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Nutrition Alert

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EDITOR'S NOTES:

The More Things Change

The old adage, "the more things change, the more they stay the same" seems to fit with nutrition research. As I've discussed before, nutrition is not an exact science. There always are studies to prove or disprove any topic. You must weigh the evidence, with each study representing one small thread in an overall tapestry. As you read the studies covered in each issue of *Nutrition Alert*, you'll notice patterns. For example, numerous studies reported in many issues of this newsletter over the past several years have repeatedly found that the Mediterranean diet lowers disease risk. That can be considered a nutrition truth at this point. On the other hand, the study reported in this issue showing that tomato juice helps people lose weight is speculation at best. We must wait to see what future studies find on that topic.

It's easy to be confused when hearing the latest fad disguised as diet news. Acai berries, then goji berries, followed by kale, and now green juice, coconut, and cauliflower are touted as super foods. Don't be fooled. No one food can make up for a diet otherwise laced with French fries, potato chips, and toaster pastries. It is the total diet that determines a person's health (along with daily exercise and other smart habits), not the food de jour that makes headlines. That advice hasn't changed in decades and is based on thousands of studies spanning half a century or more of research.

Some nutrition topics have been fine-tuned over the years. It's a no-brainer that the excessive amount of added sugar and refined grains Americans consume are not the best diet choices. We've known that for decades. However, the extent of the damage to our bodies, brains, lives, and longevity that come from eating a diet filled with this processed junk has become increasingly more clear with each decade. In fact, the link between some foods and disease and obesity rates, such as sweetened beverages, is so clear that for every ounce of those beverages a person consumes, the risk for health problems increases.

Some nutrition advice does change dramatically over time. Back in the 1970s, the only recognized role for vitamin D was aiding calcium absorption and deposition into bones. Now we know that every cell in the body has receptors for this fat-soluble vitamin, which means it is needed by all cells, from skin to heart, brain, liver, muscle, and more. No wonder the research continues to accumulate showing that vitamin D might help lower the risk for a variety of ills, from cancer to depression.

The omega-3 fats are another revolutionary nutrition topic. In the 1980s, researchers first suspected that these fats might lower heart disease risk. That was just the tip of the nutritional iceberg. Heart disease mirrors depression rates across countries, which led researchers in the 1990s to investigate the link between these fats and mood, mind, and memory. We need more research, but the current body of evidence weighs in that the two omega-3s in fatty fish, DHA and EPA, are likely essential fats for normal brain development and maintenance throughout life, starting at conception and lasting through the senior years.

I guess you could tweak that old adage just a bit to say, "the more things stay the same, the more some things change." But, they do it gradually and only when a wealth of research supports the change.

Elizabeth Somer, M.A.,R.D.



Elizabeth Somer

Antioxidant Supplements for Obesity?

According to researchers at McMaster University in Canada, obesity is not just being overweight. It is a metabolic disorder caused from the accumulation of excess dietary calories into visceral fat and the release of high concentrations of fat fragments, called free fatty acids, into various organs. Obesity is a state of chronic oxidative stress and low-grade inflammation. It often progresses to hyperglycemia, leading to type 2 diabetes. According to the researchers, there is credible evidence that supplementation with zinc, lipoic acid, carnitine, cinnamon, green tea, and possibly vitamins C and E is beneficial for obese patients. The evidence is weaker for omega-3 fats, coenzyme Q10, green coffee, resveratrol, and lycopene. The researchers conclude that, "... antioxidant supplements are not a panacea to compensate for a fast-food and video-game way of living, but antioxidant-rich foods are recommended as part of the lifestyle."

Abdali D, Samson S, Grover A: How effective are antioxidant supplements in obesity and diabetes? Medical Principles and Practice 2015;March 14th.

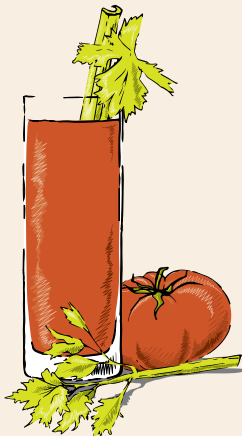
INSIDE THIS ISSUE:

- Pregnant Women Low in Omega 3s.....2
- The State of Kids' Diets.....3
- The MIND Diet.....4
- Diet and ADHD.....5
- Anti-Aging Whole Grains.....6
- Aloe Vera Powder and Wrinkles.....7



The Tomato Juice Diet

Healthy women who drink a glass of tomato juice every day have an easier time managing their weight and lowering inflammation, according to a study from the China Medical University in Taiwan. For eight weeks, 30 young women with BMIs of 20 or greater drank a daily glass of tomato juice containing 32.5 milligrams of lycopene. They were told to continue their normal diets and exercise schedules. Serum levels of glucose, lipids, lycopene, and antioxidants were compared before and at the end of the study. Results showed that women lost weight, body fat, and inches around their waists when they drank tomato juice daily. Inflammatory markers also decreased, as did BMI and cholesterol levels, while antioxidant levels increased, despite no changes in overall food intakes.



