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VEPACHEDU EDUCATIONAL FOUNDATION

## The Telangana Science Journal

Health and Nutrition

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### **Diabetes Toll**

A 50-year-old with diabetes dies six years sooner than someone without the disease, and not just from a heart attack or a stroke, new research suggests. The large international effort to measure diabetes' toll found the disease also raises the risk of dying prematurely from a host of other ailments, even breast cancer and pneumonia. Long-term smoking shortens life by 10 years.

Diabetes, the seventh leading cause of death in the U.S., affects about 26 million Americans, or 8 percent, including 7 million who haven't been diagnosed. Most in the study were thought to have the most common kind -- Type 2 -- which occurs when the body makes too little insulin or cannot use what it does make to regulate blood sugar. High blood sugar can damage nerves and blood vessels, and is a major cause of heart disease.

American adults have a significantly higher rate of obesity than their neighbors to the north, a new study says. About 24 percent of Canadians are obese compared to more than 34 percent of Americans, according to the U.S. Centers for Disease Control and Prevention study. Researchers looked at height and

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5112 *Kali Era*, *Vikruthi Year*, *Phalguna month*  
2068 *Vikramarka Era*, *Vikruthi Year*, *Phalguna month*  
1932 *Salivahana Era*, *Vikruthi Year*, *Phalguna month*  
2011 AD, *March*

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weight data taken in surveys in both countries during 2007-09. The two countries have different racial demographics. The United States has more black and Hispanic people, and both have higher rates of obesity. But even looking solely at white people, there was still a big difference -- a 26 percent obesity rate in Canada compared to 33 percent in the United States. In children there was little difference. The childhood obesity rate was 15.5 percent in the United States and 12 percent in Canada, but the difference was not statistically significant.

### Whole Grains

Along with other healthy lifestyles, such as low sodium intake and physical activity, getting whole grain can cut down the risk of developing chronic hypertension. There has long been evidence that whole grain intake can lower blood pressure fairly acutely, and it is associated with lower blood pressure over time. Another factor is that eating more whole grains means eating less of other foods that contribute to the disease. Researchers at Beth Israel Deaconess Medical Center in Boston and the VA Boston Healthcare System found about a 20 percent decreased risk of developing hypertension in those who consumed whole grain breakfast cereals at least seven times a week.

### Berries

Berries are nutritional powerhouses whether they're eaten fresh, frozen, dried, freeze-dried or powdered. Berries are naturally high in antioxidants. Antioxidants are compounds that may slow cancer growth. Darker berries have greater phytochemical content, are likely to provide more health benefits. Health benefits depend on a variety of factors such as number of berries consumed, period of time, your dietary pattern and other risk factors for disease.

Acai (aah-sigh-ee) berries are round, purple-black fruits, are packed with antioxidants, essential fatty acids and fiber. It also contains iron, calcium fiber and heart-healthy fats. The antioxidant power depends on how the berry is eaten. Straight acai has the most nutrients, but it's not available in the U.S. Because fresh acai is only available in the Amazon rainforest of Brazil, look for it in juice or pulp form or powder.

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Just two tablespoons of powder meets the suggested daily dose of antioxidants. Heating it may diminish some of its antioxidants.

Blueberries are packed with antioxidant power, which comes from high levels of anthocyanins, a type of flavonoid or plant compound. They also contain significant amounts of micronutrients and fiber. Blueberries have been shown to improve insulin sensitivity in overweight men and women, and lower blood pressure levels in pre-diabetic men and women without raising blood sugar. The anthocyanins in blueberries have been shown in several studies to cause blood vessels to relax and increase production of nitric oxide that helps in maintaining normal blood pressure in animals. The resveratrol found in blueberries (also found in grapes) may help prevent macular degeneration, a disease of the retina and the leading cause of blindness in people older than 65, according to vision researchers at Washington University School of Medicine in St. Louis. Like the cranberry, blueberries might help prevent bladder infections by preventing bacteria from attaching to the walls of the bladder, according to the National Institutes of Health.

Billberries, a close cousin of the blueberry, have been shown to promote eye health and protect against glaucoma and cataract progression.

Cranberries, close relatives of blueberries, have the same blue-red anthocyanin flavonoids, and is an excellent source of vitamin C and fiber, as well as a good source of manganese and copper. The compounds in cranberries called "proanthocyanidins" may prevent bacteria, such as E. coli, from clinging to the cells along the walls of the urinary tract and causing UT infection. Cranberries may reduce the ability of H. pylori bacteria to live in the stomach. H. Pylori causes ulcers and dental plaque. In cell cultures, cranberry compounds reduce the growth and proliferation of breast, prostate and colon tumor cells. Cranberry treatment reduces bladder cancer and lymphoma, animal studies suggest. Dried cranberries are high in calories, 370 per cup, due to added sugar. Bottled cranberry drinks and cranberry cocktails are usually loaded with added sugar. Drink it unsweetened; mix with half a glass of apple juice. Raspberries are a high-fiber powerhouse. They also have calcium, magnesium, phosphorus, potassium, vitamin C and bone-building vitamin K, and are a good source of several B vitamins, including folic acid

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and niacin. Raspberries have higher levels of ellagic acid, a powerful antioxidant and toxic to cancer cells. They may also be a natural treatment for arthritis, due to their high anthocyanin content.

