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VEPACHEDU EDUCATIONAL FOUNDATION

The Telangana Science Journal

Health and Nutrition

TIACS-subscribe@yahoo.com (The Indian American Chemical Society)

Chief Editor: Dr. Sreenivasarao Vepachedu

Editor: Miss Krishna Claudia Vepachedu

Associate Editor: Dr. Venkateswara Rao Karuparthu

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Spirituality

Made entirely of gray matter and distinguished by its characteristic folds, the cerebral cortex is the brain's outermost layer covering the hemispheres. Researchers have found that the importance of religion or spirituality to individuals may be linked to the thickness of their cerebral cortices. According to the authors of the study published January in *JAMA Psychology*, the importance of religion and/or spirituality to a person (but not frequency of attendance in a house of worship) was associated with thicker cortices in the left and right parietal and occipital regions, the mesial frontal lobe of the right hemisphere, and the cuneus and precuneus in the left hemisphere. Significantly, this relationship between spiritual importance and cortex thickness was observed to be strongest amongst those at high risk of depression.

<http://www.medicaldaily.com/where-god-located-brain-importance-religion-related-thickness-cerebral-cortex-266043>

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Vitamin D

New research has found that children are likely to have stronger muscles if their mothers had a higher level of vitamin D in their body during pregnancy. Lower vitamin D status has previously been linked to reduced muscle strength in adults and children. <http://www.futurity.org/kids-muscle-strength-linked-vitamin-d-moms/>

Language

According to a study, published in *Developmental Psychology*, infants as young as 13 months old understood that people from different linguistic communities use different words to refer to the same objects and that they do not use words in the same ways. <http://medicalxpress.com/news/2014-01-babies-language-differences.html>

Sleep

Recent research claims that the researchers' synaptic homeostasis hypothesis of sleep or "SHY" challenges the theory that sleep strengthens brain connections. The SHY hypothesis, which takes into account years of evidence from both human and animal studies, says that sleep is important because it weakens the connections among brain cells to save energy, avoid cellular stress, and maintain the ability of neurons to selectively respond to stimuli. The research claims that sleep is the price the brain pays for learning and memory. During waking hours, learning strengthens synaptic connections throughout the brain, in turn increasing the need for energy and saturating the brain with new information. Sleep helps the brain integrate newly learned material with consolidated memories so that it can begin anew the next day. According to the study, sleep helps the brain renormalize synaptic strength based off of comprehensive sampling of its overall knowledge of the environment, rather than being biased by the particular inputs of any specific waking day. http://www.eurekalert.org/pub_releases/2014-01/uow-she010914.php

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Drinking

A recent study claims that middle aged men who consume more than two alcoholic drinks per day may speed up their memory loss later on in life by up to six years. The study, published in the journal *Neurology*, said that there were no differences in memory or mental function between non-drinkers and those who drank less than two drinks -20 grams- per day. In the study, over 5,000 middle-aged men were interviewed about their drinking habits three times over a period of 10 years. Then, beginning at an average age of 56, they underwent memory and other cognitive tests. These tests were repeated twice over the next 10 years. The study focused on middle-aged participants and suggests that drinking is associated with a faster decline in all areas of cognitive function in men. Men who drank 36 grams of alcohol or more per day saw the steepest declines in their memory and brain function.

<http://www.google.com/hostednews/afp/article/ALeqM5jOzYF5AdDbh4EGQgEAgg4pMNR1KQ?docId=10ccaef8-0a5a-40d4-8c89-3a16679b8cb9>

DDT

Scientists have discovered a link between DDT and Alzheimer's disease. In a small but intriguing study, researchers found that, on average, people with Alzheimer's disease had more of the DDT metabolite DDE in their blood serum than a control group in a similar age range. Researchers say that DDE lasts in the body for a number of years. Looking at DDE levels is one way to determine the amount of DDT exposure in a person's lifetime, as well as the amount of DDE in their environment. The average amount of DDE in the serum of the 86 people in the Alzheimer's group was four times greater than the average amount in the control group of 79. The findings were published in the journal *JAMA Neurology*.

<http://www.chicagotribune.com/health/la-sci-sn-ddt-alzheimers-link-20140128,0,466840.story>

Alzheimer's

A recent study has found that people with unbalanced cholesterol levels have higher levels of amyloid plaque deposits in the brain, which may increase the risk of Alzheimer's disease. The study shows that both higher levels of HDL (good) and lower levels of LDL (bad) in the bloodstream are associated with

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lower levels of amyloid plaque deposits in the brain. Unhealthy patterns of cholesterol could be directly causing the higher levels of amyloid that are known to contribute to Alzheimer's the same way that such patterns promote heart disease. An analysis of PET scans showed that people with higher fasting levels of LDL and lower levels of HDL generally had a greater brain amyloid.

<http://www.hngn.com/articles/20834/20131231/unbalanced-cholesterol-levels-increase-risk-alzheimers-disease.htm>

Did you know that older women with high levels of the hormone estrogen may be at a greater risk for dementia, especially if they also have diabetes? Estrogen plus progestin therapy increased the risk for probable dementia in postmenopausal women aged 65 years or older. In addition, estrogen plus progestin therapy did not prevent mild cognitive impairment in these women, as hoped. These findings, coupled with previously reported WHI data, support the conclusion that the risks of estrogen plus progestin outweigh the benefits.