Researchers at Shiraz University in Iran report that tomato juice reduces oxidative stress in overweight women and might help prevent obesity-related diseases.

IN PERSPECTIVE: *The Taiwan study lacked a placebo/control group. However, almost all Americans would do well to increase their intake of colorful fruits and vegetables, so adding a lycopene-rich food or beverage to the diet, whether it is tomato juice or watermelon, also might aid in weight loss.*

Yu-Fen L, Ya-Yuan C, Hui-Chi H, et al: Tomato juice supplementation in young women reduces inflammatory adipokine levels independently of body fat reduction. Nutrition 2015;January 1st.

Ghaviour M, Sotoudeh G, Ghorbani M: Tomato juice consumption improves blood antioxidative biomarkers in overweight and obese females. Clinical Nutrition 2014;November 8th.

Pregnancy Weight Affects Child

Women who enter pregnancy overweight or who gain too much weight during pregnancy place their unborn child

A woman who was average weight before getting pregnant should gain 25 to 35 pounds during pregnancy. Underweight women should gain 28 to 40 pounds. Overweight women need to gain only 15 to 25 pounds during pregnancy.

Where Does the Extra Weight Go During Pregnancy?

	Pounds
Baby:	8
Placenta:	2-3
Amniotic fluid:	2-3
Breast tissue:	2-3
Blood supply:	4
Stored fat for delivery and breastfeeding:	5-9
Larger uterus:	2-5
Total:	25-35

at risk for obesity later in life, according to a study from Columbia University Medical Center in New York. Of the 727 Black mothers in this study, 45% were overweight or obese and 64% gained more than the recommended amount of weight during pregnancy. The study found that 22% of the children born to these overweight women were obese and 24% of their body mass was fat by the time they turned 7-years-old. Children born to women who were overweight or obese before pregnancy had a 300% increased risk of obesity. "Some weight gain during pregnancy is normal, but ...gaining too much can put the child at risk for being obese...and...places them at higher risk for future chronic disease," state the researchers.

Widen E, Whyatt R, Hoepner L, et al: Gestational weight gain and obesity, adiposity, and body size in African-American and Dominican children in the Bronx and Northern Manhattan. Maternal & Child Nutrition 2015;March 5th.

Pregnant Women Lacking in Omega-3s

The omega-3s in fatty fish are critical for brain and vision development in the fetus and newborn, yet most pregnant and lactating women don't consume anywhere near enough of these essential fats, state researchers at Canada's Alberta Pregnancy Outcomes and Nutrition (AprON), a professional group composed of researchers from the University of Alberta and the University of Calgary. In this study, the first 600 women in their cohort were followed during and after their pregnancies to see whether they were consuming adequate omega-3s to meet current recommendations (at least 500 milligrams a day). Results showed that only 27% of women during pregnancy and 25% at three months postpartum met these levels. Women who took supplements containing DHA were up to 11.1 times more likely to meet the current recommendations, yet only 44% of these women continued to take their supplements when breast feeding at three months postpartum.

IN PERSPECTIVE: *It is clear that most women are unaware of the importance of these fats, especially DHA, for normal growth and development of their babies throughout gestation and during lactation.*

Jia X, Paksereshi M, Wattar N, et al: Women who take n-3 long-chain polyunsaturated fatty acid supplements during pregnancy and lactation meet the recommended intake. Applied Physiology, Nutrition, and Metabolism 2015; March 25th.

HOTTOPICS: Decreasing daily sodium intake to <2,300 milligrams a day lowered all-cause mortality, whereas increasing intake to >2,300 milligrams a day increased cardiovascular disease, in a study from University Hospital of Saint Joan de Reus in Spain. *American Journal of Clinical Nutrition 2015;101:440-448.*

Salty diets damage blood vessels even when they don't raise blood pressure, state researchers at the University of Delaware. *Journal of the American College of Cardiology 2015; March 13th.*



Guidelines for Preventing Childhood Obesity

Childhood obesity has more than doubled since the 1970s, with almost one in every three children classified as overweight or obese. Excess body fat increases their risk for high blood pressure, high cholesterol, diabetes, vision problems, and even dementia down the road. The Canadian Task Force on Preventive Health Care has just published guidelines to help prevent and manage obesity in children. Those guidelines recommend regular growth monitoring and a focus on family lifestyles and health behaviors. Key recommendations include encouraging physicians to refer all overweight children between the

ages of 2- and 17-years-old to structured behavioral programs aimed at achieving healthy growth, as well as pharmacologic treatments offered to overweight children. Parents often underestimate their children's weights, which is why the task force recommends continual growth monitoring by a healthcare provider.

