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Nutrition And Health Research

Women Who Eat Meat Less Prone To Disease

A joint study by doctors at AIIMS, Delhi, and Sher-i-Kashmir Institute of Medical Sciences (SKIMS) on dietary habits of women has suggested that those who consume non-vegetarian meals are less prone to diseases such as diabetes, cardiac ailments, cancer and obesity as compared to those on a vegetarian diet.

The survey was conducted on 464 women from Delhi and Kashmir between the ages of 18 and 40 years between 2015 and 2018. Women who consumed meat (203) were selected from Kashmir, while those who were vegetarian (261) were from Delhi. This included women who were healthy as well as those suffering from polycystic ovarian syndrome (PCOS).

Source: Dr. Ashraf Ganie, Professor, Endocrinology And Metabolism, SKIMS, Journal Of The American College Of Cardiology

Consuming Fried Chicken And Fish Linked To 13% Higher Risk Of Death In Older Women

According to a new study done in postmenopausal women, a regular serving of fried chicken or fish is associated with a 13 percent higher risk of death in comparison with women who did not eat any fried food. The study describes frying as a "complex cooking process that modifies the composition of foods and the frying medium through oxidation, polymerization, and hydrogenation".

During frying, foods can lose water and absorb fat, and the frying oils deteriorate, especially when reused. Moreover, frying makes food crunchy and more appetizing, which can lead to excess intake. In a first of its kind study to look into the relationships between fried food consumption and mortality, it was concluded that women eating a daily portion of fried fish or shellfish saw a 7 per cent greater risk of dying. The researchers have highlighted that limiting the consumption of fried foods; in particular, fried chicken and fish could be good for health.

Source: Wei Bao, Assistant Professor, Epidemiology, University Of Iowa, Medical Journal BMJ

How Fasting Can Improve Overall Health

The circadian clock operates within the body and its organs as intrinsic time-keeping machinery to preserve homeostasis in response to the changing environment. And, while food is known to influence clocks in peripheral tissues, it was unclear, how the lack of food influences clock function and ultimately affects the body. Researchers have now found evidence that fasting affects circadian clocks in the liver and skeletal muscle, causing them to rewire their metabolism, which can ultimately lead to improved health and protection against aging-associated diseases.

Source: Paolo Sassone-Corsi, Donald Bren Professor, Biological Chemistry, UCI's School Of Medicine, Cell Reports, 2018; 25 (12): 3299 DOI: 10.1016/j.celrep.2018.11.077

Human Milk Is A 'Life-Saving Intervention' For Infants With Congenital Heart Disease

With a lower risk of serious complications and improved feeding and growth outcomes, human milk is strongly preferred as the best diet for infants with congenital heart disease (CHD). Researchers reviewed and analyzed six studies on the benefits of human milk and breast-feeding for infants with CHD. Due to the overwhelming evidence of improved outcomes related to human milk feeding for critically ill infants, human milk should be considered a medical intervention for infants with CHD.

Source: Jessica A. Davis, UPMC Children's Hospital Of Pittsburgh And Diane L. Spatz PhD, University Of Pennsylvania School Of Nursing, Philadelphia, Journal Of The National Association Of Neonatal Nurses

For Enough Fiber, Need The 'Right Carbs'

For decades, doctors, dietitians, and others have been encouraging people to get enough fiber in their diets. A growing body of evidence suggests that fiber plays an important role in promoting good health and preventing chronic illness. According to a recent series of systematic reviews and meta-analyses published this month in The Lancet, people with the highest-fiber diets have 15 to 30 percent lower all-cause and cardiovascular-related mortality than people with the lowest-fiber diets.

People who eat more fiber are also less likely to develop coronary heart disease, type 2 diabetes, or colorectal cancer, according to researchers. Higher fiber intake was also linked to lower body weight and cholesterol.

Source: Kristi L. King, MPH, RDN, CNSC, LD, Dietitian, Texas Children's Hospital And National, The Lancet

Calorie Restriction Prevents Asthma Symptoms Linked To Inflammation In Mice

Experimenting with mice, researchers report that a low-calorie diet prevented asthma symptoms regardless of the diet's fat and sugar content. The researchers also say they found that obesity resulting from a high-calorie diet led to asthma symptoms in the animals by causing lung inflammation, and a drug that blocks inflammation eased those symptoms.

The researchers say their results add to evidence supporting the links between obesity, inflammation and asthma, and the value of anti-inflammatory drugs in treating characteristic symptoms of asthma tied to obesity in people. Scientists and clinicians have known for decades that obese people are far more likely than people with normal weight to develop certain kinds of asthma or to have asthma symptoms increase. According to the U.S. Centers for Disease Control and Prevention, 38.8 percent of adults with asthma are obese, much higher than the obesity rate in adults without asthma, which stands at 26.8 percent. But, the biological mechanisms underlying obesity-related asthma symptoms and risk have remained somewhat unclear.

