



## **INDIAN COUNCIL OF MEDICAL RESEARCH**

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### **Gum infection linked to Alzheimer's disease**

January 26, 2019/The Asian Age

A new study published in the journal Science Advances found that gum infection could be a potential risk factor of Alzheimer's disease. The bacteria, Porphyromonas gingivalis, known as Pg, causes the gum infection chronic periodontitis, causing chronic inflammation and potential loss of teeth, reported CNN. The same bacteria was further found in 51 out of 53 brain autopsies of Alzheimer's disease patients, according to new research by Dr. Stephen Dominy and Casey Lynch, founders of the pharmaceutical firm Cortexyme. The pharmaceutical company, which is focused on developing therapeutics to alter the course of Alzheimer's disease, funded the research. The team also tested blocking the bacteria in mice by injecting small molecules targeting Pg, to inhibit it and found that it could reduce neurodegeneration in the brain, showing a potential new way to tackle Alzheimer's disease. According to Lynch, her team's publication "sheds light on an unexpected driver of Alzheimer's pathology – the bacterium commonly associated with chronic gum disease." Lynch further added that while previous studies have established a link between periodontal disease and Alzheimer's, the new research observes a "highly significant" link between Alzheimer's and the oral infection and that the mouse study indicates causation. Alzheimer's disease is the most common form of dementia, characterised by memory loss that increases over time. It is believed to be caused by a buildup of beta amyloid plaques and neurofibrillary tangles called tau in the brain. There is no cure for the disease as of yet.

### **Night shifts may cause DNA damage: study**

January 27, 2019/The Hindu

Working night shifts can damage a person's DNA, increasing the risk of cancer as well as cardiovascular, metabolic, and neurodegenerative diseases, a study has found. For the study published in the journal Anaesthesia, researchers analysed blood samples of 49 healthy full-time doctors taken at different times.

"Although this work is very preliminary, it is clear from the results that even a single night of sleep deprivation can trigger events that may contribute to the development of chronic disease," said Siu-Wai Choi, of the University of Hong Kong. Researchers found that on-call doctors who were required to work overnight on-site had lower DNA repair gene expression and more DNA breaks than those who did not work overnight. In these overnight on-site call doctors, DNA repair gene expression decreased and DNA breaks increased after sleep deprivation. Damaged DNA increased after only one night of sleep deprivation.

This DNA damage may help explain the increased risk for cancer and cardiovascular, metabolic, and neurodegenerative diseases associated with sleep deprivation, researchers said.

## [Here's another reason to treat vitamin D deficiency](#)

January 27, 2019/Hindustan Times



Taking vitamin D supplements could reduce the risk of deadly lung attacks in some chronic obstructive pulmonary disease (COPD) patients, finds a recent study. Conducted by researchers at Queen Mary University of London, the study has been published in the journal Thorax. The findings add to a growing list of health benefits for the 'sunshine vitamin'. While vitamin D is best known for its effects on bone health, previous studies have revealed its role in protecting against colds, flu and asthma attacks, and even helping with weight gain and brain development in malnourished children. The latest research found that the use of vitamin D supplements led to a 45 per cent reduction in lung attacks among COPD patients who were deficient in vitamin D. No benefit was seen for patients with higher vitamin D levels. COPD describes a number of lung conditions, including emphysema and chronic bronchitis, where a person's airways become inflamed, making it harder to breathe 1. Almost all COPD deaths are due to lung attacks (termed 'exacerbations') in which symptoms worsen acutely. These are often triggered by viral upper respiratory infections - the type that cause the common cold. Doses of vitamin D ranged from 30 micrograms daily to 2500 micrograms monthly. Supplementation did not influence the proportion of participants experiencing serious adverse events, indicating that it was safe. Giving supplements to patients who did not have such low levels of vitamin D did not reduce their risk of COPD attacks. The researchers therefore highlight that this would need to be a targeted therapy, with doctors first testing vitamin D levels in COPD patients who experience frequent attacks, and then giving vitamin D supplements to those who are deficient.