Summerbell C, Brown T: Childhood obesity: The guideline for primary care should form part of a whole system approach. Canadian Medical Association Journal 2015; March 30th.

Canadian Task Force on Preventive Health Care: Recommendations for growth monitoring, and prevention and management of overweight and obesity in children and youth in primary care. Canadian Medical Association Journal 2015; March 30th.

Kids' Diets Not So Good

American kids are eating poorly and it will cost them as they get older. Researchers at Northwestern University Feinberg School of Medicine in Chicago assessed the diets and health status of 8,961 children between the ages of 2- and 11-years-old. Results showed that most of the kids had healthy blood pressure levels, but 40% had poor cholesterol levels, almost none ate a healthy diet regularly, and 30% were overweight or obese. Fewer than 1% ate diets that met even minimum standards of a healthy diet and fewer than one in five kids met at least three of the five criteria for healthy eating, including 1) at least 4.5 cups of fruits and vegetables daily, 2) at least two 3.5 ounce servings of seafood a week, 3) at least three 1-ounce servings of fiber-rich 100% whole grains daily, 4) less than 1,500 milligrams of daily sodium, and



5) no more than 450 calories from sugar-sweetened beverages per week. Nine out of every ten kids consumed too much sodium and too little seafood or fruits and vegetables. More than half drank too many sugary beverages. It is clear that parents who allow their kids to establish these poor eating habits are setting their children up for serious health problems in the future.

Ning H, Labarthe D, Shay C, et al: Status of cardiovascular health in US children up to 11 years of age. Circulation: Cardiovascular Quality and Outcomes 2015;8:164-171.

Vitamin D and Pregnancy

Low vitamin D levels could increase the risk for gestational diabetes in pregnant women, according to a study from the University of Washington School of Public Health. Maternal blood vitamin D levels were measured at 16 weeks gestation in a group of 135 pregnant women with gestational diabetes and 517 healthy pregnant women. Results showed that the pregnant women with diabetes had lower vitamin D levels compared to healthy controls.

Women in the lowest quartile for vitamin D levels were twice as likely to have gestational diabetes compared with women in the highest quartile. The researchers conclude that, "...early pregnancy vitamin D status...is inversely associated with gestational diabetes."

Arnold D, Enquobahrie D, Qiu C, et al: Early pregnancy maternal vitamin D concentrations and risk of gestational diabetes mellitus. Paediatric and Perinatal Epidemiology 2015; March 23rd.

IN THE NEWS

- Eating a modest amount of nuts lowers the risk for metabolic syndrome later in life, according to a study presented at the Endocrine Society's annual meeting in San Diego. Unfortunately, 75% of teens do not eat nuts.
- Lack of a consistent sleep routine increases hunger in teens, which contributes to weight gain, according to a study presented at the American Heart Association's meeting in Dallas.
- Diets rich in plants and low in animal products lower the risk for dying from heart disease or stroke, according to a study reported at the American Heart Association's meeting in Baltimore.
- Adopting a Mediterranean-style diet lowers a person's risk for heart disease, according to a study reported at the American College of Cardiology annual meeting in San Diego.
- Including a bit of cocoa-rich dark chocolate might improve energy level, raise exercise stamina, and improve heart health in sedentary seniors, according to a study reported at the American College of Cardiology's annual meeting in San Diego.
- High-dose supplementation with omega-3 fats (4 grams/day) protects against further damage in heart attack patients, according to a study reported at the annual meeting of the American College of Cardiology in San Diego.
- Processed foods account for more than 60% of the calories in typical American diets, according to a study reported at the Federation of American Societies for Experimental Biology's annual meeting in Boston.
- Drinking several cups of coffee every day could lower a person's risk of developing multiple sclerosis, according to a study reported at the American Academy of Neurology's annual meeting in Washington, D.C.



Diet of the MIND

Researchers at Rush University Medical Center in Chicago report that their MIND diet could prevent Alzheimer's disease. The diet - called the Mediterranean-DASH Intervention for Neurodegenerative Delay (MIND) diet uses aspects of the DASH (Dietary Approaches to Stop Hypertension) diet and the Mediterranean diet, both of which have been used to lower heart disease and high blood pressure risks. The diet emphasizes green leafy and other vegetables, nuts, berries, legumes, whole grains, fish, lean poultry, olive oil and wine, and seriously limits red meat, butter, stick margarine, cheese, pastries and sweets, and fried or fast foods.