Source: Vsevolod Polotsky, Professor, Pulmonary And Critical Care Medicine, Johns Hopkins University School Of Medicine, Scientific Reports, 2019; 9 (1) DOI: 10.1038/s41598-018-36651-2

Drinking Carbonated Beverages During And After Exercise Can Cause Kidney Injury

After an intense workout session, it is common for people to drink either water or soft drinks. But according to the latest study, while drinking water is safe and causes no harm to the body, carbonated beverages may lead to kidney damage. The purpose of this study was to test the hypothesis that consuming a soft drink (i.e., a high fructose, caffeinated beverage) during and following exercise in the heat elevates biomarkers of acute kidney injury (AKI) in humans.

Source: Zachary J. Schlader, Assistant Professor, Center For Research And Education In Special Environments, Department Of Exercise And Nutrition Sciences, University Of Buffalo, American Journal Of Physiology-Regulatory, Integrative And Comparative Physiology

Eating Breakfast Doesn't Help Lose Weight

The idea that eating breakfast makes a person lose weight because it revs up metabolism and stops one from overeating later is being challenged according to a recent review.

There is a very small difference in weight between those who eat breakfast and those who do not, with those who skipped breakfast being, on average, 0.44Kg lighter. Those who ate breakfast ate 260 more calories per day on average. Those who skipped breakfast didn't compensate by eating more later in the day. The researchers also found no significant difference in metabolic rates between breakfast eaters and skippers, suggesting there is no evidence that eating breakfast may help with weight loss.

Source: Monash University

Avoid Sugary Drinks And Food If You Want To Fight Fatty Liver

A new study has found that cutting down on the consumption of fruit juices, food with added sugar and soft drinks can help in reducing the amount of fat and inflammation in the livers of overweight children. The research asserts that keeping a check on the intake of sugary drinks and food is a prudent lifestyle choice.

The report reveals that many people who have fatty liver are not aware of the symptoms. However, those with fatty livers run the risk of suffering from heart disease, Type 2 diabetes, liver cancer and/or cirrhosis.

Although no food specificities have been mentioned for children who have a fatty liver, maintaining a healthy diet that includes less added sugar has been recommended by experts. The current standard of care is very similar to what we would recommend for any child that is overweight. Unfortunately, that general recommendation hasn't improved the disease as much as we would like, and there are no large randomized trials looking at which diet is the best one for fatty liver.

Source: Dr. Miriam Vos, Assistant Professor, Pediatrics, Emory University School Of Medicine, Journal Of The American Medical Association (JAMA)

High Blood Pressure Linked To Zinc Deficiency

A new study demonstrates a link between zinc deficiency and high blood pressure. The findings could help scientists design new ways of intervening in at-risk patient populations.

Over recent years, researchers have noted a relationship between lower zinc levels and hypertension. However, to date, scientists have been unable to pinpoint zinc's exact role in the development of hypertension. For instance, individuals with certain conditions, such as type 2 diabetes and chronic kidney disease, commonly have a zinc deficiency and high blood pressure. Scientists are still unclear whether zinc levels are a cause or an effect of elevated blood pressure.

Source: Clintoria R. Williams, Wright State University, Ohio American Journal of Physiology-Renal Physiology

Rare Ancient Tea Varietal Contains No Caffeine

A recently discovered tea plant, called hongyacha (HYC), which grows wild in the mountains of China, could provide many of the health benefits associated with regular brewed teas without delivering a boost of caffeine.

According to the study cultivar is rich in a variety of gallic acid gallate compounds that are high in antioxidant activity. HYC might contain abundant gallic acid-(4 → 8)-gallic acid gallate, 1,3,4,6-tetra-O-galloyl-β-D-glucopyranose, and (-)-gallic acid-3,5-di-O-gallate, which were not detected in regular tea.

Source: Liang Chen, Journal Of Agricultural And Food Chemistry

Food Safety & Technology

Additives Used In Processed Foods May Up Risk Of Anxiety Disorders

Additives commonly used in processed foods to improve texture and extend shelf life may promote anxiety related behaviours. The study also showed sex differences in the mice's behavioral patterns, suggesting that emulsifiers affect the brain via distinct mechanisms in males and females. The researchers from US could not pinpoint the exact mechanism by which emulsifiers contribute to behavioral changes, they said inflammation triggers local immune cells to produce signaling molecules that can affect tissues in other places, including the brain. The gut also contains branches of the vagus nerve, which forms a direct information pathway to the brain.

