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# VEPACHEDU EDUCATIONAL FOUNDATION

## The Telangana Science Journal

Health and Nutrition

[TIACS-subscribe@yahoogroups.com](mailto:TIACS-subscribe@yahoogroups.com) (The Indian American Chemical Society)

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### Fat Causes Alzheimer's

A hormone derived from visceral fat called adiponectin may play a role as a risk factor for development of all-cause dementia and Alzheimer disease (AD) in women, according to a study published Online First by the *Archives of Neurology*. The number of people affected by dementia worldwide is estimated to double over the next 20 years from the current number of about 36 million people, the authors provide as background information in the article. AD is the most common form of dementia. The authors write that data suggest an association between insulin resistance and inflammation, hallmarks for type 2 diabetes, and development of dementia. <http://medicalxpress.com/news/2012-01-potential-factor-dementia-alzheimer-disease.html>

A clear association between obesity and pain -- with higher rates of pain identified in the heaviest individuals -- was found in a study of more than one million Americans published January 19 in the online edition of *Obesity*.

### Stroke and Heart Disease Risks

A New Northwestern Medicine research in the *New England Journal of Medicine* shows a young or middle-aged adult who is at low risk in the short term may be at very high risk in the long term -- if he or she has just one or two risk factors such as higher than optimal cholesterol or blood pressure levels. This is the first study to examine the lifetime risk of heart disease in white and black men and women. The risk-factor profile was considered optimal when a participant had a total cholesterol level of less than 180 milligrams per deciliter and untreated blood pressure of less than 120 over less than 80, was a nonsmoker and did not have diabetes.

- Men who are 45 years old and have all risk factors at optimal levels have a 1.4 percent risk of having a heart attack or stroke or other form of death from heart disease while having two or more risk factors hike the risk to 49.5 percent.
- For 45-year-old women with all risk factors being optimal, the chance of having a heart attack or stroke in their lifetimes is 4.1 percent while having two or more risk factors boost it to 30.7 percent.

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- Women have a higher risk than men for a stroke over their lifetimes but a lower risk for a heart attack.
- African-Americans have higher risk factors such as more hypertension and diabetes than whites, but because they also tend to die at younger ages, their lifetime risk of having a heart attack or stroke ends up being the same as whites.

This study underscores the importance of lifestyle such as diet, exercise and smoking & alcohol cessation and all the lifestyle patterns that are important in reducing the development of the risk factors.

### Poor Sleep Causes Obesity

Poor sleep habits can affect people's risk of becoming overweight in the long run. The findings are published in The Journal of Clinical Endocrinology and Metabolism. After a night of total sleep loss, subjects showed a high level of activation in an area of the brain that is involved in a desire to eat. Insufficient sleep is a growing problem in modern society. The results may explain why poor sleep habits can affect people's risk to gain weight in the long run. It may therefore be important to sleep about eight hours every night to maintain a stable and healthy body weight.

<http://www.uu.se/en/news/news-document/?id=1580&area=2,3,16&typ=pm&na=&lang=en>

### Exercise Trumps Medicine

Spinal manipulation (with limited light soft-tissue massage) and home exercise may relieve neck pain better than medicines (such as anti-inflammatory drugs ibuprofen, narcotics and muscle relaxants), new research suggests in the journal *Annals of Internal Medicine*. The study lasted 12 weeks. By the end, 82% of the spinal manipulation group reported that their pain was reduced by at least half. This compares with 69% of those on medicines and 77% of those who did home exercises. At least 30% of the spinal manipulation and exercise groups said all of their pain was gone. About 13% of the medicine group reported no pain. After a year, pain was gone for 27% of those who had spinal manipulation and 37% of those who did exercises. About 17% of the medicine group reported no pain. It's estimated that 75% of adults will suffer with major neck pain at some point.

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According to a study published in the European Heart Journal, Physical activity during both work and leisure time appears to significantly lower the risk of heart attack, whether a person lives in Canada or Colombia, in Poland or Pakistan. The research, a sub-analysis of a Canadian-led study of more than 29,000 subjects in 52 countries on six continents, also found that owning both a car and TV upped the risk of having a heart attack even more in low- and middle-income nations. Staying physically fit throughout life may be one of the easiest, cheapest and most effective ways to avoid the coronary care unit.

Statistics show that nearly one-third of all Americans are sedentary during the winter months. To reduce the chances of this happening to you, make a point to seek out a fitness program that piques your curiosity. Heart problems, stress fractures and tendonitis are more common for people who try to pick up where they left off with their exercise routine after a winter of inactivity. Heart attacks are particularly common in sedentary men and women who engage in sudden activity such as shoveling snow.

