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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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### **1. Chocolate**

Dark chocolate helps restore flexibility to arteries while also preventing white blood cells from sticking to the walls of blood vessels. Both arterial stiffness and white blood cell adhesion are known factors that play a significant role in atherosclerosis. Dark chocolate consumption improves leukocyte adhesion factors and vascular function in overweight men, who have atherosclerosis, published in the March 2014

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issue of The FASEB Journal. Many people experience allergy and food intolerance symptoms after eating chocolate. Chocolates often contain ingredients such as sugar, milk, nuts etc., and packing lot of calories, may cause allergies and metabolic disorders.

## 2. Brest Feeding

Research has shown that children who were breastfed score higher on IQ tests and perform better in school. According to an analysis in the March issue of The Journal of Pediatrics, improvements in sensitivity to emotional cues and time reading to children could yield 2-3 months' worth of brain development by age 4 (as measured by math and reading readiness assessments).

<http://news.byu.edu/archive14-feb-emotionalparenting.aspx>.

## 3. Male Domination in Autism

If you didn't already know, a brand new study tells you that males are prone to autism due to genetic mutations. It has long been known that men have a greater risk for developing autism and other neurodevelopmental disorders, compared to women. While boys have a one in 52 chance of developing autism spectrum disorders (ASD), the risk is only one in 252 for girls, according to the U.S. Centers for Disease Control and Prevention (CDC). Interestingly, the new study published on February 27th in the American Journal of Human Genetics reveals that 60 percent of the severe genetic mutations were coming from a child's mother, as opposed to 40 percent that came from the father. Overall, females function a lot better than males with a similar mutation affecting brain development, indicating that the mutations that affect males do not affect females in the same way or simply experts fail to recognize symptoms of autism in girls.

## 4. Multiple Sclerosis, Leptins and Hormones

Leptin promotes inflammatory responses in the body, which could potentially explain the link between obesity and MS. A new study, to be presented at the American Academy of Neurology's 66th Annual Meeting in Philadelphia, April 26 to May 3, 2014, found that people who are obese at age 20 are twice as likely to develop MS later as people who are not obese. The study found that people with higher BMI levels also had higher levels of leptin, a hormone made by fat tissue that regulates weight, appetite and

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immune response. Another study found that a total of 29 percent of the women with MS and 24 percent of those without MS had used hormonal contraceptives for at least three months in the three years before symptoms began. The majority used estrogen/progestin combinations. Women who had used hormonal contraceptives were 35 percent more likely to develop MS than those who did not use them. Those who had used the contraceptives but had stopped at least one month before symptoms started were 50 percent more likely to develop MS, indicating that using hormonal contraceptives may be contributing at least in part to the rise in the rate of MS among women.

A new study provides evidence that obstructive sleep apnea (OSA) is highly prevalent in people with multiple sclerosis (MS), and it suggests that OSA may be a contributor to the fatigue that is one of the most common and debilitating symptoms of MS. The study results appear in the Feb. 15 issue of the Journal of Clinical Sleep Medicine.

## 5. Happiness

Genes influence every aspect of physiology, development, and adaptation of all living beings. Yet, our genes are not our destiny, because the environment, in which the life is placed, forces certain adaptations or mutations on the innate genetic makeup, resulting in the evolution of individual and species. One of our biological destinies is death and the other is birth, together these two destinies form a cyclical continuum in which the matter and energy together keep transforming each other. In this cyclical transformation process, we worry about our happiness during our sojourn in our ephemeral and transient life. We do not know what other life forms worry about, but we know that we worry about this and million other things during this sojourn.

Past studies have found that non-parents are happier than parents, despite the fact that our sole purpose seems to be the carriers of genes made up of a few elements such as carbon, nitrogen, oxygen and hydrogen through this sojourn. What is there to be happy or unhappy about? No wait, there is a new study in the Proceedings of the National Academy of Sciences that finds that after all said and done, there is no distinction between parents and non-parents in terms of happiness.

<http://www.pnas.org/content/early/2014/01/08/1311600111.abstract>

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Here is another tidbit, the longer hours men work, the healthier their wives are, according to a new study, published online in Social Forces, indicating our health is directly proportional to our wealth, and probably impact our happiness indirectly. The more, the merrier!

<http://sf.oxfordjournals.org/content/early/2013/12/30/sf.sot125.abstract>.