Source: Geert De Vries, Professor, Georgia State, Journal Scientific Reports

Microbes Can Help Make Coffee Tastier

Certain microbes could make coffee tastier, say scientists who found that longer fermentation process lends a better taste. The research, showed that lactic acid bacteria play an important, positive role in processing coffee beans. A cup of coffee is the final product of a complex chain of operations: farming, post-harvest processing, roasting, and brewing. There are several variants of post-harvest processing, among which wet processing and dry processing are the most common.

Source: Luc De Vuyst, Professor, Vrije Universiteit Brussel, Belgium, Journal Applied And Environmental Microbiology

Labelling Required If GM Content Over 1%

The Food Safety and Standards Authority of India (FSSAI) has decided to go ahead with labelling packaged food products with over one per cent of Genetically Modified ingredients. A notification in this regard will be issued following approval by the government. Labelling of GM food is required in Europe, Australia, New Zealand, Japan, South Korea, Brazil and China.

Source: Food Safety And Standards Authority Of India (FSSAI)

Remove 'Fake' Content On Food Quality, Government Tells Facebook, Google

The Indian government has instructed Google and Facebook to take down 'false and malicious' videos and other content that spreads misinformation regarding safety and quality of food in India, saying that the 'fake' information is eroding the public's confidence in institutions tasked with food safety. The instructions to the global internet giants have been issued by the IT Ministry that has asked the companies to immediately remove such content and block the accounts of people who are uploading the videos, sources told TOI. The order follows a complaint by Food Safety and Standard Authority of India (FSSAI) CEO Pawan Agarwal to IT Secretary Ajay Prakash Sawhney.

Source: Food Safety And Standards Authority Of India (FSSAI)

Scientists Create Protective Gel For Probiotics

Prebiotics (fermentable fibers) and probiotics (beneficial microbes) are key to establishing a healthy gut microbiome. While most dietary prebiotics can successfully traverse the digestive system, most dietary probiotics cannot survive digestion. Chinese Scientists have developed a gel to help probiotics reach their destination: the colon.

Source: Hao Zhang, Chinese Academy Of Agricultural Sciences

Start-Up Plans To Create Protein From Air And Electricity

A Finnish company has developed a process to create edible protein from thin air. The company has come up with a process that requires only carbon dioxide, water, and electricity plus a few trace elements to create a unique single-cell vegan protein that its developers hope to see used to feed space travelers to Mars. Already the company has been invited to develop a proposal for food production as part of the European Space Agency Business Incubation Program.

Source: VTT Technology Research Centre Of Finland And Lappeenranta University Of Technology, Finland

Indian And Korean Researchers Develop Functional Probiotic Beverage From Fermented Coconut Water

Coconut water has a unique combination of sugars, minerals, vitamins, enzymes and hormones, and is widely consumed globally. Fermenting coconut water with probiotics is said to be able to facilitate the development of an enhanced functional beverage that possesses probiotic benefits. Based on this, researchers aimed to produce a fermented coconut water beverage with the potential probiotic *Lactobacillus casei* L4. They fermented coconut water with *L. casei* L4 for 48 hours at 35 C, investigating its pH, organic acid production rate, antioxidant activity, levels of sugar, minerals and vitamin B12, and total viable bacteria counts after 24 and 48 hours.

Subsequently, they reported that the fermentation of coconut water with probiotic lactobacilli increased the cell viability count, with vitamin B12 production being the highest in the extracellular environment after 48 hours. Additionally, the total phenolic content was markedly higher in the fermented coconut water at 48 hours than at other time points, and the fermented materials demonstrated the most prominent radical-scavenging activities at 48 hours. Fermentation also did not change the levels of most minerals, except calcium, manganese, phosphorus and sodium.

Furthermore, the culture supernatant from the fermented coconut water was found to inhibit the growth of foodborne pathogens such as *Bacillus cereus*, *Listeria monocytogenes*, *Staphylococcus aureus*, and *Salmonella typhi*, though the degree of inhibition differed from one species to another. The results indicated that the coconut water fermented with *L. casei* L4 could act as a novel functional beverage that contains both probiotics and electrolytes, and may be a suitable vehicle for preparing a wider range of novel functional products.

Source: Periyar Maniammai University, Seoul National University And Jawaharlal Nehru University, Frontiers In Microbiology

Non Communicable Diseases

Yes, Gum Disease May Increase The Risk Of Alzheimer's

In a new study, researchers examined the brain tissue of deceased people with Alzheimer's disease. In the tissue, they found *Porphyromonas gingivalis*, one of the main pathogens responsible for gum disease. They also detected the bacterium's DNA in spinal fluid taken from living Alzheimer's patients.

In addition, toxic enzymes made by the bacterium — called gingipains — showed up in many of the Alzheimer's brain samples. Brains with more gingipains had higher amounts of proteins linked to Alzheimer's disease, substances known as tau and ubiquitin. Experiments in mice also suggest a connection between this bacterium and Alzheimer's disease.