Researchers showed black raspberries, which have antioxidant, anti-cancer and anti-inflammatory properties, can prevent also colorectal tumors in animal studies.

Strawberries is the only fruit to expose its seeds on the outside. Strawberries are an excellent source of vitamins C and K, dietary fiber, flavonoids (anthocyanidins) and the plant compound ellagic acid. They also contain calcium, magnesium, phosphorus and potassium. Strawberries are also potent antioxidants and have been shown to reduce cardiovascular risk factors in several animal and human studies, such as elevated blood pressure, hyperglycemia and inflammation. Supplementing with freeze dried strawberries may reduce lipid levels in people with metabolic syndrome. Strawberries can cause allergic reactions and are among the most heavily sprayed with pesticides and other agricultural chemicals.

### Omega-3 Oils

Incorporating more omega-3 fatty acids into the diet may decrease a woman's risk of age-related macular degeneration (AMD), researchers found. Women with the highest intake of eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) had a 38% lower risk of AMD than those with the lowest intake (95% CI 0.45 to 0.86, P=0.004), according to a report in the March 14 issue of Archives of Ophthalmology.

Speculated potential mechanisms by which omega-3s may lower the risk of AMD, include the fact that the fatty acids may modulate the inflammatory and immune processes thought to play a role in the pathogenesis of the condition.

Omega-3s are found in purselane (verdalago) and other vegetables, walntus and other nuts, urad dal and other legumes, and canola and flax oils.

### Vitamin B

Women may be less likely to develop premenstrual syndrome if they eat a diet rich in two types of B vitamins, a new study suggests. Women who consumed thiamine (B1) and riboflavin (B2) in their food significantly reduced their risk of PMS, the data suggested. Thiamine is found in fortified cereals, whole

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grains, beans and nuts, and researchers said eating two to three servings of thiamine-rich foods a day appeared to thwart PMS. Riboflavin is available in milk and green vegetables. Eating one to two servings of fortified cereal or six to seven servings of foods such as spinach, cow or soy milk, seemed to have a beneficial effect, the researchers *published recently online in the American Journal of Clinical Nutrition*.

### Nocebo Effect

Pessimism can override the effectiveness of even powerful treatments. This is the "nocebo" effect, the flip side, almost the evil twin of the placebo effect, the healing power of positive belief. Really? Could a gloomy outlook really harm? British and German researchers performed the most sophisticated study yet to tell. While the self-fulfilling prophecy of negative thinking isn't nearly as well studied, some scientists say it's time for doctors to start paying a lot more attention to their patients' outlook.

### Sex Can Kill You

Sudden bursts of moderate to intense physical activity, such as having sex, significantly increase the risk of having a heart attack, especially in people who do not get regular exercise, according to U.S. researchers in study appears in the Journal of the American Medical Association. The team analyzed data from 14 studies looking at the link between exercise, sex and the risk of heart attacks or sudden cardiac death -- a lethal heart rhythm that causes the heart to stop circulating blood. They found people are 3.5 times more likely to get a heart attack or have sudden cardiac death when they are exercising compared to when they are not. And they are 2.7 times more likely to get a heart attack when they are having sex or immediately afterward compared with when they are not. These findings do not apply to sudden cardiac death because there were no studies looking at the link between sex and cardiac death. If you take 10,000 people, each individual session of sexual activity per week can be associated with an increase of 1 to 2 cases of heart attack or sudden cardiac death per year.

### Birth Control

The past decade has seen the launch of the hormone patch and an insertable ring, both of which release constant, low-dose levels of estrogen and progestin. Even more recent additions are hormone shots and

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implanted hormone "sticks" that go in the arm and last for months or years at a time. Intrauterine devices, or IUDs, once primarily offered to women who had already given birth, are making a comeback and are being given to younger women. Even the old mainstays -- birth control pills and condoms -- have undergone major improvements in recent years, making them easier to use.

Even with the improvements, more than a dozen options available and with the abstinence, unplanned pregnancies still make up roughly half of all pregnancies in the United States. To increase further, Washington is cutting federal funds that provide low-income women with birth control, along with screening for cancer and sexually transmitted diseases.

-- Birth control pills are hormones taken to prevent ovulation. They must be taken daily. They cost about \$15 to \$50 a month.

-- Condoms are thin sheaths usually made of plastic or latex that cover the penis. They cost about \$1 each.

-- Intrauterine devices, or IUDs, are inserted into the uterus. They usually release hormones to prevent ovulation. They cost about \$400 to implant and can last for many years.

-- Birth control shots are hormone injections given in the arm every three months. They cost about \$50 per shot.

-- Vaginal rings are insertable, flexible rings that are left in the vagina for three weeks at a time. They release hormones to prevent ovulation. They cost about \$15 to \$70 a month.

-- Birth control patches are worn on the skin and release hormones. They cost about \$15 to \$70 a month.

<http://www.intelihealth.com/IH/ih/IH/EMIHC267/24479/22002/1394286.html?d=dmfICNNews>

### Self-Control

When you want to engage in good self-control, the best thing that you can do for yourself is set up your day so you exert your self-control resources toward that specific task you want to succeed at. People have a diminishable supply of energy that the body and mind use to engage in self-control. When people use this energy toward achieving one goal, they have less of it available to use toward achieving other goals. The ability to engage in self-control is determined by prior use of self-control, not by how much sleep one had the night before. The study, paid for in part by the U.S. Army, could have important implications.

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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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