Apparently, it is not what and how much you have or eat, but how you balance it determines your happiness. In a nation that craves for extremes and quick fixes, whether that be losing weight or gaining wealth, only balance will sustain us for the long term. That was the gist of a conference on the theme of "Health and Wealth" last year in Sacramento, CA. Work and life aren't separated but rather one integrated journey, and that journey had better include of good balance of passionate and inspirational work, gratitude, self-love, inner awareness, good nutrition, fitness, generosity, service, and a whole lot of fun! If you want to be happy, healthy and wealthy, include all of these in your life in moderation and in balance.

[http://www.huffingtonpost.com/debbie-gisonni/how-to-find-balance\\_b\\_4013782.html#](http://www.huffingtonpost.com/debbie-gisonni/how-to-find-balance_b_4013782.html#). And a little bit of human freedom (in moderation) may go a long way, because it matters too. <http://www.forbes.com/sites/realspin/2013/01/07/when-it-comes-to-health-wealth-and-happiness-human-freedom-matters/>

Gallup measures happiness, or wellbeing, on a set of six sub-indexes, which individually examine life evaluation, emotional health, work environment, physical health, healthy behaviors, and access to basic necessities. Gallup [is out with its annual ranking of the happiest states in the U.S.](http://www.gallup.com/poll/167435/north-dakota-well-being-west-virginia-still-last.aspx), and this year North Dakota grabbed the top spot, taking the title from [longtime frontrunner Hawaii](http://www.gallup.com/poll/167435/north-dakota-well-being-west-virginia-still-last.aspx). <http://www.gallup.com/poll/167435/north-dakota-well-being-west-virginia-still-last.aspx>.

Finally, have a pet, and laugh at bit, if you want to be happy, but don't ever get bitten by a cat, <http://www.medicaldaily.com/why-are-cat-bites-linked-depression-2-logical-theories-and-somewhat-outrageous-one-269787>. If you're happy and you know it, then your face will surely show it. If you're happy and you know it, clap your hands, <http://kids.niehs.nih.gov/games/songs/childrens/happyandmid.htm>.

## 6. Calories and Diet

Common sense should dictate that excess consumption of calories can contribute to the disease, regardless of whether those calories came from fructose or other carbohydrates. However, the possible link to non-

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alcoholic fatty liver disease has become the main criticism against fructose among those who believe there is something unique about the fructose molecule or the way it is metabolized and blame it for the obesity epidemic. Non-alcoholic fatty liver disease is one cause of a fatty liver, occurring when fat is deposited in the liver. Unlike alcoholic liver disease, it is not due to excessive alcohol use. A meta-analysis of all available human trials published in the European Journal of Clinical Nutrition says fructose in and of itself is not to blame for the increase in non-alcoholic fatty liver disease. Fructose behaves no differently than glucose or refined starches. It is only when you consume excess calories in the form of fructose that you see a signal for harm but no more harm than if you consume excess calories as glucose. Fructose, which is naturally found in fruit, vegetables and honey, is a simple sugar that together with glucose forms sucrose, the basis of table sugar. It is also found in sucrose and high-fructose corn syrup, the two most common sweeteners in commercially prepared foods. A study published in the February issue of Current Opinion in Lipidology also found no benefit in replacing fructose with glucose in commercially prepared foods. That research again showed that when portion sizes and calories are the same, fructose does not cause any more harm than glucose. <http://medicalxpress.com/news/2014-01-fructose-glucose.html#inlRlv>

In addition to fructose, fruits contain various other ingredients that promote health. A team of volunteers ate half 2.2 pounds (a kilogram) of strawberries a day for a month to see whether it altered their blood parameters in any way. At the end of the treatment, their levels of bad cholesterol and triglycerides reduced significantly, published in the Journal of Nutritional Biochemistry, show that the total amount of cholesterol, the levels of low-density lipoproteins (LDL) and the quantity of triglycerides fell to 8.78%, 13.72% and 20.8% respectively. The high-density lipoprotein (HDL) remained unchanged. Eating strawberries also improved other parameters such as the general plasma lipid profile, antioxidant biomarkers (such as vitamin C or oxygen radical absorbance capacity), antihemolytic defences and platelet function. All parameters returned to their initial values 15 days after abandoning 'treatment' with strawberries. The research team confirmed in other studies that eating strawberries also protects against ultraviolet radiation, reduces the damage that alcohol can have on the gastric mucosa, strengthens erythrocytes, or red blood cells, and improves the antioxidant capacity of the blood.