In the cold, arteries in the heart constrict and blood pressure rises, significantly increasing heart attack risk, especially in the elderly and those with cardiovascular disease. Reduced amounts of sunlight associated with winter can trigger depression in some people, which may also increase heart attack risk. When exercising in the cold, dress appropriately, pace yourself, stay hydrated, and listen to your body. Ask your doctor for guidelines before beginning an exercise program, and if you experience pain, excess sweating, shortness of breath, nausea and/or lightheadedness, stop immediately and seek medical attention.

Regular exercise and a healthier diet often go hand in hand. Studies have shown that individuals who are physically active feel better about themselves, are more motivated and generally much happier than those who are inactive. This is because exercise is a powerful antidepressant, helping to normalize brain chemistry, restore mental and emotional balance, improve sleep quality and calm nerves.

### Omega - 3 Fatty Acids

Older adults with high levels of omega-3 fatty acids and vitamins B, C, D and E in their blood performed better on certain measures of thinking abilities, and also tended to have larger brain volume, a new study finds. Seniors with high levels of trans fats in their blood fared worse on certain thinking tests than those with lower levels of the unhealthy fats, and also had more brain shrinkage. Omega -3 fatty acids are found

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in spinach, Indian spinach (bacchali), purselane (verdolaga), flax, urad (balckgram), walnuts etc. Omega-3 fatty acids are associated with better executive function and with fewer changes to the white matter of the brain, but there was no association between omega-3s and any of the other measures of mental abilities. "Executive function" is a term used to describe higher level thinking involving planning, attention and problem solving. In this case, seniors were asked to do an exercise that involved matching the number 1 with the letter A, the number 2 with B, and so on, which shows flexibility in thought.

### Top Killers in US

The top 15 causes of death in the U.S. in 2010:

1. Heart disease
2. Cancer
3. Chronic lower respiratory diseases
4. Stroke/disease of blood vessels in the brain
5. Accidents
6. Alzheimer's disease
7. Diabetes
8. Kidney disease
9. Flu and pneumonia
10. Suicide
11. Septicemia (blood infections)
12. Chronic liver disease and cirrhosis
13. High blood pressure
14. Parkinson's disease
15. Pneumonitis

CDC report: <http://www.cdc.gov/nchs/>

### Grapes

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Results from a new study published in *Free Radical Biology and Medicine* suggest that the antioxidant actions of grapes may be responsible for slowing or helping prevent the onset of age-related macular degeneration (AMD), a progressive eye condition, leading to the deterioration of the center of the retina, called the macula. It is the leading cause of blindness in the elderly. Aging of the retina is associated with increased levels of oxidative damage, and oxidative stress is thought to play a pivotal role in the development of AMD. [http://www.eurekalert.org/pub\\_releases/2012-01/fi-gmh011112.php](http://www.eurekalert.org/pub_releases/2012-01/fi-gmh011112.php)

### Alcoholism

Scientists at [The Scripps Research Institute](#) have discovered an endogenous anti-stress peptide in the brain that is capable of preventing and even reversing some of the cellular effects of alcohol dependence. The study was published online by *Biological Psychiatry*. Alcoholism is a complex disorder with many contributing factors, one of which is stress. The stress peptide the researchers studied, corticotropin-releasing factor (CRF), is largely responsible for the transition from moderated alcohol use to alcohol dependence. Nociceptin, the anti-stress peptide, is structurally similar to endogenous opioids and can prevent and even reverse some of the effects of alcohol. The two peptides both demonstrate their effects within the amygdala, the part of the brain associated with the heightened anxiety and excessive drinking seen in alcohol dependence. CRF stimulates the release of the inhibitory neurotransmitter gamma-amino butyric acid (GABA) by neurons in the central amygdala, and nociceptin inhibits the release. <http://www.drugdiscoverynews.com/index.php?newsarticle=5725>

### Workaholism and Depression

The odds of a major depressive episode are more than double for those working 11 or more hours a day compared to those working seven to eight hours a day, according to a report published in the Jan. 25 issue of the online journal *PLoS ONE*. This correlation was not affected when the analysis was adjusted for various possible confounders, including socio-demographics, lifestyle, and work-related factors.

