



## **INDIAN COUNCIL OF MEDICAL RESEARCH**

Department of Health Research – Ministry Health & Family Welfare  
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### **Indian scientists working on cannabis-based painkillers**

November 23,2018/Hindustan Times

Researchers at the Indian Institute of Integrative Medicine (IIIM) are working with two compounds derived from cannabis to create potential drugs for treating epilepsy and extreme pain in cancer patients. The drug will contain tetrahydrocannabinol (THC) and cannabidiol (CBD), two of the nearly 120 components of cannabis. "There is a lot of misconception about cannabis owing mainly to its abuse because of its psychotropic component, THC. But the two compounds are also very effective for pain relief," said Dr Ram Vishwakarma, director, IIIM, a central institute of the Council for Scientific and Industrial Research. For the cancer drug, IIIM is looking at a combination of both THC and CBD. "For effective pain relief for cancer patients, both the components are needed as one is effective for pain originating in the central nervous system and the other for the pain of the peripheral nervous system," said Dr Vishwakarma. The institute has carried out some animal trials that have shown the combination to be very effective and "the pill" is ready for a clinical trial, he said.

### **Sugar supplement mannose may help fight cancer: Study**

November 23, 2018/The Asian Age

Mannose sugar, a nutritional supplement, may both slow tumour growth and enhance the effects of chemotherapy in multiple types of cancer, a study conducted in mice has found. The study, published in the journal Nature, is a step towards understanding how mannose could be used to help treat cancer. Tumours use more glucose than normal, healthy tissues. However, it is very hard to control the amount of glucose in your body through diet alone. The researchers from the University of Glasgow in the UK found that mannose can interfere with glucose to reduce how much sugar cancer cells can use. "Tumours need a lot of glucose to grow, so limiting the amount they can use should slow cancer progression," said Professor Kevin Ryan from the University of Glasgow. "The problem is that normal tissues need glucose as well, so we can't completely remove it from the body," Ryan said. The study found a dosage of mannose that could block enough glucose to slow tumour growth in mice, but not so much that normal tissues were affected. "It is hoped that finding this perfect balance means that, in the future, mannose could be given to cancer patients to enhance chemotherapy without damaging their overall health," said Ryan.

### **Why coughing doesn't mean that your child may have asthma**

November 24,2018/Hindustan Times

Coughing and wheezing before the age of six years are signs that the child is having difficulty breathing, but these are not always a sign of asthma. With environmental factors such as pollutants, dust, changing weather, pollen, mites, mould, hazardous volatile compounds and food additives pushing up allergies and asthma cases, every cough and wheeze prompts panicked parents to call paediatricians several times a day. Paediatricians say more than children, parents need to breathe easy. Around one in three children under the age of five cough and wheeze when they have colds and other viral infections because infections cause

inflammation, which may also make the inner lining of airways to swell up and restrict air flow. Unless the difficulty breathing last for weeks after the cold or fever is over, the child is unlikely to develop asthma.



### **Signs of asthma**

1. Around half the children outgrow the symptoms by age six, but the rest continue to have airway sensitivity and asthma. Studies from India show that asthma among children who are 13–14 years of age is lower than 6–7 years old. In some children, however, asthma may disappear for some years only to return at a later stage in life.
2. Children with a personal or family history of asthma, allergies or eczema are at increased risk, as are those who have had frequent infections or are exposed to severe air pollution, which lowers maximal lung functional capacity exacerbates of asthma.

### **Air pollution exposure linked to breast cancer**

November 25, 2018/Hindustan Times

Women working near busy roads are at high risk of developing breast cancer, due to traffic-related air pollution, researchers have warned. The team, from University of Stirling in Scotland, analysed the case of a woman who developed breast cancer after spending 20 years working as a border guard at the busiest commercial border crossing in North America. The woman was one of, at least, five other border guards who developed breast cancer within 30 months of each other and, at another nearby crossing, a cluster of seven other cases was noted.

According to Michael Gilbertson, the findings “infer a causal relationship” between breast cancer and very high exposures to traffic-related air pollution containing mammary carcinogens. A link between nightshift work and cancer was also identified. “This new research indicates the role of traffic-related air pollution in contributing to the increasing incidence of breast cancer in the general population,” Gilbertson said. The group of women all developed a cancer believed to have been caused by exhaust fumes in what researchers have branded a ‘new occupational disease’.

### **MRI scans may predict dementia risk before symptoms appear**

November 26, 2018/The Tribune

MRI brain scans can help predict whether a person will develop dementia in the next three years, before the symptoms of the disorder appear, scientists have found. In a study, researchers from Washington University and University of California San Francisco in the US used magnetic resonance imaging (MRI) brain scans to predict dementia with 89 per cent accuracy. The findings suggest that doctors may one day be able to use widely available tests to tell people their risk of developing dementia before symptoms arise. “Right now it’s hard to say whether an older person with normal cognition or mild cognitive impairment is likely to develop dementia,” said Cyrus A Raji, an assistant professor at Washington University.

“We showed that a single MRI scan can predict dementia on average 2.6 years before memory loss is clinically detectable, which could help doctors advise and care for their patients,” said Raji. Although there are no drugs available yet to prevent or delay the onset of Alzheimer’s disease, identifying those at high risk of developing dementia within the next few years could still be beneficial, the researchers said.

## **Chikungunya: Prevention and precautions**

November 27, 2018/The Times of India



After dengue and malaria, chikungunya is another mosquito-borne disease which is very dangerous for those affected by it. It spreads when a mosquito infected by the virus bites a person. While the disease itself is not fatal, the symptoms can be very hard to battle and can last from somewhere between days to even years, in some cases. The most common signs of chikungunya fever include muscle pain, rashes, swelling, leg pain and headache.

