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Calm

Nutrients reduce pain and stress

Magnesium in fibromyalgia

Fibromyalgia (FM), the chronic muscle- and joint-pain condition, can cause mental and emotional stress. In this study, 76 adults with a confirmed diagnosis of FM, and at least mild depression on the Depression Anxiety Stress Scale (DASS-42), took a placebo or 50 mg of magnesium twice per day.

After 28 days, those with mild to moderate depression who had taken magnesium saw DASS scores decrease to the normal, non-depressed range while scores in the placebo group increased. In those with severe to extremely severe symptoms, scores declined to the severe range for magnesium while not changing for placebo. All groups taking magnesium reported improvements in pain scores while the placebo group reported increased pain.

This is the first study to show daily magnesium improved stress and pain in fibromyalgia, which doctors said may help reduce the demand for usual drug treatment.

Magnesium, B-vitamins, rhodiola, green tea, L-theanine

In this study, 106 chronically stressed but otherwise healthy adults who reported at least moderate DASS stress scores, took a placebo or 150 mg magnesium, 700 mcg vitamin B6, 100 mcg vitamin B9, 1.25 mcg vitamin B12,



222 mg rhodiola extract, 125 mg green tea extract, and 50 mg L-theanine per day for 28 days.

Beginning at 14 days and continuing through 56 days—28 days after stopping treatment—DASS stress scores declined 3 points, from moderate to mild, in those taking the nutrient combination. There was a smaller improvement in the placebo group, which doctors attributed to the placebo effect.

Sensitivity to cold pain—a symptom typical in those with chronic stress—decreased significantly by day 28, and trended lower for warm pain, in those taking the nutrient combination. Also at 28 days, the nutrient group reported improvements in daytime alertness and less sleepiness, which persisted after treatment stopped through day 56.

REFERENCE: NUTRIENTS; 2022, VOL. 14, NO. 10, NU14102088

AUGUST'S

Healthy Insight Omega-3s Reduce AMD

In this study of 3,772 white, black, Hispanic, Latino, and Asian participants, 5.7 percent had early-stage age-related macular degeneration (AMD). Doctors measured levels of the omega-3s DHA and EPA, and analyzed detailed fundus photographs of the retina to determine the health status of the eye.

As levels of DHA and EPA increased, chances for early AMD decreased. Those with the highest levels of DHA and EPA, separately or together, were 41 to 53 percent less likely to have early-stage AMD compared to those with the lowest levels. Diet quality, race, or ethnicity did not change the findings, leading doctors to conclude chances for AMD are related specifically to omega-3s.

REFERENCE: RETINA; 2022, IAE.03465, PUBLISHED ONLINE

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Lipids

Nutrients improved circulatory health

Hibiscus lowered blood pressure, cholesterol

Many cultures worldwide have used antioxidant-rich hibiscus to lower high blood pressure. In this review of 17 hibiscus clinical trials, doctors found an average 7.10 mmHg reduction in systolic blood pressure, with greater effects in those who began the studies with elevated blood pressure.

Overall, hibiscus was effective in studies lasting more than four weeks, with doses greater than 1,000 mg of hibiscus per day showing consistent blood pressure lowering effects. Doctors also observed improvements in lipid levels in studies using doses between 500 mg and 1,000 mg, with decreases in total cholesterol, triglycerides, and increases in HDL, the beneficial cholesterol.

Oat beta-glucan improved lipids

In 1997, the U.S. Food and Drug Administration (FDA) approved a health claim for oat beta-glucan (OBG) reducing chances for heart disease. OBG is a soluble fiber that forms a thick, gel-like substance that slows sugars entering the bloodstream and reduces the amount of cholesterol the body absorbs.

In this review of 13 clinical trials covering 927 participants, overall, OBG reduced total cholesterol by 0.24 micromoles per liter of blood (mmol/L); and LDL cholesterol by 0.27 mmol/L.

Discussing the findings, doctors said oat beta-glucan reduced total and LDL cholesterol in clinical trials of various lengths, at doses of at least 3 grams per day, the level recommended

by the FDA in its approved health claim, and that those with elevated cholesterol levels should consider taking OBG to reduce chances for heart and circulatory problems.

REFERENCE: NUTRITION REVIEWS; 2022, VOL. 80, NO. 6, 1723-37



Muscle & Joint

Nutrients increase muscle mass, joint flexibility

Whey protein, L-leucine, vitamin D boost muscle mass

Nutrients preserved muscle and increased strength in age-related muscle loss, or sarcopenia. Age-related decline in estrogen, low physical activity,

and low dietary protein contribute to sarcopenia. In this study, 16 obese women with sarcopenia, aged 50 to 70, adopted a 1,000 calorie diet and took 18 grams of whey protein, 4.1 grams of leucine, and 200 IU of vitamin D each day at 5:00 p.m. Total vitamin D between diet and supplements was 600 IU per day.

After 45 days, the group had lost an average 4.6 percent body weight. Fasting insulin, insulin resistance, lipid profiles, and signs of inflammation all significantly improved. Hand grip strength increased to 21.2 kg from 15.3 kg, and in a test of lower-body strength and balance—the Short Physical Performance Battery (SPPB)—scores increased to 8 to 10 from 4 to 9 at the start of the study.

Collagen improved knee range-of-motion

Range of motion naturally declines with age. In this study of the ability to flex and extend the knee, 96 active, healthy men and women, aged 20 to 55, took a placebo or 40 mg of un-denatured type II collagen per day.