Approximately 10% of persons older than 65 years and about 50% of those older than 85 years have Alzheimer disease (AD). At present, this represents approximately 4 million persons in the United States, and that number is projected to increase to 14 million by the year 2040, new research suggests.

Read more at http://www.philly.com/philly/health/mental-health/HealthDay684324_20140129_High_Estrogen_Levels_Plus_Diabetes_May_Boost_Dementia_Risk.html#o7ufs1IyeZYwIGpS.99

Meditation

On the list of ways in which meditation appears to benefit the brain, depression treatment may be the latest to gain scientific backing. A new review study in the *Journal of the American Medical Association* (JAMA) *Internal Medicine*, finds that mindfulness meditation may rival antidepressants in easing the symptoms of depression. The research found that, while mindfulness meditation may not cure all, when it comes to the treatment of depression, anxiety, and pain, the practice may be just as effective as medication. <http://www.forbes.com/sites/alicegwalton/2014/01/07/for-depression-treatment-meditation-might-rival-medication/>

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Exercise

Research has shown that exercise lowers mental and physical stress levels, but few studies have focused on whether this stress reduction helps to better manage work-life balance. Those who exercised regularly seemed to experience an increased feeling of competence that carried over into work and home roles. The productivity and mental focus you're going to get out of 30 minutes a day workout is going to far exceed what you put into it, from a work and family perspective. <http://www.webmd.com/fitness-exercise/guide/get-regular-exercise-for-mental-health-topic-overview>

Exercises for strengthening your calves

1. Double-Leg Calf Raise. Calf raises are the classic calf-strengthening exercise. They use your body weight to strengthen and tone the gastrocnemius and soleus.

Starting position: Stand near a wall for balance. Place your feet hip-width apart, and make sure your ankles, knees, and hips are in vertical alignment to protect your joints.

Action: Press down into the balls of both feet to raise your body upward. Keep your abdominal muscles pulled in so that you move straight upward, rather than shifting your body forward or backward.

Variations: Start standing on a stair, phone book, or solid wood block so you have to press up higher than when starting on flat feet. Keeping the balls of your feet on the stair, lower your heels as far as you can toward the floor. Then press your heels up as high as you can.

Add weight to add intensity. Repeat the exercise holding a dumbbell or other weight in one hand. Keep your hand on a wall for balance.

2. Single-Leg Calf Raise. You can increase the intensity of the calf raise by doing it on one leg. That way you can strengthen your calf muscle even more.

Starting position: Stand on one leg near a wall for balance with the other leg bent behind you. Be sure the ankle, knee, and hip of the leg you're working are in vertical alignment to protect the joints.

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Action: Press down into the ball of your foot to raise your body upward. Keep your abdominal muscles pulled in so you avoid shifting forward or backward.

Variations: Start standing on a stair or solid wood block. Keeping the ball of your foot on the stair, let your heel drop down below the step. Then press up as high as you can. Add weight to add intensity. Hold a dumbbell or other weight in one hand. Place the other hand on the wall for balance.

3. Seated Calf Raise. You can do this exercise at home or at the gym on a calf exercise machine. The exercise works both the gastrocnemius and soleus.

At home: Starting position: Sit on a firm, sturdy chair with your feet flat on the floor. Keep your knees aligned directly over your feet. Don't let your knees turn in or out. Sit tall on the chair so your spine is upright. http://www.webmd.com/fitness-exercise/guide/strengthening-calf-muscles?ecd=wnl_fit_013114&ctr=wnl-fit-013114_id-stry&mb=sl0u26bW4bX4A6f2oTmCQ%40HnVev1imbCifxQ3xyXZ4k%3d

<http://www.webmd.com/fitness-exercise/video/ab-exercises>

Roasted Eggplant & Feta Dip

Prep: 20 minutes | Cook: 20 minutes | Total Time: 40 minutes

Ingredients : 1 medium eggplant (about 1 pound); 2 tablespoons lemon juice; 1/4 cup extra-virgin olive oil; 1/2 cup crumbled feta cheese; 1/2 cup finely chopped red onion; 1 small red bell pepper, finely chopped; 1 small chile pepper, such as jalapeño, seeded and minced optional; 2 tablespoons chopped fresh basil; 1 tablespoon finely chopped flat-leaf parsley; 1/4 teaspoon cayenne pepper, or to taste; 1/4 teaspoon salt; pinch of sugar, optional;

Instructions: Position oven rack about 6 inches from the heat source; preheat broiler. Line a baking pan with foil. Place eggplant in the pan and poke a few holes all over it to vent steam. Broil the eggplant, turning with tongs every 5 minutes, until the skin is charred and a knife inserted into the dense flesh near the stem goes in easily, 14 to 18 minutes. Transfer to a cutting board until cool enough to handle. Put lemon juice in a medium bowl. Cut the eggplant in half lengthwise and scrape the flesh into the bowl, tossing with the lemon juice to help prevent discoloring. Add oil and stir with a fork until the oil is

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absorbed. (It should be a little chunky.) Stir in feta, onion, bell pepper, chile pepper (if using), basil, parsley, cayenne and salt. Taste and add sugar if needed.

http://www.webmd.com/food-recipes/roasted-eggplant-and-feta-dip?ecd=wnl_dab_013114&ctr=wnl-dab-013114_id-stry&mb=sl0u26bW4bX4A6f2oTmCQ%40HnVev1imbCifxQ3xyXZ4k%3d

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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