## [Immunity, digestion and more: The many benefits of haldi](#)

January 27, 2019/Hindustan Times

Ayurveda deems turmeric as one of the most important medicinal spices. Modern studies have reiterated the knowledge that all body systems benefit from the use of turmeric. Here's a quick breakdown:

**Taste and effect:** Pungent and bitter, it has anti-inflammatory, cleansing, detoxifying and effects.

**Positive effects:** It benefits circulatory system, supports digestive fire, and reduces digestive toxins. Ayurveda prescribes it for liver, blood, digestive system, joints, and immune system issues.

**Bioavailability:** Turmeric is poorly absorbed in the body. It has less effect when used as a cooking spice.

### **Various uses**

**For asthma:** Grate two inches raw turmeric and dry in the shade. Add 10 to 12 crushed black peppercorns. Cover well with honey. Take one teaspoon twice a day with warm milk.

**To increase immunity:** Boil half teaspoon turmeric powder or half-inch raw turmeric and three to four crushed black peppercorns in one glass of milk. Drink one hour before bedtime.

**For cold and flu:** Boil one teaspoon turmeric and one-inch grated ginger in two glasses of water for five minutes. When cool, mix with a little honey.

**For acne:** Mix one tablespoon aloe vera gel with one teaspoon turmeric, half teaspoon lemon juice and rose water. Apply on the face and wash after it dries.

**For mouth ulcers and cuts:** Mix three tablespoons turmeric powder with one-fourth teaspoon alum and make a paste with coconut oil. Apply with a cotton swab over mouth sores, cuts and wounds.

**For bad breath:** Mix one teaspoon turmeric with one glass lukewarm water. Use as a mouthwash.

### **High pressure at work leads to weight gain in women**

January 28, 2019/Hindustan Times

A new study finds that heavy pressures at work might cause women to gain weight, irrespective of whether they have received an academic education or not. Researchers came to the conclusion after a study that included more than 3,800 people in Sweden. Speaking about it, lead author of the study, Sofia Klingberg, said, “We were able to see that high job demands played a part in women’s weight gain, while for men there was no association between high demands and weight gain.” The study, published in the journal *International Archives of Occupational and Environmental Health*, was based on the Västerbotten Intervention Program, a Swedish population-based study. The women and men in the study were investigated on three occasions over a 20 year period with respect to such variables as body weight and demands and control at work. They were followed either from age 30 to 50 or from 40 to 60. The respondents were asked about their work pace, psychological pressures, whether there was enough time for their duties and how often the demands made were contradictory. “When it came to the level of demands at work, only the women were affected. We haven’t investigated the underlying causes, but it may conceivably be about a combination of job demands and the greater responsibility for the home that women often assume. This may make it difficult to find time to exercise and live a healthy life,” Klingberg added. Having had or not had an academic education does not explain the associations in the study. Neither do quality of diet or other lifestyle factors. However, the information about dietary intake comes from the respondents themselves, with a certain risk of incorrect reporting.

### **An egg a day might reduce risk of heart disease**

January 29, 2019/Hindustan Times

A new study conducted in China finds that eating an egg a day may lower risk of cardiovascular disease. The study found that daily egg eaters had an 18% lower risk of dying from cardiovascular disease, reported CNN. The research was published Monday in the journal *Heart*. Earlier doctors would warn patients against eating too many eggs, believing that despite containing high-quality protein and other positive nutritional components, they also have high amounts of cholesterol, which was believed to be harmful. However, according to co-author of the study, Canqing Yu, existing studies on the association between egg and cardiovascular diseases are controversial due to small sample size and limited information. Past studies have provided only limited evidence from the Chinese population, “which have huge differences in dietary habits, lifestyle behaviours and diseases patterns,” Yu said. Participants who ate up to one egg daily had a 26% lower risk of haemorrhagic stroke, which is more common in China than in the United States or other high-income countries. Additionally, the egg eaters had a

28% lower risk of dying from this type of stroke. Finally, egg eaters also enjoyed a 12% reduced risk of ischemic heart disease. Based on the results, Yu said, eating eggs in moderation - less than one a day - is associated with a lower incidence of cardiovascular diseases, especially haemorrhagic stroke.

