the International Diabetes Federation, diabetes currently affects over 425 million people worldwide, and more than 72.9 million cases were reported in India in 2017. A study, published in the Journal of Metabolic Syndrome and Related Disorders, on 50 Indians with type 2 diabetes and elevated cholesterol levels, found that substituting whole, unroasted almonds for 20 calories in a well-balanced diet significantly improved measures of heart health linked to type 2 diabetes. Another study, published in the journal Nutrition & Metabolism, looked at the effect of including 60 grams of almonds a day on maintenance of blood sugar levels and cardiovascular disease factors among 33 Chinese participants with type 2 diabetes. While the almond diet offered better overall nutritional quality, neither diet with or without almonds improved blood sugar status, nor most cardiovascular risk factors as was expected. However, researchers found that among a subset of participants who had fairly well-controlled type 2 diabetes, the almond diet lowered fasting serum glucose level (which



measures blood sugar levels after fasting) by 6 percent and HbA1c (which measures average blood sugar levels over a two or three month period) by 3 percent. These results suggest that including almonds in a healthy diet may help improve long-term blood sugar levels in people with better-controlled type 2 diabetes.

### **[Suffering from diabetes? Keep your heart health in check](#)**

November 14, 2018/The Asian Age

With an estimated 72 million people suffering from diabetes in the country, India is the diabetic capital of the world. Diabetes mellitus is a chronic condition that can lead to complications over time. Cardiovascular diseases are majorly associated with diabetes and are the leading cause of early death among people with diabetes. More than 70 per cent of patients with type 2 diabetes dies of cardiovascular diseases. A recent report published in global medical journal, Lancet stated that there has been 50 per cent rise in CVDs among Indians. Heart Failure is the leading cause of mortality and repeat hospitalizations amongst all CVDs. Heart Failure is a progressive disease, caused due to the weakening of heart muscle, which becomes stiff over time. This reduces the heart's ability to pump blood properly, thereby limiting the amount of oxygen and nutrients circulated to the vital organs of the body. Diabetes can cause heart failure, due to diabetic cardiomyopathy. It is a disorder of the heart muscle in diabetic patients, due to which the heart is unable to circulate blood properly. Patients with Type 2 diabetes admitted in hospital for heart failure have a one in four chance of dying within 18 months.

### **[Vitamin D and fish oil supplements do not lower rates of cancer: Study](#)**

November 15, 2018/The Indian Express

The findings of a recent study have put an end to the myths surrounding the healing power of Vitamin D and fish oil supplements for cancer. The research published in the New England Journal of Medicine presented at this year's American Heart Association Scientific Sessions states that Vitamin D and fish oil supplements do not play any significant part in preventing cancer or heart diseases. The study VITAL — a Vitamin D and Omega-3 Trial included participants with men aged 50 and above and women aged 55 and older who took 2000 international units of vitamin D and 1 gram of omega-3 fatty acids per day. Even if vitamin D intake has not shown a decline in cancer rates, the study found that the participants with an intake of vitamin D supplements for at least two years showed a 25% lower chance of death from cancer. On the other hand, fish oil did not show any significant effect in reducing the risk of heart diseases or cancer. However, it was found to play a part in preventing the risk of getting a heart stroke to a certain level.

### **[Hot bath may improve inflammation, metabolism: Study](#)**

November 16, 2018/The Indian Express

If you are unable to exercise, a hot water treatment may help improve inflammation and blood sugar (glucose) levels, particularly in overweight men, suggests a new study. Physical stress such as exercise can increase the level of an inflammatory chemical (IL-6), which activates the release of anti-inflammatory substances to combat unhealthy high levels of inflammation, known as chronic low-grade inflammation. However, a hot-water immersion may “improve aspects of the inflammatory profile and enhance glucose



metabolism in sedentary, overweight males and might have implications for improving metabolic health in populations unable to meet the current physical activity recommendations”, said researchers including Christof Andreas Leicht from the Loughborough University in the UK.

For the study, published in the Journal of Applied Physiology, the team included a group of sedentary, overweight men who participated in both hot-water immersion and ambient room temperature (control) trials separated by at least three days.

In the hot water trial, the volunteers sat immersed up to their necks in 102-degree Fahrenheit water. The research team measured the men’s heart rate, blood pressure and body temperature every 15 minutes throughout both the control and immersion conditions. Blood samples were taken again two hours after each session.

With regards,

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