After six months, overall, knee flexion increased 3.23 and 0.2 degrees for collagen vs. placebo. In women, the increase for collagen was 4.79 vs. 0.32 degrees for placebo. In those over age 35, knee flexion increased 6.79 for collagen vs. 0.3 degrees for placebo. For knee extension, overall, the collagen group increased 2.21 vs. 1.27 degrees for placebo.

REFERENCE: NUTRIENTS; 2022, VOL. 14, NO. 9, NU14091884



Mind & Body

Nutrients preserve cognition, reduce cancer chances

Vitamin K levels predict cognitive health

Earlier studies suggest a link between low vitamin K and cognitive impairment. Here, doctors used a simple measure to identify insufficient bone levels of vitamin K: ucOC—undercarboxylated osteocalcin.

In this study, 800 independently living adults, average age 76, took



a mental-state exam along with a ucOC test. Overall, 41.6 percent of participants had cognitive impairment. Compared to those with the lowest scores, those with the highest ucOC scores had impaired ability to spell words backwards, name objects such as a pencil and watch, and to keep track of time and location.

“As far as we know, this is the first report on the significant association of single ucOC measurement and cognitive impairment,” doctors said, and recommended using this simple, widely available test to identify vitamin K insufficiency.

Vitamin D, omega-3, exercise reduce cancer

Age, diet, and exercise all influence

chances for developing cancer. This three-year study included 2,157 generally healthy, independently living adults, average age 75, from five European countries. Doctors administered a placebo, a simple home strength exercise alone, 2,000 IU of vitamin D with or without 1,000 mg of marine omega-3s per day, or these two with or without exercise.

Each of the therapies alone reduced chances for cancer between 24 and 30 percent compared to placebo. Any two therapies reduced chances 44 to 48 percent, and combining all three, exercise, vitamin D, and omega-3s, reduced chances for developing cancer by 61 percent compared to placebo.

REFERENCE: FRONTIERS IN NUTRITION; 2022, 811831, PUBLISHED ONLINE

AUGUST'S

Ahead of the Curve

Early-Stage Discoveries: Tocotrienols, Carotenoids, Rosemary, Cumin Seed Oil

Good results in the lab can lead to larger human trials. Here are some of the most promising recent findings.

Tocotrienols reduce amyloid plaques

In the lab, doctors introduced alpha- and gamma-tocotrienols into human cell cultures of amyloid plaques (A-beta1-42 peptide) which build up in Alzheimer's disease (AD). The two tocotrienols reversed the buildup of fibrils that make up the amyloid plaques.

Gamma-tocotrienol appeared to have the greater ability to reduce amyloid plaques, and to prevent them from replicating. Doctors explained, “There is a potential role of the tocotrienols as therapeutic agents for AD,” that can lead to improved brain nerve function and cognitive performance.

Carotenoids, rosemary reverse skin cell damage

Aging and external factors damage the skin and reduce collagen. In the lab, doctors pre-treated human fibroblast skin cells with extracts of lycopene, beta-carotene, and rosemary, and then introduced hydrogen peroxide into the cell culture. The three extracts individually reduced levels of collagen-destroying enzymes by 50 percent. The effects were greater when the extracts were combined. Each extract increased pro-collagen production and restored collagen secretion to normal, healthy levels. Separately, doctors pretreated the fibroblast cells with the hormone estradiol, which completely resisted hydrogen peroxide damage.

Cumin seed oil antimicrobial effects

Healthy skin naturally contains low levels of the fungal microbes *S. aureus*, *C. albicans*, and *M. furfur*, which can overgrow and cause infection. In the lab, doctors exposed the microbe cell cultures to different concentrations of black cumin seed oil.

All varieties of cumin seed oil effectively inhibited *S. aureus*. Cumin seed oil with a 3 percent concentration of its native phytochemical thymoquinone, and low free fatty acid content, was most effective inhibiting the other two microorganisms, *C. albicans* and *M. furfur*.

REFERENCE: BIOCHEMISTRY AND BIOPHYSICS REPORTS; 2021, PMID: 34541343

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Magnesium and Insulin Resistance

Magnesium lowers chances for type 2 diabetes

Circulating levels as important as dietary levels

Many earlier studies have found magnesium helps control blood sugar levels and activate insulin, but most have focused on magnesium in the diet and not actual circulating levels of magnesium. In this study, doctors measured fasting levels of magnesium, glucose, and insulin, as well as long-term average blood sugar levels (A1C) in 5,044 participants over age 18.

All began the study without insulin resistance or diabetes, with 1,331 developing insulin resistance and 429 developing diabetic events over the 5.8-year trial. Compared to those with lower levels, those with magnesium levels of 0.89 to 0.93 micromoles per liter of

blood (mmol/L) were 29.39 percent less likely to have developed insulin resistance, and 8.51 percent less likely to have developed type 2 diabetes.

Discussing the findings, doctors recommended magnesium levels between 0.75 to 0.95 mmol/L to reduce chances for insulin resistance and for staying free from type 2 diabetes.

REFERENCE: NUTRIENTS; 2022, VOL. 14, NO. 9, 1799



Your Good News!

We're dedicated to discovering the benefits of good nutrition and healthy lifestyle, and hope this issue of Natural Insights for Well Being® informs and inspires you to take an active role in your health. Please ask us to assist you with any natural products you would like to know more about.

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