### **How our diet may reduce Alzheimer's risk**

January 29, 2019/The Tribune

Higher levels of a satiety hormone -- which induces the feeling of being full -- may reduce the risk of developing Alzheimer's disease, according to a study which suggests that our diet may affect memory. Researchers from Iowa State University in the US looked at the satiety hormone, Cholecystokinin (CCK), in 287 people.

CCK is found in both the small intestines and the brain. In the small intestines, CCK allows for the absorption of fats and proteins. In the brain, CCK is located in the hippocampus, which is the memory-forming region of the brain, said Auriel Willette, assistant professor at Iowa State. For individuals who have higher CCK levels, their chance of having mild cognitive impairment, a precursor state to Alzheimer's disease, or Alzheimer's disease decreased by 65 per cent.

The researchers hope that the study will encourage others to look into the nutritional aspect of diets, versus just looking at caloric intake.

Plagman already is looking at how diet impacts an individual's CCK levels through researching fasting glucose and ketone bodies. "By looking at the nutritional aspect, we can tell if a certain diet could prevent Alzheimer's disease or prevent progression of the disease," Plagman said. "The regulation of when and how much we eat can have some association with how good our memory is. Bottom line: what we eat and what our body does with it affects our brain," Willette said. - PTI

### **The Taste with Vir Sanghvi: Fat is a fabulous issue**

January 29, 2019/Hindustan Times

Nutritionists will tell you that till the second half of the 20th Century, fat was not a bad word. It was only after one or two so-called experts persuaded the US government to come out against 'saturated fats', that chefs and food-writers began parroting the line that any fat that came from an animal (including milk) was bad for you and that you should only consume unsaturated fats. The problem with this advice was that most so-called healthy fats (from nuts etc.) had very little in the way of taste. So fat became no more than a neutral means of cooking or frying. A good fat was defined as one that added no flavour to whatever was being cooked. The exception was olive oil, 'healthy' oil with a distinctive flavour of its own. Many people (myself included) love olive oil because of its taste. But thanks to the perception that it was healthy, people began using all kinds of un-tasty industrial olive oils (including some made from the stone of the olive). They did not realise that many cheaper oils were at least as healthy as olive oil or that, at the end of the day, olive oil is a fat. So if you consume lots of olive oil, you are consuming lots of fat, no matter how 'healthy' you have been told it is. But such is the olive oil craze that people cook oriental cuisines in olive oil (on so-called health grounds) even though the taste of olive oil interferes with the flavours of most Asian food. Ground-nut oil or sunflower oil usually work better. In recent years, the demonisation of animal fats has been discredited (the health objections were, if not bogus, then certainly over-stated) and people are finally accepting that the flavour of animal fat can enhance the taste of most dishes. Our ancestors knew this, of

course. Why else would they have sung the praises of desi-ghee? And the great French chefs knew it. Auguste Escoffier, who is the father of classic French cuisine, famously said that the three great secrets of his nation's cuisine were "butter, butter and butter."

### **Early risers less likely to suffer from depression; study**

January 30, 2019/Hindustan Times

Sleeping habits and patterns have always been important. However, according to a new study, those who are early risers are less prone to develop mental health problems. The study, as quoted by a report in The Guardian, states that early risers are biologically programmed to be less susceptible to depression and schizophrenia and might just be happier than others. In order to arrive at the result, genetics data of several individuals were examined and participants were asked whether they are a morning or an evening person. After their genomes were analysed, it was revealed that certain genes impact their sleep patterns.

"The large number of people in our study means we have provided the strongest evidence to date that 'night owls' are at higher risk of mental health problems, such as schizophrenia and lower mental wellbeing, although further studies are needed to fully understand this link," Mike Weedon, who led the research said. "Our work indicates that part of the reason why some people are up with the lark while others are night owls is because of differences in both the way our brains react to external light signals and the normal functioning of our internal clocks. These small differences may have potentially significant effects on the ability of our body clocks to keep time effectively, potentially altering risk of both disease and mental health disorders", Samuel Jones, lead author of the paper said. The findings were published in Nature Communications.

