

News in Brief

Pistachios May Reduce Cancer Risk

Eating pistachios daily may reduce the risk of lung and other cancers, according to a US study cited by the German Lung Foundation.

According to Vosizneias, the nuts are a rich source of gamma-tocopherol, a form of vitamin E and, as such, an antioxidant. Antioxidants are substances thought to protect cells from damage that can be caused by molecules known as free radicals. This protection could help prevent cancer from developing, the foundation said.

It pointed out, however, that pistachios had a high fat content and eating large quantities of them could cause weight gain.

The foundation cited a recent study conducted at Texas Woman's University--Houston Center. Half of the study's participants was given 68 grams of pistachios daily for four weeks in addition to their normal diet. Afterwards, the level of gamma-tocopherol in their bodies was found to be significantly higher than that of the control group.



Beating Winter Blues

With Vitamin D

Eating plenty of foods rich in vitamin D such as oily fish and eggs can stave off the winter blues, say scientists.

According to Telegraph, many people are more prone to SAD (seasonal affected disorder) during winter months as most of our exposure to vitamin D, which enhances our mood, comes from absorbing sunlight.

Professor Sue Penckofer, of Loyola University, Chicago, said, "Vitamin D deficiency continues to be a problem, despite the nutrient's widely reported health benefits. Winters compound this issue when more people spend time away from sunlight, which is a natural source of vitamin D."

The nutrient is also found in liver and fortified foods such as margarine, breakfast cereals and powdered milk. But the best source is summer sunlight because the vitamin forms under the skin in reaction to the rays.

Recent research has indicated because we all now wear sunscreen through the summer and see barely any daylight through the winter, many of us are low in vitamin D which is why people get SAD.



Playing Soccer Can Increase Bone Mass

Playing soccer regularly can reduce the risk of falls and bone fractures, according to an extensive research project.

Led by Professors Peter Krstrup and Jens Bangsbo from Department of Exercise and Sports Sciences, University of Copenhagen, 50 researchers from seven countries have studied the physical, psychological and social aspects of soccer, Timesofindia reported.

The researchers studied the effects of soccer on muscle strength, postural balance, bone mineral density and reflex response to a sudden push in the back among adult women and men.

They showed that regular participation in soccer increases both bone mass and bone density, causes a significant improvement in standing postural balance and improves muscle strength.

Together, these effects reduce the risk of falls and bone fractures. "The observed improvements in bone mineral density, strength and postural balance due to recreational soccer are of particular interest for a large group of women but also for elderly men," said Peter Krstrup.

"It is well known that the risk of falls and fractures increases with age as a result of weaker bones, poorer balance and attenuated ability to trigger rapid muscle force, but the present results suggest that soccer--and possibly other ball games--is an effective training method to reduce bone weakening that comes with increasing age."



Breast-Feeding Helps Mom Stay Slimmer

The benefits of breast-feeding for infants are numerous and well-known, but researchers are finding more and more that breast-feeding can be a boon to mom's health as well.

In fact, the latest study on the subject suggests that women who breast-feed have reduced amounts of abdominal fat, even decades later, HealthDay wrote.

The study found that middle-age women who consistently breast-fed their children had waist circumferences that were an average of 2.6 inches smaller than women who had never breast-fed.

"Belly fat is the least healthy place for women to store fat, and breast-feeding really seems to be targeting this bad fat," said study author Candace McClure, a postdoctoral scholar at the University of Pittsburgh.

Breast-feeding confers a host of benefits to infants, including a decreased risk of ear infections, asthma, stomach problems, respiratory illnesses, skin allergies, diabetes and sudden infant death syndrome, according to the US Department of Health and Human Services.



AIDS Virus Can Hide In Bone Marrow

The virus that causes AIDS can hide in the bone marrow, avoid drugs and later awaken to cause illness, according to new research that could point the way toward better treatments for the disease.

Finding that hideout is a first step, but years of research lie ahead, AP said.

Dr. Kathleen Collins of the University of Michigan and her colleagues report in this week's edition of the journal Nature Medicine that the HIV virus can infect long-lived bone marrow cells that eventually convert into blood cells.