Source: Dr. Rawan Tarawneh, Cognitive Neurologist And Assistant Professor, Neurology, Ohio State University Wexner Medical Center, Journal Science Advances

Lowering Blood Pressure May Help Cut Risk Of Early Dementia

Drastically lowering blood pressure may help protect memory and thinking skills later in life — the first hopeful sign that it's possible to lower rates of mental decline. The large blood pressure study looked at more than 9,000 people over the age of 50 years old found that those who lowered their blood pressure to 120 — the top number, or systolic blood pressure — were 19 percent less likely to develop mild cognitive impairment, the loss of memory and brain processing power that usually precedes Alzheimer's disease. The study is called Systolic Blood Pressure Intervention Trial, or SPRINT. It has long been known that aggressively lowering blood pressure can benefit those at high risk for heart disease, but this is the first time that the intervention has been shown to also help brain health.

Source: Maria C. Carrillo, Chief Science Officer, Alzheimer's Association, *Journal Of The American Medical Association (JAMA)*

Opposite Effect: Protein Widely Known To Fight Tumors Also Boosts Cancer Growth

Search for a description of "p53" and it becomes clear that this human protein is widely known for its cancer-fighting benefits, leading to being called the guardian of the genome. Studying the "wild type" version of p53 (WTP53), the form that exists broadly in nature, researchers found evidence that in certain cases, WTP53 instead plays a role in promoting tumors, rather than suppressing them. This finding explains an established paradox that, whereas p53 is mutated in more than 50 percent of all human cancers, it is not frequently mutated in certain human cancers, such as liver cancer.

The scientists describe the culmination of more than four years of research on liver cancer that shows that WTP53 stimulates tumor growth by enhancing cancer metabolism. The key, according to the researchers, is a protein known as PUMA (the acronym for "p53 upregulated modulator of apoptosis"), which works inside mitochondria, the energy hub of cells. The researchers found that, at appropriate levels, PUMA disrupts normal function of mitochondria and causes a switch from oxidative phosphorylation, a process for efficient energy production in cells, to glycolysis, an alternative energy path that helps boost cancer metabolism.

Source: University Of California San Diego, Cancer Cell

Central Obesity May Lead To Brain Shrinkage

Being overweight can lead to several health problems — ranging from hormonal imbalances to joint pains and blood pressure. But in a new study, scientists found out that obesity in the stomach area could even have associations with smaller brain size. Existing research has linked brain shrinkage to memory decline and a higher risk of dementia, but research on whether extra body fat is protective or detrimental to brain size has been inconclusive.

Source: Mark Hamer, Professor, Loughborough University, United Kingdom, *Journal Neurology*

Reducing Sedentary Time May Cut Early Death Risk

Swapping just 30 minutes of sitting time with physical activity of any intensity or amount, may help reduce the risk of early death, a study claims. The study highlights the importance of movement regardless of its intensity or amount of time spent moving for better health. The findings underscore an important public health message that physical activity of any intensity provides health benefits.

About one in four adults spends more than eight hours a day sitting. The study included 7,999 individuals, age 45 and older, who took part in an investigation of racial and regional disparities in stroke between 2009 and 2013. The individuals wore activity monitors for at least four days to record the amount and intensity of physical activity they engaged in while awake.

The researchers tabulated the death rate among participants through 2017. Using this data, they estimated how substituting time spent sitting with time being physically active would affect risk of early death. The study found that replacing just 30 minutes of sitting with low-intensity physical activity would lower the risk of early death by 17 per cent, a statistically significant decrease.

Swapping the same amount of sitting for moderate to vigorous activity would be twice as effective, cutting the risk of early death by 35 per cent. The researchers also found that short bursts of activity — of just a minute or two — provided a health benefit.

Source: Keith Diaz, Assistant Professor, Columbia University, US

Repetition Trains Brain To Form Good Habits

Scientists claim to have discovered a 'brain hack' to form good habits -- training it by simply repeating actions until they stick. Researchers have created a model which shows that forming good and bad habits depends more on how often you perform an action than on how much satisfaction you get from it.

Source: Elliot Ludvig, Associate Professor, University Of Warwick

Sleep Apnea Creates Gaps In Life Memories

People with sleep apnea struggle to remember details of memories from their own lives, potentially making them vulnerable to depression. Estimated to affect more than 936 million people worldwide, obstructive sleep apnea (OSA) is a serious condition that occurs when a person's breathing is interrupted during sleep.

The new study, examined how the condition affected autobiographical memory and found people with untreated OSA had problems recalling specific details about their lives. The research built on the known links between depression and memory. Researchers know that overly general autobiographical memories -- where people don't remember many specific details of life events -- are associated with the development of persistent depression.

