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IN THE
NEWS**Eighty Percent of Medical Professionals Recommend Supplements**

Most health care professionals—79% of physicians and 82% of nurses—recommend supplement use for their patients, according to a survey by the Council for Responsible Nutrition, a dietary supplement trade association.^{1,2} The survey, called the *Life...supplemented Medical Professionals Impact Study*, was conducted among 1,177 physicians and nurses in October 2007 as part of a consumer wellness campaign that advocates a healthful diet, exercise, and supplement use.

Respondents were most likely to mention supplement use for five health categories: bone health (33%), overall health and wellness (32%), joint health (29%), heart health (26%), and healthy cholesterol level (22%).

When asked whether they use supplements themselves, 72% of physicians and 89% of nurses said yes. Physicians most commonly used multivitamins (87%), vitamin C (78%), B vitamins (63%), vitamin D (59%), vitamin E (58%), and calcium (58%). Both physicians (72%) and nurses (88%) commonly recommend multivitamins for their patients.

—Laura J. Ninger, ELS



Reference

1. Available at: http://www.lifesupplemented.org/articles/news/physicians_prescribe_prevention.htm. Accessed October 10, 2008.

2. Available at:

http://www.lifesupplemented.org/articles/news/study_finds_physicians_and_nurses_both_take_and_recommend_dietary_supplements.htm. Accessed October 10, 2008.

Common Chemical, Bisphenol A, May Increase Risk of Disease

Elevated levels of bisphenol A (BPA) have recently been associated with certain illnesses in adults.* BPA is a chemical compound used in manufacturing food containers and other plastic items.

The data were derived from a large nationwide US study, the National Health and Nutrition Examination Survey, during 2003-2004. BPA levels were analyzed in urine samples taken from 1,455 adults, and participants self-reported any subsequent diagnoses.

Increasing BPA concentrations were associated with a significantly elevated risk of coronary heart disease, heart attack, angina, and diabetes, even after adjusting for age, sex, and other relevant patient characteristics. Blood concentrations of liver enzymes were also abnormally elevated at higher BPA levels.

BPA is detectable in more than 90% of US adults. This study adds to previous concerns about the deleterious effects of BPA as demonstrated in animal studies; however, a cause-and-effect association between BPA exposure and subsequent disease remains to be proven. The FDA, however, insists that BPA is safe.

—Laura J. Ninger, ELS

Reference

Lifestyle Improvements Enhance Telomerase

Lancet Oncology reports new findings that adopting positive lifestyle changes increases the activity of telomerase, the enzyme responsible for maintaining telomeres.*

Telomeres are DNA-protein complexes that cap the ends of chromosomes, aiding in their stabilization. Adequate telomere length is vital to maintaining cells, including immune system cells.

Men with low-risk prostate cancer were asked to adopt diets that limited fat and refined carbohydrates, and contained abundant grains, fruits and vegetables, and supplemental soy, fish oil, vitamins C and E, and selenium. The subjects were also asked to engage in exercise and stress management.

By the end of the study, telomerase levels had increased, and low-density lipoprotein (LDL), psychological distress, body mass index, waist circumference, and blood pressure were reduced.

“The implications of this study are not limited to men with prostate cancer,” the authors write. “Comprehensive lifestyle changes may cause improvements in telomerase and telomeres that may be beneficial to the general population as well.”

—Dayna Dye

Reference

* Ornish D, Lin J, Daubenmier J, et al. Increased telomerase activity and comprehensive lifestyle changes: a pilot study. *Lancet Oncol*. 2008 Nov;9(11):1048-57.

Red Wine Polyphenols Protect Against UVB Damage

Drinking red wine protects against the harmful effects of ultraviolet B (UVB) light, according to a recent German study.* Red wine contains high levels of antioxidant polyphenols.

In this study, 15 healthy men underwent irradiation with UVB light and then drank a fixed volume of one of three red wines over 40 minutes. Results were expressed as the minimum dose of UVB that produced skin erythema (redness), an indicator of skin damage that may precede cancer.

The effect on UVB-induced skin damage differed by the polyphenol content of the wines. The wine with the lowest polyphenol concentration afforded no skin protection, the wine with an intermediate level gave a small amount of protection, and the wine with the highest amount of polyphenols significantly raised the level of UVB that would be required to damage the skin.

Although the effect was modest (sun protection factor of 0.97 to 1.19), the benefit is consistent with previous study findings.

—Laura J. Ninger, ELS



Reference

* Moehrle M, Dietrich H, Patz CD, Hafner HM. Sun protection by red wine? *J Dtsch Dermatol Ges*. 2008 Jul 31.