In this study, 923 people between the ages of 58- and 98-years-old were asked to follow the MIND diet for 4.5 years. Dietary information was assessed between 2004 and 2013 and participants were scored on how closely they followed either the MIND diet, the Mediterranean diet, or the DASH diet. Incidence of Alzheimer's was assessed during follow-up. Results showed that those people who most closely adhered to any of the

diets had lower Alzheimer's risk. People who closely followed the Mediterranean diet were at 54% lower risk, those who followed the MIND diet were at 53% lower risk, and DASH diet followers were at 39% lower risk for Alzheimer's. However, participants who only moderately followed the Mediterranean or DASH diet had no lower risk, while those who showed moderate adherence to the MIND diet still showed a 35% lower risk of developing the disease.

In a study from NYU School of Medicine, researchers found that diets rich in fresh fruit and vegetables, whole grains, fish, and low-fat dairy, and low in sweets, fried potatoes, high-fat dairy, processed meat, and butter were associated with a reduced risk for Alzheimer's disease.

*Morris M, Tangney C, Wang Y, et al: MIND diet associated with reduced incidence of Alzheimer's disease. *Alzheimers & Dementia* 2015; February 11th.*

*Tangney C, Li H, Wang Y, et al: Relation of DASH- and Mediterranean-like dietary patterns of cognitive decline in older persons. *Neurology* 2014;83:1410-1416.*

*Berti V, Murray J, Davies M, et al: Nutrient patterns and brain biomarkers of Alzheimer's disease in cognitively normal individuals. *Journal of Nutrition, Health & Aging* 2015;19:413-423.*

A Sad Way to Eat

High-fat diets alter the intestinal microbiome that in turns affects mood and behavior, state researchers at Louisiana State University. In this study, healthy adult mice maintained on normal diets received transplants of gut microbiota from donor mice that had been fed high-fat or control diets. The recipient mice were monitored for changes in mental function and behavior. Results showed that mice who received the microbiota shaped by high-fat diets showed multiple problems in behavior, including increased anxiety, impaired memory, and repetitive behaviors. They also had increased intestinal permeability and markers of inflammation. Signs of inflammation in the brain may have contributed to the behavioral changes. The researchers conclude that, "...high-fat diets impair brain

health, in part, by disrupting the symbiotic relationship between humans and the microorganisms that occupy our gastrointestinal tracks." These changes occur even in the absence of obesity.

IN PERSPECTIVE: *The microbiome consists of trillions of microorganisms, many if not most, reside in the intestinal tract. These microbiota are critical for normal physiological function and may contribute to the host's susceptibility to illness. According to this study and a growing body of research, the characteristics of this microbiota also impact cognition and behavior.*

*Bruce-Keller A, Salbaum J, Luo M, et al: Obese-type gut microbiota induce neurobehavioral changes in the absence of obesity. *Biological Psychiatry* 2015;77:607.*

DHA to the Memory Rescue

Most people are less concerned about growing old than they are losing their independence. Nothing undermines that independence more than loss of memory. According to a study from EpidStat Institute in Evergreen, Colorado, there is much people can do to protect their brains, starting with the omega-3 fat DHA. In this meta-analysis of studies on omega-3s and memory outcomes in healthy adults aged 18-years and older with or without mild memory complaints, the researchers found that episodic memory was improved with supplements of the omega-3 fats DHA and EPA. Regardless of mental status at the start of the study, more than 1 gram of DHA and EPA improved episodic memory. Semantic and working memory were improved with DHA. The researchers conclude that DHA, alone or with EPA, improves memory function in older adults with mild memory complaints.

IN PERSPECTIVE: *Episodic memory relates to how well personal experiences are recalled, while semantic memory reflects past events that are not personal. Working memory is how well a person can process and synthesize new and previously learned information.*

*Yurko-Mauro K, Alexander D, Van Elswyk M: Docosahexaenoic acid and adult memory. *PLOS One* 2015; March 18th.*

HOT TOPICS: Health claims on labels of vitamin waters and energy drinks are bogus at best, according to a study from the University of Toronto. *Applied Physiology, Nutrition, and Metabolism* 2015; January 12:1-8.

Parents of overweight children don't realize their kids have a weight problem unless the child is extremely obese, say researchers at London School of Hygiene & Tropical Medicine. *British Journal of General Practice* 2015; April 1st.

As blood levels of trans fatty acids increased, so did the risk for diabetes in a study from Harvard School of Public Health. *Diabetes Care* 2015; March 17th.



Supplements For Dementia

Alzheimer's disease tops the charts for the most prevalent, severe, and disabling cause of dementia throughout the world. Treatment has been the prime focus, rather than prevention, for this crippling disease. No treatment has altered the onset or has had a marked effect on progression of Alzheimer's, but as with all medications, they do come with side effects. Researchers at DSM Nutrition Products in Basel, Switzerland propose a different approach that focuses on maintaining healthy neurons in the brain, rather than attempting to stop or alter the progression once those brain cells are diseased. "One factor... important for neuronal health and function is the optimal supply of nutrients necessary for maintaining normal functioning of the brain," state the researchers. Studies show that the omega-3 fat, DHA, and some nutrients, such as the B vitamins and vitamins E, C, and D, help protect neurons from aging. A few phytonutrients, such as lutein and zeaxanthin, also are currently showing promise in protecting brain cells from damage. The researchers argue that, "These nutrients are inexpensive, have virtually no side effects when used at recommended doses, are essential for life, have established modes of action, and are broadly accepted by the general public."