<http://www.agenciasinc.es/en/News/Strawberries-lower-cholesterol>

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## 7. Memory

Your memory is a wily time traveler, plucking fragments of the present and inserting them into the past. But accuracy-wise, it's certainly no video camera. Instead, the memory rewrites the past with current information, updating your recollections with new experiences. Love at first sight, for example, is more likely a trick of your memory than a Hollywood-worthy moment. When you think back to when you met your current partner, you may recall this sense of love and euphoria, but chances are, you're projecting your current feelings back to the original encounter with this person. This the first study to show specifically how memory is faulty, and how it can insert things from the present into memories of the past when those memories are retrieved. The study shows the exact point in time when that incorrectly recalled information gets implanted into an existing memory. <http://medicalxpress.com/news/2014-02-memory-video-camera.html>

## 8. Risk

A new study correlating brain activity with how people make decisions suggests that when individuals engage in risky behavior, such as drunk driving or unsafe sex, it's probably not because their brains' desire, systems are too active, but because their self-control systems are not active enough. This might have implications for how health experts treat mental illness and addiction or how the legal system assesses a criminal's likelihood of committing another crime. Researchers analyzed data from 108 subjects who sat in a magnetic resonance imaging (MRI) scanner while playing a video game that simulates risk-taking. The researchers used specialized software to look for patterns of activity across the whole brain that preceded a person's making a risky choice or a safe choice in one set of subjects. Then they asked the software to predict what other subjects would choose during the game based solely on their brain activity. The software accurately predicted people's choices 71 percent of the time. The patterns were reliable enough that they could not only predict what would happen in an additional test on the same person, but on people they hadn't tested before. <http://scienceblog.com/70194/brain-scans-show-we-take-risks-because-we-cant-stop-ourselves/#6XYGdWVfKvkKUpQe.99>

## 9. Senses and Pain Threshold

It is well known that life style choices such as diet, smoking, drinking and exposure to pollution all have effects on genes. A study of identical twins suggests that epigenetic changes, i.e., environmentally triggered chemical alterations that affect your genes, may alter pain threshold. This implies that genetic mutations as the addition of one or more methyl groups to a gene, may account for some differences in

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how our senses operate. <http://www.newscientist.com/article/dn24998-ouch-pain-threshold-genes-amplified-by-lifestyle.html#.UvONorSg5pg>

According to a recent study, minimizing a person's sight for as little as a week may help improve the brain's ability to process hearing. Music experts often cite blind musicians Stevie Wonder and Ray Charles as examples of how a lack of sight can heighten or enhance hearing, researchers said. They examined the relationship between vision and hearing in the brain and found that simulated blindness can help revive hearing. The researchers conducted experiments on mice to find how neural connections in the brain area that manages vision and hearing work together to support each sense. These findings could potentially help those experiencing hearing loss regain more use of that sense. According to the study, by temporarily preventing vision, scientists may be able to engage the adult brain to change the circuit to better process sound, which could be helpful in potentially recovering sound perception in patients being treated for hearing loss-- such as those with cochlear implants.

<http://www.financialexpress.com/news/short-stay-in-darkness-may-heal-hearing-woes/1223677>.

A new study has found that we prefer voices that are similar to our own because they convey a soothing sense of community and social belongingness. While previous research has suggested that we prefer voices that sound like they are coming from smaller women or bigger men, the new study published in the journal PLOS ONE identifies a variety of other acoustic signals that we find appealing.

<http://www.sciencedaily.com/releases/2014/02/140219174850.htm>.

Another study shows that exercise may have a protective effect against blindness related to retinal degeneration and disease, providing a possible strategy to delay conditions like age-related macular degeneration. Moderate daily exercise can stave off age-related macular degeneration and other types of retinal degeneration in animal models of the condition. <http://www.medicaldaily.com/prevent-macular-degeneration-exercise-one-hour-day-treadmill-could-prevent-blindness-causing-disease>.