Higher Aspirin Dose May be Better at Preventing Deaths

Physicians have long recommended that their at-risk patients take low-dose aspirin, such as one baby aspirin daily, to help reduce cardiovascular risk. But a new study from the *American Journal of Cardiology* suggests that higher doses of aspirin may be more effective at preventing premature death in patients with a recent history of cardiovascular events.*



More than 4,500 patients with a recent history of cerebrovascular or coronary ischemic events (such as unstable angina, heart attack, or stroke) were prescribed aspirin in doses ranging from 75-325 mg, depending on the investigator's discretion. An adult-strength aspirin contains 325 mg, while a baby aspirin contains 81 mg.

After an average follow-up of one year, higher doses of daily aspirin were associated with lower all-cause mortality, despite encouraging an increased tendency toward bleeding events.

"Our findings suggest that aspirin doses of [greater than, or equal to] 162 mg/day may be more beneficial than those [less than] 162 mg/day at preventing death," researchers concluded.

—Dale Kiefer

Reference

* Aronow HD, Califf RM, Harrington RA, et al. Relation between aspirin dose, all-cause mortality, and bleeding in patients with recent cerebrovascular or coronary ischemic events (from the BRAVO Trial). *Am J Cardiol*. 2008 Nov 15;102(10):1285-90.

Fruit, Vegetable Intake Prevents Colorectal Cancer in Men

Fruit and vegetable consumption may protect against colorectal cancer in men, according to a study conducted in Hawaii and California.*

A total of 85,903 men and 105,108 women aged 45 to 75 years completed detailed questionnaires on health characteristics and dietary habits, especially fruit, vegetable, and grain intake, and were then monitored for colorectal cancer occurrence. After an average of seven years, 2,110 participants developed colorectal cancer.

Among men, high levels of fruit and vegetable consumption were associated with significantly lower colorectal cancer risk. For women, fruit and vegetable intake achieved a small reduction in cancer risk that was not statistically meaningful. Intake of grains also had no significant effect in either sex.

The results in men were consistent across all five ethnic groups studied (whites, blacks, Latinos, Native Hawaiians, and Japanese Americans). The cancer risk reduction was higher for colon cancer than for rectal cancer.

—Laura J. Ninger, ELS

Reference

* Nomura AM, Wilkens LR, Murphy SP, et al. Association of vegetable, fruit, and grain intakes with colorectal cancer: the Multiethnic Cohort Study. *Am J Clin Nutr*. 2008 Sep;88(3):730-7.

Vitamin B Deficiency Associated With Cognitive Impairment

Vitamin B deficiency is associated with cognitive impairment in mice, as well as elevated homocysteine and microvascular changes in the brain.* High levels of homocysteine predispose to cerebrovascular disease and Alzheimer's disease in humans.

Mice were fed one of two diets designed to increase homocysteine, or a control diet, for 10 weeks. One diet was deficient in folate, vitamin B12, and vitamin B6; the other was enriched in methionine (an amino acid). B vitamins are necessary to break down homocysteine, while methionine-rich diets increase homocysteine production.

Spatial learning and memory were evaluated with a water maze test. Mice given the vitamin B-deficient diet had impaired test performance compared with the other groups. Brain examination revealed that both diets, and especially the vitamin B-deficient

diet, reduced brain capillary length and density, and these changes correlated with both elevated homocysteine and slower performance on the water maze test.

The findings suggest that microvascular changes may underlie neurodegeneration associated with hyperhomocysteinemia, and offer hope that B vitamins could be protective.

—Laura J. Ninger, ELS

Reference

* Troen AM, Shea-Budgell M, Shukitt-Hale B, Smith DE, Selhub J, Rosenberg IH. B-vitamin deficiency causes hyperhomocysteinemia and vascular cognitive impairment in mice. *Proc Natl Acad Sci USA*. 2008 Aug 26;105(34):12474-9.

Fish Consumption Improves Survival in Prostate Cancer

Men who consume large amounts of fish have better survival from prostate cancer, according to a long-term follow-up study.*

More than 20,000 men who participated in the Physician's Health Study answered questionnaires at enrollment in 1983 about medical history, lifestyle characteristics, and food intake, and then reported all new illnesses each year thereafter. During follow-up of 19 years, 2,161 cases of prostate cancer occurred and 230 men died of the disease.

Total fish intake was not a significant predictor of developing prostate cancer. However, consumption of fish and of fish-derived omega-3 fatty acids increased the likelihood of surviving prostate cancer. Men who ate fish at least five times per week (versus less than once per week) had a 48% lower risk of death from prostate cancer, and men with the highest fatty acid intake had a 35% lower risk.

The results suggest that fish consumption delays prostate cancer progression.