Seniors aged 80-years-old and older whose memories are as sharp as those people many decades younger are called "superagers." Their brains have thicker regions of the cortex, far fewer tangles indicating Alzheimer's disease, and a large supply of neurons linked to higher social intelligence, state researchers at Northwestern's Cognitive Neurology and Alzheimer's Disease Center in Chicago.

Mohajeri M, Troesch B, Weber P: Inadequate supply of vitamins and DHA in elderly: Implications for brain aging and Alzheimer-type dementia. Nutrition 2015;31:261-275.

Gefen T, Peterson M, Papastefan S, et al: Morphometric and histologic substrates of cingulate integrity in elders with exceptional memory capacity. Journal of Neuroscience 2015;35:1781-1791.

Do You Get Enough Zinc?

Poor zinc intake compromises immune function and escalates the inflammatory process, according to two studies conducted by researchers at Oregon State University. In the first study, the researchers found that zinc deficiency caused an increase in inflammatory responses in cells, possibly caused by improper immune cell activation and dysregulation. Zinc levels also were compared in young and old mice in a second study. The older mice had low zinc levels that corresponded with increased inflammation and altered gene expression. This same process was found in human immune

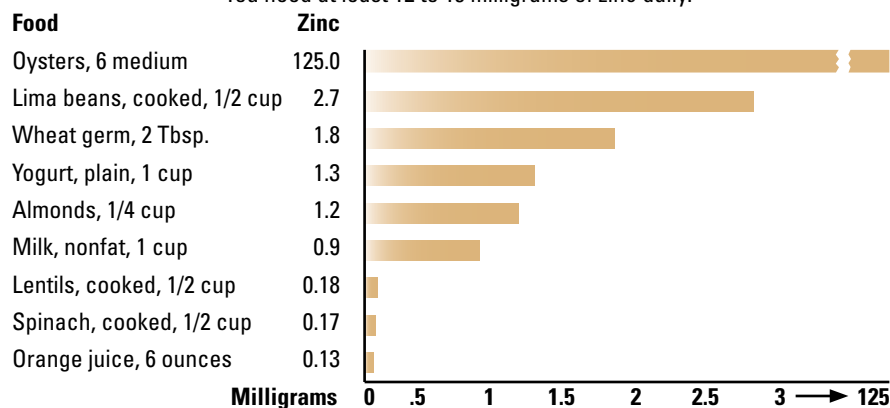
cells obtained from elderly people. The researchers conclude that, "...[these] studies suggest a potential link between zinc deficiency and increased inflammation that can occur with age."

IN PERSPECTIVE: *Approximately 12% of people in the U.S. do not consume optimal amounts of zinc-rich foods. In seniors, the incidence is closer to 40%, as a result of both poor dietary intake and reduced absorption of the mineral.*

Wong C, Rinaldi N, Ho E: Zinc deficiency enhanced inflammatory response by increasing immune cell activation and inducing IL-6 promoter demethylation. Molecular Nutrition & Food Research 2015;March 23rd.

Do You Get Enough Zinc?

You need at least 12 to 15 milligrams of zinc daily.



Omega-3s Help Boys With ADHD

Boys with attention-deficit/hyperactivity disorder (ADHD) might benefit from omega-3 fats, according to a study from the University Medical Center Utecht in The Netherlands. The researchers recruited 40 boys between the ages of 8- and 14-years-old who had been diagnosed with ADHD, as well as 39 controls. All were asked to eat 10 grams of margarine every day. Half of the boys in each group ate margarine with 650 milligrams of omega-3s, while the rest consumed plain margarine. Parents were asked to fill out standard questionnaires that assessed the child's behavior for signs of ADHD and MRI brain scans were taken of the children. At the end of four months, those boys who consumed

the omega-3-fortified margarine showed improved attention, compared to those eating plain margarine. The researchers commented that, "...[omega-3s] seem to improve attention in individuals both with and without ADHD, so it sounds like there might be some general benefit to the brain." It is unclear how omega-3s benefit ADHD, but the researchers speculate that because these fats, especially DHA in fatty fish, are important building blocks in the brain and brain cell membranes, it is likely they facilitate transmission of neural signals.

Bos D, Oranje B, Veerhoek E, et al: Reduced symptoms of inattention after dietary omega-3 fatty acid supplementation in boys with and without attention deficit/hyperactivity disorder. Neuropsychopharmacology 2015;March 19th.