### **Rajasthan Zika strain is endemic to Asia, says new study**

January 30, 2019/The Hindu

The Zika virus that infected 159 people in an outbreak in Rajasthan last year, could have been circulating in India for several years and is endemic to Asia, according to a new study published in the journal Infection, Genetics and Evolution this week.

The study, led by authors from Pune's National Institute of Virology (NIV), an institute under the Indian Council of Medical Research (ICMR), is the first to sequence full Zika virus genomes from India.

#### **Confers herd immunity**

"The finding that the outbreak was caused by an endemic virus is quite important," said Nathan Grubaugh, an epidemiologist from the Yale School of Public Health, who was not involved in the study. "It suggests that people in the region may have been previously exposed to the virus, building herd immunity that may limit future outbreaks." During the latter half of 2018, India recorded its first major Zika outbreaks in Rajasthan and Madhya Pradesh. Around then, the ICMR said the Rajasthan virus had been sequenced and was closely related to a virus that had caused large epidemics and birth defects in Latin America in 2015.

## **Crucial contradictions**

This week's publication contradicts the the ICMR's previous statements in two ways. First, it indicates that the Rajasthan Zika strain is not closely related to the Brazilian one. "It appears that the Indian strain has been around for a while...The Brazilian strain diverged more recently," said Farah Ishtiaq, who studies the effects of infectious diseases on ecology at Bengaluru's Indian Institute of Science.

Prof. Grubaugh adds that the phylogenetic analysis in the paper, along with previous research, suggests that the virus has been in Asia for "at least 50 years".

"Based on limited data, I suspect it is [endemic to India]," he added. While this is good news, because it implies that a portion of the population could be immune, it could also mean that Zika-related birth defects such as microcephaly were occurring even before the virus was first detected in India.

## **Heart attack cases spike due to dip in temperature**

January 30, 2019/Deccan Chronicle

The sudden dip in temperature has seen a 25 per cent increase in heart attack cases in the last one week in the city, stated cardiologists who explained that the phenomenon is due to narrowing of blood vessels. Those who are not used to severe cold conditions are affected. Apart from external factors, the underlying conditions of coronary artery disease, unidentified blockages and co-morbid conditions also lead to the condition, stated cardiologists.

Dr A. Sai Ravishanker, senior member of the Cardiology Society of India explained, "The months from October to February are medically marked as a period where there is a slight increase in the cases of heart attacks when compared to other months in the year. One of the factors is the cold which leads to a condition called vasoconstriction where lower temperatures cause blood vessels to narrow. In this condition, the heart works harder to move blood throughout the body. Cold weather is also found to increase blood pressure and heart rate. These are some reasons we see more patients in the winter months." Experts state that those suffering from heart problems, cancer, have undergone transplants and immune compromised like senior citizens must be careful during cold conditions. They must avoid alcohol and coffee as it increases the heart rate and also blood pressure. Alcohol increases the person's sensation of warmth and it makes them underestimate the extra strain their body suffers during the cold, explained Dr Ravishanker.

## **An Israeli company claims to have found 100% cure for cancer**

January 31, 2019/The Times of India

At a time when cancer is spreading at a disturbingly fast pace across the globe, an Israeli biotech company have claimed that they will have the cure for this deadly disease by 2020. Although different types of treatments are available in the market, but nothing promises to cure this deadly disease 100%. But Accelerated Evolution Biotechnologies Ltd (AEBi), founded in 2000 from the ITEK Weizmann technology incubator has made bold claims to cure the disease completely. In an interview to a leading daily, Aridor, chairman of the board of AEBi, has asserted that their cancer cure will be effective from the very first day and will last for a few weeks. Additionally, their medicines will have "no or minimal side-effects". He further said that the cure for cancer will be available at a much lower cost than other

treatments available in the market. Most cancer drugs attack a specific target or on the cancer cell, but MuTaTo attacks the cancer cell's receptors from three different directions. "Instead of attacking receptors one at a time, we attack receptors three at a time. Not even cancer can mutate three receptors at one time," said Morad, to the daily newspaper. After a successful mice trail, Morad said that the company is now preparing to try medicines on humans through this year. Following this, they will introduce the medicine in the market by next year. The claim made by the biotech company sounds very exciting when around 18.1 million new cases of cancer are being diagnosed every year across the globe.