Source: Dr Melinda Jackson, RMIT University, Melbourne, Australia

Sleep Deprivation Accelerates Alzheimer's Brain Damage

Poor sleep has long been linked with Alzheimer's disease, but researchers have understood little about how sleep disruptions drive the disease. Now, studying in mice and people, researchers have found that sleep deprivation increases levels of the key Alzheimer's protein. And, in follow-up studies in the mice, the research team has shown that sleeplessness accelerates the spread through the brain of toxic clumps of tau - a harbinger of brain damage and decisive step along the path to dementia.

These findings indicate that lack of sleep alone helps drive the disease, and suggests that good sleep habits may help preserve brain health. The interesting thing about this study is that it suggests that real-life factors such as sleep might affect how fast the disease spreads through the brain. Researchers have known that sleep problems and Alzheimer's are associated in part via a different Alzheimer's protein -- amyloid beta -- but this study shows that sleep disruption causes the damaging protein tau to increase rapidly and to spread over time.

Source: David Holtzman, MD, The Andrew B. And Gretchen P. Jones Professor And Head Of The Department Of Neurology, Washington University School Of Medicine, St. Louis, *Journal Science*

It May Be Possible To Restore Memory Function In Alzheimer's

Research reveals a new approach to Alzheimer's disease (AD) that may eventually make it possible to reverse memory loss, a hallmark of the disease in its late stages. The scientists, found that by focusing on gene changes caused by influences other than DNA sequences -- called epigenetics -- it was possible to reverse memory decline in an animal model of AD.

Scientists have not only identified the epigenetic factors that contribute to the memory loss, they also found ways to temporarily reverse them in an animal model of AD. The research was conducted on mouse models carrying gene mutations for familial AD -- where more than one member of a family has the disease -- and on post-mortem brain tissues from AD patients.

Source: Zhen Yan, PhD, SUNY Distinguished Professor, Department Of Physiology And Biophysics, Jacobs School Of Medicine And Biomedical Sciences, UB, *Journal Brain*

'Diabetes Dogs' Can Help Alert Owners To Blood Sugar Dangers

The study reports that diabetes alert dogs alerted their owners to 83 percent of hypoglycemic episodes in more than 4,000 hypoglycemic and hyperglycemic events. A study author says that while the value of a "medical detection dog" is well-known, this is the first large-scale study focused on using service dogs for detecting hypoglycemia.

Trained first as service dogs, diabetes alert dogs are then trained with a combined effort of the original training facility and their new owners to monitor an imbalance of glucose versus insulin on the breath and saliva. During training, dog owners put cotton balls in their mouths to collect their saliva when their blood sugars are low or high. Dogs then associate different blood sugar levels with certain alerts -- such as nudging their owner with their nose or putting their paw on their owner's knee.

Source: Nicola Rooney, PhD, Teaching Fellow, Animal Welfare And Behavior, Bristol Veterinary School

Physical Activity And Lifestyle

Slim People Have A Genetic Advantage

When It Comes To Maintaining Their Weight

While it is well known that changes in our environment, such as easy access to high calorie foods and sedentary lifestyles, have driven the rise in obesity in recent years, there is considerable individual variation in weight within a population that shares the same environment. Some people seem able to eat what they like and remain thin. This has led some people to characterize overweight people as lazy or lacking willpower. In the largest study of its kind to date, researchers have looked at why some people manage to stay thin while others gain weight easily. They have found that the genetic dice are loaded in favour of thin people and against those at the obese end of the spectrum.

Source: Professor Sadaf Farooqi, Wellcome-MRC Institute Of Metabolic Science, University Of Cambridge, *PLOS Genetics*, 2019; 15 (1): e1007603 DOI: 10.1371/Journal.pgen.1007603

Excessive Screen Time For Kids Can Cause Developmental Delays By Kindergarten

Children are growing up with unprecedented access to electronic devices. Starting as toddlers, many kids now spend part of everyday staring at a screen instead of being physically active or interacting with others. A study recently looked at 2,400 typically developing children in Canada. Researchers found that greater amounts of screen time from ages 2 to 3 were associated with significantly poorer performance when their development was assessed at ages 3 and 5.

Source: Sheri Madigan, PhD, Assistant Professor, University Of Calgary, *Journal Of The American Medical Association (JAMA)*

Optimism May Cut Diabetes Risk In Women

Positive personality traits such as optimism may help reduce the risk of developing type 2 diabetes. The research based on data from a long-term study called the Women's Health Initiative (WHI) explored whether the association between personality traits and risk of diabetes is mediated by behavioural pathways such as diet, smoking, or physical activity. The study followed 139,924 postmenopausal women from the WHI who were without diabetes at baseline. In 14 years, 19,240 cases of type 2 diabetes were identified. The results of women with higher quartile of optimism were compared with women who were least optimistic.