Live Longer With Whole Grains

Toss out that mistaken belief that carbs are bad for you. If they are 100% whole grain, they could save (and extend) your life. From the mid-1990s to 2009, researchers at Harvard Medical School in Boston tracked dietary intakes and health status of almost 370,000 healthy adults between the ages of 50- and 71-years-old at the start of the study. Results showed that those who ate the most fiber-rich whole grains were 17% less likely to die during the study period compared to those who ate the least amount of fiber-rich foods. The whole-grain eaters were less likely to be obese and more likely to follow healthy habits, such as not smoking and eating less red meat. But the benefits persisted when these variables were accounted for. Whole grain intake also lowered the risk of premature death from lung disease, diabetes, and cancer, and reduced total and cause-specific mortality. How much whole grain intake was needed to show improvement in health and life expectancy? For someone eating a 2,500-calorie diet, optimal whole grain intake was equivalent to 5 slices of bread. The researchers suspect whole grains are healthy because they lower overall food intake, reduce blood cholesterol levels, and are anti-inflammatory foods.

Huang T, Xu M, Lee A, et al: Consumption of whole grains and cereal fiber and total and cause-specific mortality. BMC Medicine 2015;13:59.

HOT TOPICS: A compound in the spice cinnamon, called cinnamic acid, improves glucose tolerance and stimulates insulin secretion, according to a study from the University of Karachi in Pakistan. *Phytotherapy 2015;22:297-300.*

Children allowed to take sips of their parents' wine now and then are more likely than their peers to start drinking by high school, according to a study from the Center for Alcohol and Addiction Studies at Brown University in Providence, Rhode Island. *Journal of Studies on Alcohol and Drugs 2015; March 31st.*

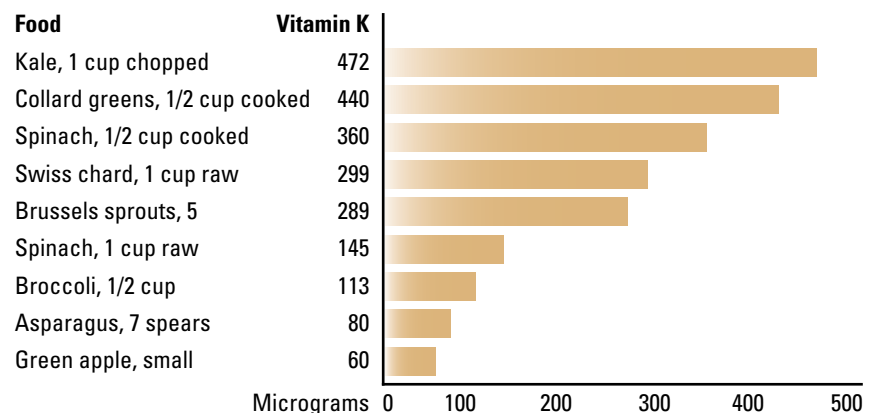
Vitamin K to the Diabetes Rescue

Vitamin K supplementation improved glycemic control in women with prediabetes, in a study from Ahvaz Jundishapur University of Medical Sciences in Iran. During the four week study, 82 prediabetic women between the ages of 22- and 45-years-old were given daily either 1,000 micrograms of vitamin K or placebos. Blood samples were collected

at baseline and at the end of the study. Results showed that those women taking vitamin K showed improved glycemic status compared to the women on placebos.

Rasekhi H, Karandish M, Jalali M, et al: Phylloquinone supplementation improves glycemic status independent of the effects of adiponectin levels in premenopausal women with prediabetes. Journal of Diabetes & Metabolic Disorders 2015;14:1.

Vitamin K in Foods



Vitamin D and Stroke

Researchers at the National Institute of Mental Health in India investigated the relationship between vitamin D deficiency and stroke. Vitamin D status was assessed in age- and gender-matched 239 ischemic stroke patients and 241 control subjects. The results showed an inverse association between serum vitamin D levels and risk of ischemic stroke: patients with severely low vitamin D levels had a 3.13-fold increased risk of ischemic stroke compared with those with high levels. High blood pressure was linked to this association between vitamin D and stroke risk. The researchers conclude that the presence of hypertension aggravates the risk of ischemic stroke associated with low vitamin D levels, and they recommend that management of hypertension and regular monitoring of vitamin D levels, especially in hypertensive subjects, could help in effective prevention of stroke.

Majumdar V, Prabhakar P, Kulkarni G, et al: Vitamin D status, hypertension and ischemic stroke. Journal of Human Hypertension 2015; March 26th.