—Laura J. Ninger, ELS



Reference

* Chavarro JE, Stampfer MJ, Hall MN, Sesso HD, Ma J. A 22-y prospective study of fish intake in relation to prostate cancer incidence and mortality. *Am J Clin Nutr.* 2008 Nov;88(5):1297-303.

Flavonoids Help Maintain Body Weight in Women

High intake of flavones, flavonols, and catechins help maintain body weight in women.* These flavonoids are phytochemicals found in plant-derived foods such as fruits, vegetables, whole grains, wine, tea, herbs, and spices.

The findings were derived from 4,280 men and women in the Netherlands who were questioned about food intake and lifestyle factors and then monitored for body mass index (BMI) over time. After 14 years of follow-up, BMI increased in both women and men. However, the increase in BMI was significantly smaller among the women with the highest intake of flavones, flavonols, and catechins (compared with the lowest intake). No effect of the phytochemicals was found in men.

The favorable effects of flavonoids on weight control in women, say the authors, “may have important public health implications because even moderate elevations in BMI and body weight over a long period of time have been shown to increase disease risk.”

—Laura J. Ninger, ELS



Reference

* Hughes LA, Arts IC, Ambergen T, et al; Netherlands Cohort Study. Higher dietary flavone, flavonol, and catechin intakes are associated with less of an increase in BMI over time in women: a longitudinal analysis from the Netherlands Cohort Study. *Am J Clin Nutr.* 2008 Nov;88(5):1341-52.

Decreased Antioxidant Levels Associated With Silent Atherosclerosis

An article recently published in the journal *Annals of Nutrition & Metabolism* reports the discovery of an association between

decreased plasma levels of several antioxidants and early carotid atherosclerotic lesions in asymptomatic middle-aged individuals.*

In this study, 220 men and women without a history of transient ischemic attack, stroke, or other conditions related to carotid artery disease were enrolled at the San Camillo de Lellis Hospital, in Manfredonia, Italy. Vitamin A, vitamin E, and lycopene were decreased by 50% or more among the 125 subjects with atherosclerosis compared with participants who were not diagnosed with the condition, and beta-carotene levels were less than one-third of those without atherosclerosis.

“Regular intake of foods rich in lycopene and other antioxidant vitamins may slow the progression of atherosclerotic processes and modify the early stages of atherosclerosis, with a consequent reduction in cardiovascular events,” the authors conclude.

—Dayna Dye

Reference

* Riccioni G, Bucciarelli T, D’Orazio N, et al. Plasma antioxidants and asymptomatic carotid atherosclerotic disease. *Ann Nutr Metab.* 2008;53(2):86-90.

Greater Calcium Intake Correlated With Lower Body Mass Index

A recent issue of the journal *Nutrition* published the findings of Brazilian researchers of an association between greater calcium intake and lower body mass index in men and women.*

Researchers at the University of Sao Paulo evaluated data from 1,459 participants in the Health Survey of the State of Sao Paulo. Calcium intake was calculated from the responses to participant questionnaires.

A higher incidence of overweight and obesity was found among those whose calcium intake levels were in the lowest half of participants. For those whose intake was less than 398.5 mg per day, the risk of being overweight was 24% higher than the risk experienced by those whose intake was in the top 25% at 593.7 mg or more.

“Further clinical research on the effects of calcium on fat metabolism must be pursued with randomized clinical trials,” the authors recommend.

—Dayna Dye



Reference

* Bueno MB, Cesar CLG, Martini LA, Fisberg RM. Dietary calcium intake and overweight: An epidemiologic view. *Nutrition.* 2008 Nov;24(11-12):1110-5.

Chromium Plus Vitamins C & E Decrease Insulin Resistance in Diabetes

The nutrient chromium, alone or in combination with vitamins C and E, significantly lessens oxidative stress and reduces insulin resistance among patients with type 2 diabetes, according to the results of a new controlled study.*

Thirty subjects were blindly and randomly assigned to receive one of three regimens: chromium (1,000 mcg); chromium plus vitamin C (1,000 mg) and vitamin E (800 IU); or inactive placebo; each day for six months. At baseline, the subjects’ blood chromium levels and antioxidant status were measured. No significant differences were detected among the groups.

But after half a year of supplementation, subjects taking chromium alone or chromium in combination with vitamin C and E experienced significantly improved antioxidant status and significantly reduced insulin resistance, fasting glucose, and hemoglobin A1c levels than subjects taking placebo.

“These findings suggest that chromium supplementation alone and [the combination] of chromium together with vitamins C and E was effective for minimization of oxidative stress and improvement of glucose metabolism in type 2 [diabetes] patients,” concluded the study’s author.