The former had a 12 per cent lower risk of incident diabetes. Hostility was more strongly associated with risk of diabetes in women who were not obese compared to women who were. Personality traits remain stable across one's lifetime; therefore, women at higher risk for diabetes who have low optimism, high negativity, and hostility could have prevention strategies tailored to their personality types.

Source: Joann Pinkerton, Executive Director, North American Menopause Society (NAMS), *Journal 'Menopause'*

Even Low-Level Activity May Help Reduce Dementia Risk

Recent research suggests that doing even low-intensity physical activity allows older people to reduce their risk of dementia. Several factors can affect a person's chance of developing dementia. Some of the factors, such as age and genetics, are unavoidable. Others, such as smoking and other unhealthful behaviors, are lifestyle choices that a person can change. Regularly exercising and eating a healthful diet may prevent the onset of symptoms.

However, a new study has revealed that any kind of physical activity — including basic tasks such as doing housework — may protect a person's brain when they have already reached old age. The researchers — studied 454 older adults. Of these, 191 had a diagnosis of dementia. Every participant agreed to donate their brain for medical research purposes when they died. Every year for 2 decades, each person underwent a full physical examination, along with a test, to determine their thinking and memory skills.

The scientists gave all the volunteers an activity-monitoring device called an accelerometer around 2 years before each of them died. They wore it on the wrist, and it tracked any activity at all times — be it vigorous physical exercise or simply walking around the house.

Source: Dr. Aron S. Buchman, Associate Professor, Rush University Medical Center, Chicago, IL, *Journal Neurology*

How Aerobic Classes Can Help In Problem Solving

Exercise has been known to improve cognitive function in older adults, but a new study finds it does the same in young and middle-aged adults as well. Researchers set out to explore the effects of exercise on 132 adults between the ages of 20 and 67. They found those who were more active appeared to have improved executive function. Previous research has focused mostly on exercise and brain function in older adults, so there wasn't much information on how it could affect the brain function of younger people.

Exercise boosts executive function, which involves reasoning, problem-solving, and planning, the researchers found. The effects were stronger in study participants who were older. Executive functioning is necessary to do things like adequately manage finances and make healthcare-related decisions and complex activities, like driving and reacting appropriately in an emergency.

Source: Joyce Gomes-Osman, PhD, Assistant Professor, Physical Therapy And Neurology And Director Of The Neuromotor Plasticity Laboratory, University Of Miami Miller School Of Medicine, *Journal Neurology*

Social Circle May Help Boost Body Image

Researchers examined how social interactions influence body image. They found that in addition to the previous findings that being around people preoccupied with their body image was detrimental, that spending time with people who were non-body focused had a positive impact. Researchers suggest that social context has a meaningful impact on how people feel about their bodies in general and on a given day.

Source: Kathryn Miller, University Of Waterloo, *Journal Body Image*

Getting Too Little Or Too Much Sleep Can Harm Health

Six to eight hours of sound sleep is the sweet spot for cardiovascular health. No more and especially no less. That's the conclusion of a new study showing that people who slept less than six hours were 27 percent more likely to have atherosclerosis throughout their body. Women who slept more than eight hours nightly also were at increased risk of plaque buildup (or "hardening") in the arteries. It's not just the amount of sleep that's important for cardiovascular health either.

Researchers reported that study subjects who reported poor quality of sleep were 34 percent more likely to have atherosclerosis than those who generally got a good night's sleep. Alcohol and caffeine use were higher among those who reported short or disrupted sleep, researchers also noted. It is almost common sense that it is better to have a few hours of good sleep than spend hours agitated by the impossibility of reaching a restful sleep.

Source: José M. Ordovás, PhD, Centro Nacional De Investigaciones Cardiovasculares Carlos III, Madrid And Director, Nutrition And Genomics, Jean Mayer USDA Human Nutrition Research Center On Aging, Tufts University, *Journal Of The American College Of Cardiology*

Exercise Benefits Brains, Changes Blood Flow In Older Adults

Exercise training alters brain blood flow and improves cognitive performance in older adults, though not in the way you might think. A new study showed that exercise was associated with improved brain function in a group of adults diagnosed with mild cognitive impairment (MCI) and a decrease in the blood flow in key brain regions.

A reduction in blood flow may seem a little contrary to what you would assume happens after going on an exercise program. But after 12-weeks of exercise, adults with MCI experienced decreases in cerebral blood flow. They simultaneously improved significantly in their scores on cognitive tests.