### **Prevention**

Since there is no vaccine or medicine available yet to prevent chikungunya, the first and most important step with any mosquito-borne disease is to stay covered. If you stay in an area where mosquito breeding is at large and hence are at risk, make sure to wear full sleeved clothing whenever you go outdoors. Also, it is important to stop the spread of the virus and hence, keep all the doors and windows shut, especially during daytime. If you have a garden or live nearby a park, make sure to ensure that water does not stagnate, which would allow mosquitoes to breed and lay eggs.

### **Precautions**

Just like Zika, travellers going to chikungunya affected areas are at a high risk and hence, making moderations to the travel plans or avoiding travel is suggested. When outdoors, it is necessary to carry a high-grade insect repellent, which has powerful ingredients like DEET or lemon and eucalyptus oil. Nets can also be used indoors to prevent mosquitoes from coming inside. Another helpful tip is to stay clear of strong scents and perfumes and shower daily since it is believed that mosquitoes are more attracted to certain perfumes and scents.

## **New cases of HIV rise in Eastern Europe, decline in the West**

November 28, 2018/Hindustan Times

More than 130,000 people were newly diagnosed with HIV last year in Eastern Europe, the highest rate ever for the region, while the number of new cases in Western Europe declined, global public health experts said on Wednesday.

European Union and European Economic Area countries saw a reduction in 2017 rates, mainly driven by a 20% drop since 2015 among men who have sex with men. That left Europe's overall increasing trend less steep than previously.

All told, almost 160,000 people were diagnosed in Europe with the human immunodeficiency virus (HIV), which causes AIDS, according to data from the European Centre for Disease Prevention and Control (ECDC) and the World Health Organization's (WHO) regional office for Europe. "It's hard to talk about good news in the face of another year of unacceptably high numbers of people infected with HIV," said Zsuzsanna Jakab, director of the WHO regional office. Calling on governments and health officials to recognise the seriousness of the situation, she urged them: "Scale up your response now." The United Nations AIDS agency UNAIDS warned in July that complacency was starting to stall the fight against the global epidemic, with the pace of progress not matching what is needed. Some 37 million people worldwide are infected with HIV.

### **Lung disease in middle-aged people may up dementia later**

November 28, 2018/The Indian Express

Middle-aged adults who have lung disease may be at a greater risk of developing dementia or cognitive impairment later in life, according to a new research. The study found that both restrictive and obstructive lung diseases were associated with dementia, including Alzheimer's disease, and with mild cognitive impairment. However, the link was stronger for restrictive lung diseases such as idiopathic pulmonary fibrosis and sarcoidosis than it was for chronic obstructive pulmonary disease (COPD). The reason could be because lung disease produced low blood oxygen levels, which in turn may have led to inflammation, stress and damage to the brain's blood vessels, the researchers noted. "Preventing dementia is a public health priority, and previous studies have suggested that poor lung health, which is often preventable, may be linked to a greater risk of developing dementia," said Pamela L. Lutsey, lead researcher at the University of Minnesota in the US. For the study, the researchers included more than 14,000 participants with an average age of 54, among which 1,407 instances of dementia were reported. Findings, published in the American Journal of Respiratory and Critical Care Medicine, showed that the odds of dementia were 58 per cent higher among those with restrictive lung disease compared to those without lung disease. Also, dementia was 33 per cent higher among those with obstructive lung disease.

### **Global warming increasing death, disease risk: Study**

November 28, 2018/The Indian Express

Climate change is putting an increasing proportion of the global population at risk of heat-related death and diseases, and causing significant loss of work hours in vulnerable areas like India, sub-Saharan Africa, and South America, according to a study published in The Lancet journal. The rising vulnerability to the heat-related risks of climate change is mirrored by increased exposure to higher temperatures. Advertising Despite a mean global temperature increase of 0.3 degrees Celsius between 1986 and 2017, the average temperature increase people were exposed to was more than double this (0.8 degrees Celsius). With the pace of climate change outweighing the urgency of the response, the report provides cause for concern. However, researchers also note promising trends in key areas for health, including the phase-out of coal, the deployment of healthier, cleaner modes of transport, and health system adaptation. Present day changes in heat waves and labour capacity provide early warning of the compounded and overwhelming impact on public health that is expected if temperatures continue to rise," said Hilary Graham from The University of York in UK. "Trends in the impacts of climate change, exposures and vulnerabilities show unacceptably high risk for health now and in the future," said Graham. "The lack of progress in reducing emissions and building adaptive capacity threatens lives and health systems and must be addressed to avoid disruption to core public health infrastructure and overwhelming health services," she said.

## Zebrafish help unlock mystery of motor neurone disease

November 30, 2018/Hindustan Times



Scientists from the University of Sheffield in the UK have successfully created zebrafish that carry the complex genetic change known to cause the most common genetic form of motor neurone disease (MND). The breakthrough will help to accelerate pioneering research and experimental drug trials to tackle the degenerative disease. Until now, research to better understand how the disease occurs and the trial of experimental drugs has been conducted on fruit flies or mice models. This has had limited success due to the difference between the human brain and the fruit fly brain, and the time and cost implications of using mice models. For the first time, researchers from the University of Sheffield's Institute of Translational Neuroscience (SITraN) have successfully created the complex aspects of human C9-ALS/FTD pathobiology in zebrafish models. This pioneering breakthrough is essential for studying the underlying mechanisms of MND and frontotemporal dementia (FTD).

With regards,

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