### World's Largest Biometric Database

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This month India's unique identity (UID) scheme will enroll its 200 millionth member, having had almost none only a year ago. By the end of this year, says Nandan Nilekani, a former software mogul who runs the project, the tally by the year's end could stand at 400m, a third of all Indians. The scheme is voluntary, but the poor are visibly enthusiastic about it. Long lines wait patiently in the heat to have their fingerprints and irises scanned and entered into what has swiftly become the world's largest biometric database. The goal, says Mr Nilekani, is to help India cope with the past decade's expansion of welfare provision, the fastest in its history: "it is essentially about better public services." <http://www.economist.com/node/21542814>

#### Testicles for Men in Need

Researchers in California hope to become the first in the world to build an artificial testicle that produces human sperm. Such a device could allow infertile men to conceive children. Unlike a non-sperm-producing prosthesis — a saline-filled implant for men missing a testicle — the device will not be designed to resemble a testicle. It will most closely resemble a cylindrical bag a few inches long. <http://www.foxnews.com/health/2012/01/19/artificial-testicle-could-treat-male-infertility/#ixzz1k75po4cI>

#### Caffeine

Estrogen is the reproductive hormone produced by the ovaries. Asian women who consumed an average of 200 milligrams or more of caffeine a day (equivalent to about two cups of coffee) had elevated estrogen levels compared to women who consumed less. But white women who consumed the same amount of caffeine had slightly lower estrogen levels than women who consumed less. Black women who consumed 200 or more milligrams of caffeine daily had elevated estrogen levels, but this finding was not statistically significant.

The caffeine consumed by the women in the study came from any of these sources: coffee, black tea, green tea and caffeinated soda. The findings differed slightly when the researchers considered the source of caffeine individually. Consuming 200 milligrams of caffeine from coffee mirrored the overall findings. Consumption of more than one cup each day of caffeinated soda or green tea was associated with higher

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estrogen in all three groups of women, according to the study published online in the February issue of the *American Journal of Clinical Nutrition*.

#### Greens in Food

A fresh look at past research concludes that people who eat lots of greens and other foods rich in magnesium have fewer strokes -- a finding that supports current diet guidelines. The results suggest that people should eat a healthy diet with magnesium-rich foods such as green leafy vegetables, nuts, beans and whole grains. *American Journal of Clinical Nutrition*, online December 28, 2011. <http://www.healthnews.com/en/news/Magnesium-rich-diet-tied-to-lower-stroke-risk/2PDIap4Kj1WgIv34mbiCKa/>

A recent study at Oregon State University published in the journal *Food and Chemical Toxicology* found that the chlorophyll in green vegetables offers protection against cancer when tested against the modest carcinogen exposure levels most likely to be found in the environment. <http://www.sciencedaily.com/releases/2012/01/120112142303.htm>

#### **Recipes**

##### **Spinach salad recipe with beets and oranges**

Ingredients: 1/2 cup cider vinegar; 1/2 cup sherry vinegar; 2 ounces maple syrup; 2 Tbsp shallots, minced; 1/4 tsp crushed black pepper; 1/4 tsp ground coriander; pinch dry mustard; 1/4 tsp ground fenugreek; 6 ounces canola oil; 10 ounces olive oil; 3 tbsp chives, sliced thin; 3 cups baby spinach, washed; 3 oranges, sectioned and peeled; 10 golf-ball sized beets; 2 Tbsp vegetable or canola oil.

Preparation:

For the vinaigrette dressing: In a large saucepan, combine the cider vinegar, sherry vinegar, maple syrup, shallots, black pepper, coriander, dry mustard, and fenugreek. Bring to a boil. Reduce the heat and simmer

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until reduced by one-third. Remove from the heat and chill. Once chilled, purée in a blender, while slowly adding the canola and the olive oils. Strain, then add the chives.

For the roasted beets: Pre-heat oven to 400 degrees. Toss beets with enough vegetable or canola oil sufficient to coat the beets. Roast beets until soft (approx 45 minutes). Peel and chill.

To assemble the salad: Slice the cooled beets and arrange on a plate with the orange slices and spinach then drizzle with the maple sherry vinaigrette. <http://vegetarian.about.com/od/vegetarianandvegansalads/r/Spinach-beet-salad-Recipe.htm?nl=1>

*Notice: This material contains only general descriptions and is not a solicitation to sell any insurance product or security, nor is it intended as any financial, tax, medical or health care advice. For information about specific needs or situations, contact your financial, tax agent or physician.*

*Source: The primary sources cited above, New York Times (NYT), Washington Post (WP), Mercury News, Bayarea.com, Chicago Tribune, USA Today, Intellihealthnews, Deccan Chronicle (DC), the Hindu, Hindustan Times, Times of India, AP, Reuters, AFP, womenfitness.net, about.com etc.*

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**Om! Asatoma Sadgamaya, Tamasoma Jyotirgamaya, Mrityorma Amritamgamaya, Om Shantih, Shantih, Shantih!**

**(Aum! Lead the world from wrong path to the right path, from ignorance to knowledge, from mortality to immortality, and peace!)**

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