Source: Dr. J. Carson Smith, Associate Professor, Department Of Kinesiology, University Of Maryland School Of Public Health, *Journal Of Alzheimer's Disease*

Why Climbing Stairs Is Good For Heart

According to the new study a few minutes of stairs climbing at short intervals throughout the day can improve health. Researcher's suggests that virtually anyone can improve their fitness, anywhere, anytime by ditching elevators and taking the stairs. The findings make it even easier for people to incorporate 'exercise snacks' into their day.

Those who work in office towers or live in apartment buildings can vigorously climb a few flights of stairs in the morning, at lunch, and in the evening and know they are getting an effective workout. Researcher's know that sprint interval training works, but they were a bit surprised to see that the stair snacking approach was also effective.

The findings of the study suggested that in addition to being more fit, the stair climbers were also stronger compared to their sedentary counterparts, and generated more power during maximal cycling.

Source: Martin Gibala, Mayo Clinic, *Journal Of Applied Physiology*

Agriculture & Climate Change

Air Pollution And Climate Change Are Global Threats In 2019: WHO

Climate change, according to a list published by the World Health Organization (WHO), features as one of the top 10 global threats in 2019. The list also mentions that air pollution is the "greatest environmental risk to health," and nine out of ten people breathe in this poisonous air every day.

Microscopic pollutants in the air can penetrate respiratory and circulatory systems, damaging the lungs, heart and brain, killing 7 million people prematurely every year from diseases such as cancer, stroke, heart and lung disease. Around 90 per cent of these deaths are in low- and middle-income countries, with high volumes of emissions from industry, transport and agriculture, as well as dirty cook stoves and fuels in homes.

The same report enumerates on the causes of air pollution and lists burning fossil fuels as a major contributor. It says that burning the fossil fuels affects the health of people in varied ways. "Between 2030 and 2050, climate change is expected to cause 250,000 additional deaths per year, from malnutrition, malaria, diarrhoea and heat stress.

Source: Times Of India, 23 January, 2019

Forgotten Crops May Feed The World

Just four crops—wheat, maize, rice, and soybean—provide two-thirds of the world's food supply. But, according to scientists at the global research center Crops For the Future (CFF), there are actually 7,000 crops humans have been farming for thousands of years. Unfortunately, most of these crops have been relegated to the sidelines in favor of the "big four".

Inside three giant, silver domes set in the Malaysian countryside, CFF scientists are trying to unlock the potential of the forgotten local crops. The goal is to diversify human diets beyond almost exclusive reliance on major calorie-rich staple crops that need high inputs and long supply chains to reach consumers around the world. A key part of mission is to not only show that these alternative crops are viable in different climates, but also to prove that they are marketable.

Food technologists are working to take ingredients such as kedondong berries, moringa, and bambara groundnut and develop recipes that will appeal to global palates.

Source: <http://www.ift.org/>

Surveys

Psychologists Find That Adults Take Girls' Pain Less Seriously

Gender stereotypes can hurt children -- quite literally. When asked to assess how much pain a child is experiencing based on the observation of identical reactions to a finger-stick, American adults believe boys to be in more pain than girls. The researchers attribute this downgrading of the pain of girls and/or upgrading of the pain of boys to culturally ingrained, and scientifically unproven, myths like "boys are more stoic" or "girls are more emotive."

Source: Joshua T Monrad, Yale University, Department Of Psychology, Journal Of Pediatric Psychology

Almost half of Americans have heart or blood vessel disease, new report finds

A startling new report finds that almost half of all Americans — 121 million adults — have some form of heart disease, a significant increase over the last three years. While that alarming number, is largely due to changes in blood pressure guidelines — it is a warning about an increasingly sedentary lives. In 2017, hypertension, a major risk factor for heart disease, was redefined by the Heart Association as a blood pressure of 130/80, lowering it from 140/90. That change meant that millions more Americans, 20 to 60 and older, were now considered to have some form of heart disease.

Source: Dr. Ivor J. Benjamin, Volunteer President, American Heart Association And Director, Cardiovascular Center, Medical College Of Wisconsin, Milwaukee

Activities Update

ILSI-India

Activities Under Discussions- 2019

- ILSI-India Annual Meeting – 26 April, 2019
- Workshop on How to build Robust Food Safety System
- Workshop on Protein Availability, Quality and Way Forward
- Value Addition to Natural Foods through Food Processing

Research Projects / Monographs

- Study On Prebiotic Contents In Indian Food- Completed
- Monograph Of Role Of Probiotics In Promoting Healthy Microbiome For Health And Immunity - Ongoing
- Assessment Of Sugar Consumption Levels Among Rural And Urban Population In India- Ongoing
- Assessment Of Fat / Saturated Fat Consumption Levels Among Rural And Urban Population In India- Ongoing
- Monograph On Risk Assessment - Ongoing
- Study On Healthy Foods and Healthy Diets- Ongoing
- Standardization of Methodologies for Research on Microbiome –Under Discussion

Contact: ILSI-India for further Information

Email: info@ils-i-india.org

Other ILSI Entities

ILSI Mesoamerica

Ordinary General Assembly ILSI Mesoamérica 2019

2019-02-05, San José, Costa Rica

Curso: Validación de las medidas de control para garantizar la inocuidad de tres productos lácteos artesanales de la región mesoamericana.