Reference

* Lai MH. Antioxidant effects and insulin resistance improvement of chromium combined with vitamin C and E supplementation for type 2 diabetes mellitus. *J Clin Biochem Nutr.* 2008 Nov;43(3):191-8.

Vitamin C Lowers C-Reactive Protein

A recent article in the journal *Free Radical Biology and Medicine* reports the finding of researchers at the University of California, Berkeley that supplementing with vitamin C reduces C-reactive protein (CRP),* a marker of inflammation linked with an increased risk of cardiovascular disease.

Gladys Block, PhD, and her associates randomized 396 non-smokers to receive vitamin C, vitamin E, or a placebo for two months. Although no effect for vitamin C was noted among those with desirable CRP levels, for participants with elevated CRP, vitamin C lowered CRP by 0.25 mg/L compared with placebo, a reduction similar to that associated with statin drug treatment.

“For people who have elevated CRP but not elevated LDL cholesterol, our data suggest that vitamin C should be investigated as an alternative to statins, or as something to be used to delay the time when statin use becomes necessary,” Dr. Block concluded.

—Dayna Dye



Reference

* Block G, Jensen CD, Dalvi TB, et al. Vitamin C treatment reduces elevated C-reactive protein. *Free Rad Biol Med.* 2008 Oct 10.

Vitamin D Deficiency: An Emerging Cardiovascular Disease Risk Factor

A recent review published in the *Journal of the American College of Cardiology* describes the involvement of deficient vitamin D levels in common risk factors for cardiovascular disease and cardiovascular events.*

Michael F. Holick, MD, PhD, and colleagues note that insufficient levels of vitamin D activate the renin-angiotensin-aldosterone system, which can lead to hypertension and thickening of the heart and blood vessel walls. Higher vitamin D levels have been associated with a lower risk of cardiovascular risk factors such as diabetes, hypertension, high triglycerides, and obesity. And among Framingham Heart Study participants who had reduced levels of vitamin D upon enrollment, the risk of subsequent cardiovascular events was twice as great as the risk experienced by those with higher levels of the vitamin.

“Vitamin D deficiency is an unrecognized, emerging cardiovascular risk factor, which should be screened for and treated,” stated study co-author Dr. James H. O’Keefe.

—Dayna Dye



Reference

* Lee JH, O’Keefe JH, Bell D, Hensrud DD, Holick MF. Vitamin D deficiency. An important, common, and easily treatable cardiovascular risk factor? *J Am Coll Cardiol.* 2008 Dec 9;52:1949-56.

Vitamin B1 Helps Reverse Early Kidney Disease in Diabetics

A report published in a recent issue of the journal *Diabetologia* reveals that high doses of the B vitamin thiamine can reverse one of the signs of early kidney disease in diabetic patients.* Diabetes increases the risk of kidney disease, which is detected in its early stage by testing for albumin in the urine.



Naila Rabbani, PhD, of Warwick Medical School, in collaboration with researchers at the University of Punjab, randomized 40 type 2 diabetics with microalbuminuria to receive three 100 mg capsules of thiamine per day or a placebo for three months. By the end of the treatment period, the researchers observed a 41% average decrease in albumin excretion among patients who received vitamin B1. Thirty-five percent of participants experienced a return to normal albumin excretion with thiamine treatment.

“This study once again highlights the importance of vitamin B1 and we need to increase awareness,” Dr. Rabbani stated.

—Dayna Dye

Reference

* Rabbani N, Alam, SS, Riaz S, et al. High-dose thiamine therapy for patients with type 2 diabetes and microalbuminuria: a randomised, double-blind placebo-controlled pilot study. *Diabetologia*. 2008 Dec 5.

Cancer Prevention Research Conference Reports Protective Effect of Cruciferous Vegetables

At the Seventh Annual International Conference on Frontiers in Cancer Prevention Research, Li Tang, PhD, reported the results of a study that compared the diets of lung cancer patients matched for smoking status with subjects who did not have cancer.*

A strong association was found between a lower risk of lung cancer and greater consumption of fruit, total vegetables, and cruciferous vegetables. While the intake of fruit and total vegetables had a stronger protective effect among those who had never smoked, the benefit for cruciferous vegetables was found to exist only in smokers. Depending on the type of vegetable consumed, as well as smoking status and duration, smokers experienced a 20-55% reduction in lung cancer risk.

“These findings, along with others, indicate cruciferous vegetables may play a more important role in cancer prevention among people exposed to cigarette-smoking,” Dr. Tang stated.

—Dayna Dye

Reference

* Available at: <http://www.medscape.com/viewarticle/583910>. Accessed December 3, 2008.

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