## 10. Mental Health and Addiction

A new study suggests that quitting smoking may be as good for your mental health as it is for your physical health. Those who had an addiction or other mental health problems were less likely to have

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those issues if they'd quit smoking. 40 percent of the participants had mood or anxiety disorders or a history of these conditions, 50 percent had alcohol problems, and 24 percent had drug problems. 29 percent of those who'd quit smoking had mood disorders, compared with 42 percent of those who still smoked. Alcohol problems were reported by 18 percent of quitters and 28 percent of ongoing smokers, and drug problems affected 5 percent of quitters and 16 percent of those who still smoked. The study's findings were released online in the journal *Psychological Medicine*. <http://www.webmd.com/smoking-cessation/news/20140212/quitting-smoking-linked-to-better-mental-health-in-study>.

## 11. Love and Reward

Romantic love tends to light up the same reward areas of the brain that are activated by cocaine. But new research shows that selfless love—a deep and genuine wish for the happiness of others—actually turns off the brain's reward centers. As reported in the journal *Brain and Behavior*, the neurological boundaries between these two types of love become clear in fMRI scans of experienced meditators. The reward centers of the brain that are strongly activated by a lover's face (or a picture of cocaine) are almost completely turned off when a meditator is instructed to silently repeat sayings such as “May all beings be happy.” Such mindfulness meditations are a staple of Indian religions such as Vaishnavism, Shaivism, Buddhism, Jainism, Sikhism, etc.(collectively Hinduism) and are now commonly practiced in Western stress reduction programs. The tranquility of this selfless love for others exemplified in such religious figures such as Mother Teresa or the Dalai Llama is diametrically opposed to the anxiety caused by a lovers' quarrel or extended separation. And it carries its own rewards. <http://www.futurity.org/selfless-love-turns-brains-need-reward/>.

## 12. Reality and Delusion

New research has delved into the reasons why some people are unable to break free of their delusions, despite overwhelming evidence explaining the delusion isn't real. A study published in the journal *Frontiers in Psychology* says dreams and delusions have a common link – they are associated with faulty "reality testing" in the brain's higher order cognitive systems.

[http://www.eurekalert.org/pub\\_releases/2014-02/uoa-ddv021914.php](http://www.eurekalert.org/pub_releases/2014-02/uoa-ddv021914.php).

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## 13. Disability

If you are 60 and older, every additional hour a day you spend sitting is linked to doubling the risk of being disabled, regardless of how much moderate exercise you get, reports a new study. The study shows sedentary behavior is its own risk factor for disability, separate from lack of moderate vigorous physical activity. In fact, sedentary behavior is almost as strong a risk factor for disability as lack of moderate exercise. <http://www.sciencedaily.com/releases/2014/02/140219124728.htm>.

## 14. Grey Matter

Researchers have found a gene linking intelligence to the thickness of "grey matter" in the brain, causing learning difficulties. Scientists analyzed DNA samples and brain scans from healthy 14-year-olds and gave them a series of tests to establish their verbal and non-verbal intelligence. The researchers looked at the cerebral cortex - the outermost layer of the brain that is also known as "grey matter" and plays a key role in memory, attention, perceptual awareness, thought, language and consciousness. They then analyzed more than 54,000 genetic variants possibly involved in brain development and found that, on average, teenagers with a particular gene variant had a thinner cortex in the left half of their brains and performed less well on tests for intellectual ability. <http://www.reuters.com/article/2014/02/11/us-intelligence-idUSBREA1A0CR20140211>.

## 15. Vegetarianism

A vegetarian diet may help lower blood pressure according to researchers. The researchers suggested that a vegetarian diet could be an alternative to treatment with drugs for hypertension, which is a risk factor for heart disease and other problems. About a third of Americans have high blood pressure. Seven clinical trials, with 311 participants, and 32 observational studies, including 21,604 people, were analyzed by researchers. Blood pressure is usually expressed in terms of the systolic pressure over diastolic pressure and is measured in millimeters of mercury. For most people, a reading of 120/80 or less is considered normal. In the study, published in the Journal of the American Medical Assn. Internal Medicine, the analysis indicated a systolic difference of 4.8 mm of mercury lower for vegetarians than for omnivores in the clinical, or controlled trials, and 6.9 mm in the observational studies, in which people chose their diets. For the diastolic measure, the difference was 2.2 mm and 4.7 mm, respectively. Those differences are similar to those often seen with such modifications as changing to a low-salt diet or losing

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about 10 pounds, the researchers said. And, they added, they're about half the difference found with medications. <http://my.chicagotribune.com/#section/504/article/p2p-79429248/>.

*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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