2019-03-28, San José, Costa Rica

Course: Validation of control measures to ensure the safety of three artisanal dairy products from the Mesoamerican region.

2019-03-28, San José, Costa Rica

ILSI North America

AAAS 2019 Annual Meeting

2019-02-14 – 2019-02-17, Washington, DC, USA

ILSI North America 2019 Food Packaging Conference: Scientific Advances and Challenges in Safety Evaluation of Food Packaging Materials

2019-04-02 – 2019-04-03, Washington, DC, USA

ILSI North Brasil

X Congresso Nacional / Reunião Anual

2019-04-10 – 2019-04-12, Águas de São Pedro, Brasil

ILSI Europe

Workshop 'Mineral Oil Risk Assessment: Knowledge Gaps and Roadmap'

2019-02-06 – 2019-02-07, Brussels, Belgium

Workshop 'The Use of AOPs in Safety Evaluation of Food Additives'

2019-02-26 – 2019-02-27, Brussels, Belgium

SUSFANS Final Conference

2019-03-07, Brussels, Belgium

ILSI Research Foundation

Technical Training Program: Safety Assessment of Foods and Feeds Derived from Genetically Engineered Plants (Phase I)

2019-03-04 – 2019-03-08, Beijing, China

Genetic Biocontrol for Invasive Species

2019-03-31, Tarragona, Spain

OECD Task Force on the Safety of Novel Foods and Feeds

2019-04-04 – 2019-04-05, Paris, France

OECD Working Group on the Harmonization of Regulatory Oversight in Biotechnology

2019-04-08 – 2019-04-10, Paris, France

ILSI Southeast Asia Region

Seminar on Food Safety Risk Communication in ASEAN

2019-04-02, Bangkok, Thailand

Human Variability in Food and Nutrition: The Challenges and Opportunities for Industry and Academic Research

2019-05-14 – 2019-05-15, Sydney, Australia

Browse ILSI Recent Publications at www.ilsi.org

Identification of a Surrogate to Validate Irradiation Processing of Selected Spices

LWT - Food Science and Technology, 2018 - ILSI North America

This study was conducted to determine the relationship between the populations of inoculated *E. faecium* and *S. enterica* after irradiation processing of selected spices.

Dinâmica da Composição do Leite Humano e Suas Implicações Clínicas 2018- ILSI Brasil

Volume 8 da Série de Publicações ILSI Brasil: Nutrição da Criança

Analyzing chemical substitution decisions among chemical and product manufacturers

Clean Technologies and Environmental Policy, 2018 - Health and Environmental Sciences Institute

The HESI Sustainable Alternatives Committee completed a study to understand potential tradeoffs concerning final product design and redesign decisions using a set of six factors affecting product design: business strategy, economic considerations, functionality and performance, health/environmental endpoints, public perception, and regulatory factors. The results are published here.

Mineral Intake Ratios Are a Weak but Significant Factor in Blood Pressure Variability in US Adults

The Journal of Nutrition, 2018 - ILSI North America

Higher intakes of potassium, calcium, and magnesium and lower intakes of sodium have been associated with a lower risk of hypertension and cardiovascular disease. In this study, the associations of mineral intake and mineral-sodium intake ratios with blood pressure were investigated.

Nutrition Reviews Of ILSI

Volume 77, Issue 1 & 2

January & February 2019

Lead Article

Veganism, vegetarianism, bone mineral density, and fracture risk: a systematic review and meta-analysis

Facts and hypotheses about the programming of neuroplastic deficits by prenatal malnutrition

Special Articles

Effect of high-carbohydrate or high-monounsaturated fatty acid diets on blood pressure: a systematic review and meta-analysis of randomized controlled trials

Carotenoids, vitamin A, and their association with the metabolic syndrome: a systematic review and meta-analysis

Fatty acids as biomarkers of total dairy and dairy fat intakes: a systematic review and meta-analysis

Effects of prebiotics on affect and cognition in human intervention studies

Dietary restrictions for people with glucose-6-phosphate dehydrogenase deficiency

Food sources and biomolecular targets of tyramine

Nutrition In Clinical Care

Effect of nonmeat, high-protein supplementation on quality of life and clinical outcomes in older residents of care homes: a systematic review and meta-analysis

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