Milk Is Good for the Brain

Milk might be just what the neurologist ordered for healthy brain function, according to a study from the University of Kansas Medical Center. Dietary intakes were assessed in a group of 60 healthy adults with an average age of 68.7 years prior to brain scans used to monitor glutathione levels. Results showed that people who reported having recently drunk milk had higher levels of glutathione in their brains, an antioxidant that protects against oxidative stress associated with compromised brain function, including Alzheimer's disease, Parkinson's disease, and more. The closer participants came to three glasses of milk a day the higher their glutathione levels. The researchers speculate that milk products might "...serve as a good source of substrates for glutathione synthesis in the human brain."

Choi I, Lee P, Denney D, et al: Dairy intake is associated with brain glutathione concentration in older adults. American Journal of Clinical Nutrition 2015;101:287-293.



HOT TOPICS

1 Sugar is sugar, but high fructose corn syrup (HFCS) is even worse than most, according to a study from the University of Utah where researchers found that HFCS, compared to regular table sugar, increased death rates and reduced fertility in animals.

Journal of Nutrition 2015;March 1st.

2 The more time children spend in front of computer or TV screens, the lower the nutritional quality of their diets and the fewer colorful fruits and vegetables they eat, according to a study from Harvard School of Public Health.

American Journal of Clinical Nutrition 2014;100:1173-1181.

3 Eating a plant-based diet and limiting alcohol to one drink a day for women and two drinks a day for men might lower risk for cancers of the breast, prostate, and colon, state researchers at New York University.

Cancer Causes & Control 2015;January 6th.

4 Adding an avocado to a moderate-fat, cholesterol-lowering diet further reduced LDL cholesterol and might be beneficial in lowering heart disease risk factors, according to a study from Pennsylvania State University.

Journal of the American Heart Association 2015;January 7th.

5 Adding just one Brazil nut to the daily diet - a good source of the antioxidant mineral selenium - improved selenium status and cognition in a group of 31 seniors, in a study from University of Sao Paulo, Brazil.

European Journal of Nutrition 2015;January 8th.

6 Sulforaphane, a phytonutrient in broccoli, might be more than just an cancer-preventive agent. It also is a therapeutic compound that fights advanced prostate cancer, according to researchers at Oregon State University.

Oncogenesis 2014;December 8th.

7 People who use artificial sweeteners also have healthier diets, consume fewer empty calories, smoke less, and are more active than people who don't use these sweeteners, according to a study from the University of Washington.

Nutrients 2014;6:4389-4403.

8 The omega-3s in seafood, DHA and EPA, are essential for brain, heart, and eye health, but a study from the University of Michigan found that the mercury in some seafood may be linked to autoimmune disorders among women of childbearing age, suggesting that supplements might be a safer place to get your omega-3s.

Environmental Health Perspectives 2015;February 10th.

9 Vitamin C is important for protecting brain tissue from oxidative damage associated with cognitive decline and possibly even Alzheimer's disease, according to a study from the University of Cologne, Germany.

Journal of Neural Transmission 2015;January 14th.

10 Regular exercise increases the size of brain regions that contribute to balance and coordination, state researchers at the University of Jyväskylä in Finland.

Medicine & Science in Sports & Exercise 2015; March 5th.

11 Compared to formula-fed infants, breast-fed babies are smarter and show improved performance in intelligence tests later in life, which results in being better educated and financially better off, according to a study from the Federal University of Pelotas in Brazil.

Lancet Global Health 2015;3:e199-e205.

12 Researchers at Queen's University in Belfast report that carotenoid-rich foods are essential for health, stating that the lycopene in watermelon lowers prostate cancer risk and the lutein and zeaxanthin in greens are essential for vision, and possibly brain health.

Maturitas 2015;80:63-68.

13 Medications, such as thiazolidinediones or TZDs, used to treat people with type 2 diabetes stimulate sensors in the brain that increase hunger, leading to weight gain and a greater risk for diabetes, according to a study from Georgia State University.

Journal of Neuroscience 2015;35:4571.

14 In a study from the University of Kansas Medical Center, women averaged only 80 milligrams a day of a combination of the omega-3 fats DHA and EPA, and those with the lowest omega-3 intake and/or the lowest ratio of omega-3s to omega-6 fats had the highest risk for abnormal cell growth associated with breast cancer risk.

Cancer Prevention Research 2015;February 23rd.

15 Middle-aged men who are fit are less likely than their sedentary peers to develop lung or colon cancer later in life, and if they do they are more likely to beat it, according to a study from the University of Vermont.

JAMA Oncology 2015; March 26th.

16 Chemicals, called dioxins, typically found in meat and dairy products, did not appear to contribute to breast cancer in a study from Leon Berard Cancer Center in Lyon, France.

Breast Cancer Research 2015; March 17th.

17 Vegetarian diets lower colon cancer risk by 20%, while vegetarians who include fatty fish in their diets have an even lower cancer risk, according to a study from Loma Linda University in California.

JAMA Internal Medicine 2015; March 9th.