The virus is dormant in the bone marrow cells, she said, but when those progenitor cells develop into blood cells, it can be reactivated and cause renewed infection. The virus kills the new blood cells and then moves on to infect other cells, she said.

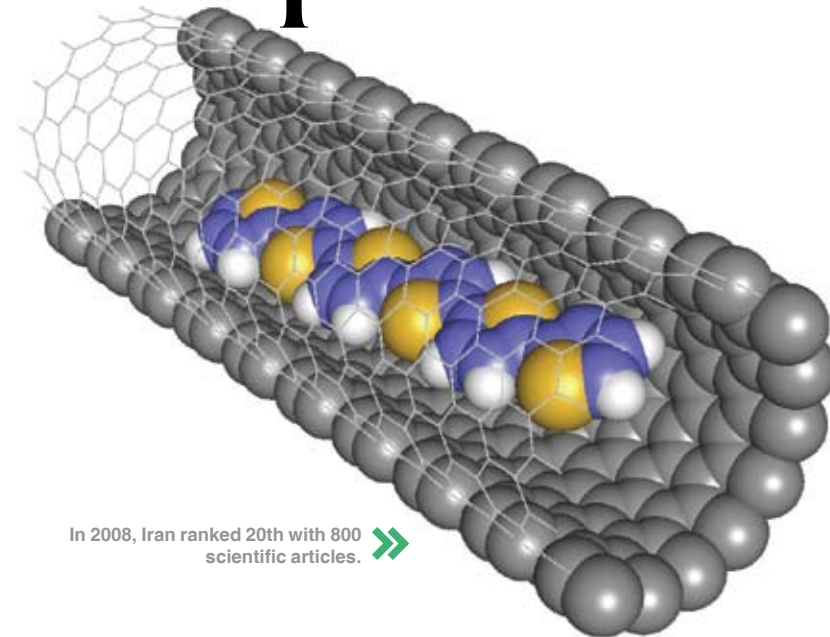
"If we're ever going to be able to find a way to get rid of the cells, the first step is to understand" where a latent infection can continue, Collins said.

In recent years, drugs have reduced AIDS deaths sharply, but patients need to keep taking the medicines for life or the infection comes back, she said. That's an indication that while the drugs battle the active virus, some of the disease remains hidden away to flare up once the therapy is stopped.

One hideout was found earlier in blood cells called macrophages. Another pool was discovered in memory T-cells and research began on attacking those.

But those couldn't account for all the HIV virus still circulating, Collins said, showing there were more locations to check out and leading her to study the blood cell progenitors.

Nanotech Ranking Improves



In 2008, Iran ranked 20th with 800 scientific articles. >>

Iran advanced to 15th position in the field of nanotechnology worldwide by offering 900 school student articles.

Mohammad Amin Moradi, an official with Presidential Office's Headquarters for Nanotechnology Development, made the announcement at the inaugural ceremony of the ongoing First Specialized Exhibition on Nanotech in Ahvaz, Khuzestan province.

Moradi noted that in 2008, Iran ranked 20th with 800 scientific articles, IRNA reported.

"In 2020, we will witness new products in the field and Iran should upgrade its level by developing its scientific activities," he said.

Referring to Iran's strategic 2025 Vision document for developing nanotechnology, Moradi said that it focuses on nanotechnology evaluation, policymaking, promotion, research, production and market.

"Presenting 250 articles on nanotech in a simple language on the website of Nano Club, publishing seven volumes of books for the use of students, compilation of a dictionary containing 4,500 entries on nanotechnology and educational programs are among the activities of the headquarters," he said.

Iran Scientific Progress Commended

Brazilian Minister of Science and Technology Sergio Machado Rezende lauded Iranian scientists for their progress and achievements in different fields of science and technology.

Rezende was speaking on the sidelines of a ceremony to sign a memorandum of understanding (MoU) on cooperation in scientific and technological fields on Monday, Fars News Agency reported.

"In this trip, I observed Iran's scientific activities closely and I should say that Iran has made good technological and scientific progresses in nanotechnology, biotechnology, communications and information technology, and policymaking in science and technology," Rezende said.