### **Nagging sore throat can be a sign of cancer: Study**

January 31, 2019/The Indian Express

Persistent sore throat, according to a recent research, can be symptomatic of cancer. The report that was quoted in BBC states that if a nagging sore throat is accompanied with earache, trouble in swallowing and shortness of breath then it can be considered as a sign of cancer. Weilin Wu at Cancer Research, UK, however, has said that there is no need to be alarmed. "A sore throat on its own wasn't linked to laryngeal cancer," he said. "But importantly, this study also provides the best evidence to date to support the current recommendation to refer older patients with persistent hoarseness." The research that was led by the University of Exeter was published in the British Journal of General Practice. Dr Elizabeth Shephard, the lead author, opined that it was one of the firsts to really look at all the symptoms that can be important for laryngeal cancer. Professor Willie Hamilton, one of the authors of the study and the clinical lead for the current guidelines from The National Institute for Health and Care Excellence (NICE) emphasised on the importance of the research as it "has shown the potential severity of some symptom combinations previously thought to be low risk."

"When NICE guidance for cancer investigation was published, there was no evidence from GP practices to guide this – nor to inform GPs," he said. However, he also maintained that they are considering only those with sore throat that is severe enough to go to the general practitioner.

### **Zinc deficiency may lead to high blood pressure: Study**

January 31, 2019/The Indian Express

High blood pressure or hypertension has been linked to zinc deficiency, according to a new study by the American Journal of Physiology-Renal Physiology. Zinc deficiency is common in individuals with chronic kidney diseases and Type 2 diabetes and in those patients, there is an increased likelihood of hypertension. The findings revealed, "Zinc deficiency (ZnD) is a common comorbidity of many chronic diseases. In these settings, ZnD exacerbates hypertension." Blood pressure control depends on how kidneys excrete sodium into the urine or reabsorb it into the body through the sodium chloride cotransporter (NCC). Less sodium in the urine is related to increased blood pressure levels. For the study, the researchers fed adult mice with a zinc-adequate diet and another set of mice with a zinc-deficient diet. Soon enough, the mice with lower levels of deficiency developed hypertension. The study concluded, "These data indicate that 1)  $Zn^{2+}$  (zinc) contributes to BP regulation via modulating renal  $Na^{+}$  handling, 2) renal NCC mediates ZnD-induced hypertension and 3) NCC is a  $Zn^{2+}$  regulated transporter that is upregulated with ZnD. This study links dysregulated renal  $Na^{+}$  handling to ZnD-induced hypertension. Furthermore, NCC is identified as a novel mechanism

by which Zn<sup>2+</sup> regulates BP. Understanding the mechanisms of ZnD-induced BP dysregulation may have important therapeutic impact on hypertension.”



**Do not donate blood for six months if infected with dengue, say experts**

February 1, 2019/Deccan Chronicle

Those infected with dengue must not donate blood for six months after recovery, according to the recent guidelines released by the National Blood Transfusion Council, as the dengue disease can also be transmitted through blood. That dengue viruses are transfusion-transmitted pathogens was recognised in 2008. Five cases of transfusion-transmitted dengue, including one case of dengue haemorrhagic fever, have been documented. These cases have raised concerns about the risk of transmission of dengue via blood transfusion and hence the six-month embargo on donating blood for dengue and chikungunya patients. Those who have visited a dengue or chikungunya-infected endemic area must not donate blood for four weeks, the guidelines state. Says paediatrician Dr Preeti Sharma, “Donor transmission has not been noted in the practice. Many ask blood donors whether they have had fever in the past three months. The new guidelines come as a precautionary measure.” In 2018 two deaths and 4,026 cases of dengue were reported from Telangana state in the national vector-borne disease control programme. Dengue is mainly a mosquito-transmitted disease with symptoms such as fever, headache, rashes, muscle and joint pains, vomiting and nausea. The factors responsible for the dengue epidemic are unusual growth of human population, unplanned and uncontrolled urbanisation, inadequate water management, water supply mismanagement, increased distribution and densities of vector mosquitoes and lack of effective mosquito control measures.

With regards,

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