18 Women who drank four cups of coffee a day had an 18% lower risk of endometrial cancer compared to women who drank one cup or less, in a study from Imperial College London, U.K.

Cancer Epidemiology, Biomarkers & Prevention 2015; February 6th.

19 Women, and to a lesser extent men, who were overweight as children or as adolescents are at higher risk for developing colorectal cancer, regardless of whether or not they remain overweight as adults, according to a study from Harvard Medical School.

Cancer Epidemiology, Biomarkers & Prevention 2015; March 16th.

20 Women aged 40-years-old and older who supplement with oral Aloe vera gel powder containing at least 40 micrograms of sterols showed improved collagen and hyaluronic acid production in skin and reduced facial wrinkles, in a study from the Food Science and Technology Institute in Kanagawa, Japan.

Clinical, Cosmetic, and Investigative Dermatology 2015;8:95-104.



Pre-Meal Workout

A short burst of intense exercise after eating a high-fat meal might help prevent damage to blood vessels, according to a study from the University of Exeter. The underlying cause of heart disease begins in childhood with impairment in blood vessel function, which occurs in the hours after eating a high-fat meal. The researchers in this study compared high-intensity interval exercise against moderate-intensity exercise on blood vessel function in adolescent boys and girls after they had consumed a high-fat milkshake. While 25 minutes of moderate-intensity cycling protected blood vessel function, just eight minutes of intense cycling not only protected blood vessel function, it actually improved it. The researchers conclude that, "...the intensity of exercise plays an important part in protecting blood vessel function in young people after the ingestion of a high-fat meal."

Bond B, Gates P, Jackman S, et al: Exercise intensity and the protection from postprandial vascular dysfunction in adolescents. American Journal of Physiology. 2015; March 30th.

NUTRITION ALERT

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REVIEW

Simple Steps

Sometimes making a diet change can seem overwhelming. Here is a list of simple steps to gently nudge your diet and exercise into submission. Add one a week to your normal routine.

1. Make exercise fun. Listen to books on tape, walk the dog, read a book on the exercycle.
2. Eat two fruits and/or vegetables at every meal and one at every snack. You'll meet your daily quota of 8 to 9 servings, feel full, and automatically cut back on fat and calories.
3. Take a 5-minute hike, every hour. Over the course of an 8-hour shift, you'll accrue 40 minutes of exercise.
4. Eat regularly. Skip a meal to save calories and you'll overeat later in the day.
5. Brush your teeth after a meal. This helps signal the body that you're done eating.
6. Turn off the tube. Hours of TV watching are directly proportional to weight gain.
7. Just say 'No.' Listen to your body and eat only when you're hungry.
8. Eat slowly to allow the stomach time to tell the brain it's full.
9. Drink first. We often confuse thirst with hunger. Drink a glass of water and wait 15 minutes before giving into a craving. You may find that the hunger subsides.
10. Challenge yourself. Go up a short hill during your next walk or pick up the pace.
11. Exercise in the morning so you don't make excuses why you can't exercise later.
12. Put half the restaurant serving in a doggie bag for tomorrow's lunch.
13. Cut your typical portions of everything except vegetables and fruit by one-quarter.
14. Hang out with exercisers.
15. Calories count. A tablespoon of mayo on a turkey sandwich doesn't seem like a lot, but over the course of one year that daily mayo equals 10-1/2 pounds of excess body fat.
16. Don't assume you can exercise away anything you eat.
17. Get enough sleep. You're more likely to overeat when you're tired.
18. Purchase a step counter - a great incentive to boost the steps you take every day.
19. Eat breakfast, and you'll be less likely to overeat later in the day.
20. Bring healthy foods with you, so you're not tempted by the drive thru.
21. Divide your plate. Fill 3/4 of your plate with vegetables, whole grains, beans, and fruit; the other 1/4 can be extra-lean meat or nonfat milk or milk products.
22. Take a supplement. A multi will fill in nutritional gaps.
23. Use time savers: Buy pre-cut and bagged lettuce for a salad, baby carrots for a stew, pre-cut fruit for a snack, the pre-made hummus as a dip or sandwich spread, or steam frozen plain vegetables for dinner.
24. Throw it out. If those brownies or homemade cookies beckon to you, get rid of them...now!
25. Sweeten with spice. Use sweet-tasting spices, such as cinnamon, nutmeg, and vanilla, rather than sugar to desserts and snacks to add flavor, but no calories.
26. If you can't live with it, don't buy it. Just say 'no' to tempting foods at the grocery store if they are likely to beckon you to indulge at home.

HOT TOPIC: People who increased their fiber intake to at least 30 grams a day by eating more vegetables, fruit, and whole grains showed drops in blood pressure and blood sugar levels, and lost some weight without making any other dietary changes, in a study from the University of Massachusetts Medical School in Worcester. *Annals of Internal Medicine* 2015; February 16th.