Noting that both Iran and Brazil have good experts in all these fields, he hoped that partnership and cooperation among the two countries' experts would lead to further progress and advancement.

Referring to the upcoming visit by Brazilian President Luiz Inacio Lula da Silva to Iran on May 16, Rezende said his country plans to dispatch several delegations of Brazilian researchers to Iran after Inacio's trip to pursue cooperation with Tehran.



Fat Is Sixth Taste

It's a theory set to confirm why humans are so fond of fatty foods such as chips and chocolate cake: in addition to the five tastes already identified lurks another detectable by the palate--fat.

"We know that the human tongue can detect five tastes--sweet, salty, sour, bitter and umami (a savory, protein-rich taste contained in foods such as soy sauce and chicken stock)," Russell Keast, from Deakin University, told AFP.

"Through our study we can conclude that humans have a sixth taste--fat."

Researchers tested 30 peoples' ability to taste a range of fatty acids in otherwise plain solutions and found that all were able to determine the taste--though some required higher concentrations than others.

They then developed a screening test to see how sensitive people were to the taste and found that, of the 50 people tested, their ability to detect fat was linked to their weight--a finding which could help counter obesity.

"We found that the people who were sensitive to fat, who could taste very low concentrations, actually consumed less fat than the people who were insensitive," Keast said.

"We also found that they had lower BMIs (Body Mass Indexes)."

Keast said the research, conducted in collaboration with the University of Adelaide, New Zealand's Massey University and Australian science body CSIRO, suggested that the taste of fat could trigger a mechanism in the body.

"We all like eating fatty foods. What we speculate is (that) the mechanism is to do with stopping eating. Your body is able to tell you you've had enough and stop," he said.

"And if you are insensitive to it, you're not getting that feedback."

With fats easily accessible and commonly consumed, it was possible that people may become desensitized to the taste of fat, leaving some more prone to overindulging in calorie-rich foods, he added.

The results, published in the British Journal of Nutrition, have not definitively classified fat as a taste but Keast says the evidence is strong and mounting.

For something to be classified as a taste, there needed to be proven receptor mechanisms on taste cells in the mouth, he said.

"We have what...we will call possible candidate receptors for fat on taste receptor cells," he said.

Seeds Provide Low-Cost Water Purification

The United Nations says dirty water causes 80 percent of diseases in the developing world and kills 10 million people annually.

Those sobering lines are from the United Nations' website and underscore just how urgently needed water purification is in much of the world. What many people don't realize, however, is that there are already naturally-occurring water filtration supplies available in many of these areas, Gizmag said.

They come in the form of seeds from the Moringa oleifera tree, and used properly, they can produce a 90.00 to 99.99 percent bacterial reduction in previously untreated water.

The drought-resistant Moringa has been described as the "world's most useful tree", as it produces cooking and lighting oil, soil fertilizer and highly-nutritious food in the form of its pods, leaves, seeds and flowers. It is grown in Africa, India, South East Asia and Central and South America--all places that lack sufficient potable water.

> Purification Technique

It has been known for some time that its seeds can also be used to purify water, although that knowledge has never been widely disseminated, even amongst the locals.



The purification technique has recently been written up in the scientific journal Current Protocols in Microbiology, and is being offered as a free download as part of publisher

John Wiley and Sons' Corporate Citizenship Initiative.

It is hoped that by offering the technique in this widely-available format, communities that need the information will be better able to get it.

The purification process involves grinding Moringa seeds into a paste, mixing that paste with untreated water, waiting for the paste particles to bind with the impurities and settle to the bottom, and then decanting or siphoning the pure water off the top. The entire process is actually quite involved, so the resultant drinkable water would still be a pretty precious commodity.

"This technique does not represent a total solution to the threat of waterborne disease," stated Michael Lea, one of the Current Protocols authors.

However, there is the possibility that thousands of 21st century families could find themselves liberated from what should now be universally seen as 19th century causes of death and disease. This is particularly mind-boggling when you think it might all come down to one incredibly useful tree.