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Diabetes Update

Resveratrol and vitamin B12 support condition management

Resveratrol improved metabolism factors

In this study, 94 participants, aged 18 to 70, with type 2 diabetes for at least five years, took a placebo or 200 mg of resveratrol per day. All had been taking blood sugar control drugs for at least one year.

After 24 weeks, compared to the start of the study, the resveratrol group saw fasting and long-term average blood sugar levels decline 5.97 and 5.6 percent, respectively. Fasting insulin and insulin resistance levels reduced by 8.59 and 13.93 percent, respectively. In a measure of better kidney filtration function, levels of protein in the urine declined 15.65 percent.

Inflammation and oxidative stress factors also improved for the resveratrol group, including high-sensitivity C-reactive protein, interleukin-6, tumor necrosis factor alpha, and malondialdehyde. The improvements in blood sugar and insulin, as well as most inflammatory factors, were even greater compared to placebo.

Vitamin B12 complements metformin

Metformin is the first choice of doctors for managing type 2 diabetes, but long-term use increases chances for



anemia, with 30 percent of long-term users experiencing poor absorption of vitamin B12, which the body needs to form red blood cells. This review of 17 type 2 diabetes studies included participants aged 49.5 to 80.

In studies of B12 deficiency, 23.16 percent of those on metformin were deficient compared to 17.4 percent of those not on metformin. In studies of length-of-time on metformin, those taking it for four to 10 years were 1.5 times more likely to be deficient in B12 compared to those taking it for less than four years. And those on doses of metformin of 1,000 mg or more were 1.6 times more likely to be deficient in B12 compared to those on lower doses.

Discussing the findings, doctors said those with type 2 diabetes should test for B12 deficiency, even without signs of anemia.

REFERENCE: COMPLEMENTARY THERAPIES IN MEDICINE; 2022, VOL. 66, ARTICLE NO. 102819

AUGUST'S

Healthy Insight

Vision in Diabetes

Chronic high blood sugar can damage the small blood vessels in the retina, a condition called diabetic retinopathy. In this study, doctors assessed 1,356 men and women with type 2 diabetes and found those with the highest levels of the omega-3 fatty acid DHA were 17 percent less likely to have retinopathy compared to those with the lowest DHA levels.

For those with retinopathy, the condition was 38 percent less severe in those with the highest levels of DHA, and EPA plus DHA, compared to those with the lowest levels of these omega-3 fatty acids. Adding omega-3s to the diet may prevent diabetic retinopathy.

REFERENCE: RETINA; JANUARY, 2023, 10.1097/IAE.03745

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Eye

Bilberry, DHA, and carotenoids improve eye health

Bilberry and DHA improve dry eye

It is common for people to produce too few tears, or low-quality tears, a condition called dry eye, particularly with long-term exposure to video display terminals. In this study, 24 young and middle-aged adults with a diagnosis of severe dry eye, took 600 mg of bilberry extract plus 240 mg of the omega-3 DHA per day, or took no treatment.

After three months, dry eye had improved by 18.7 percent for bilberry/DHA compared to 1.5 percent for the non-treatment group. The bilberry/DHA group also saw the amount of time it took for tears to break up increase to 5.4 from 3.9 seconds, with the non-treatment group increasing to 3.7 from 3.5 seconds. In a measure of

aqueous tears, the bilberry/DHA group improved 45.3 percent, while the non-treatment group remained dry.

Carotenoids for healthy and diseased eyes

The carotenoids lutein, zeaxanthin, and meso-zeaxanthin—together “xanthophylls”—help preserve the structure and function of the eye by absorbing and controlling varying wavelengths of light. In this review of 43 studies, doctors measured carotenoids in food and supplements in healthy adults and in those with eye disease, in trials lasting eight to 300 weeks.

Overall, the density of carotenoids in the eye increased in all participants compared to placebo and compared to the start of the studies, but increased

more in those with eye disease. Visual acuity also improved in those with eye disease.

Discussing the findings, doctors said xanthophylls help control different light wavelengths to promote more visual clarity.

REFERENCE: FRONTIERS IN NUTRITION; 2023, VOL. 10, No. 1061818



Energy & Sleep

Multiple nutrients improve sleep and fatigue

Black cumin seed oil enhanced sleep, reduced stress

Stress can affect the quality and duration of sleep which significantly influences immunity. In this study, 72 healthy volunteers who reported poor sleep took a placebo or 200 mg of black cumin seed oil extract per day.

After a single dose, 62 percent

reported sleep improvements. After one week, 70 percent taking black cumin reported being satisfied with their sleep pattern, increasing to 79 percent after two weeks. Using a sleep-quality questionnaire, after 45 and 90 days, those taking black cumin reported falling asleep sooner, staying asleep longer, sleeping more soundly, and functioning better during the day. Compared to placebo, the black cumin group reported lower levels of stress, and cortisol levels measured 28 percent lower while melatonin levels increased 16 percent.

Magnesium reduces daytime sleepiness in older adults

In this study, doctors measured magnesium levels in 938 adults, average age 81. Those whose magnesium levels

fell below 1.6 mg per deciliter of blood were 70 percent more likely to report excessive daytime sleepiness compared to those whose levels were at least 1.7 mg per deciliter.

Nutrients improve fatigue symptoms

Authors of this large review of clinical trials said vitamins and minerals may be beneficial in reducing physical and mental fatigue. Of 60 studies, 50 showed significant energy benefits from nutrients, including several of the B vitamins, vitamins C and D, co-enzyme Q10, l-carnitine, methionine, nicotinamide adenine dinucleotide (NAD-H), and zinc.

REFERENCE: FRONTIERS IN NUTRITION; 2023, VOL. 10, No. 1152680



Women's Body & Mind

Vitamin E and glutathione protect women's health

Vitamin E relieved premenstrual symptoms

This study included 51 women with premenstrual symptoms, particularly water retention during the second, luteal phase, from days 15 through 28. Participants took a placebo or 400 IU of gamma-tocopherol vitamin E twice per day for seven days during the luteal phase.

Compared to placebo, women taking vitamin E reported fewer feelings of heavy legs, which doctors confirmed with lower measurements of leg swelling and thigh circumference. During a 24-hour collection period, women in the vitamin E group eliminated higher levels of urinary sodium, a diuretic effect doctors said reduced water retention. Women taking

vitamin E also reported lower levels of fatigue, less irritability and anger, and an improved ability to concentrate.

Glutathione and postpartum suicidal tendencies

Oxidative stress is often higher in neurological disorders, suggesting nutritional factors may influence suicidal tendencies postpartum. Doctors measured oxidative and antioxidative factors in 45 women, average age 28, at 18 months postpartum. Thirty of the women had a diagnosis of major depression or bipolar disorder, while 15 had no mood disorder.

Of two antioxidants, superoxide dismutase and glutathione, only glutathione, also known as GSH, appeared to significantly reduce suicidal

ideation. In 36.7 percent of women with any mood disorder, glutathione levels were lower, raising chances for suicidal ideation. Glutathione levels were significantly higher in women with no chances of suicidal ideation, suggesting supplementing with glutathione postpartum.

REFERENCE: BMC COMPLEMENTARY MEDICINE THERAPIES; 2023, VOL. 23, ARTICLE NO. 136



AUGUST'S

Ahead of the Curve

Early-Stage Discoveries for Leucine, Ginkgo Biloba, L-Fermentum, L-Plantarum

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

Leucine improved strength in hemodialysis

Chronic kidney disease destroys muscle protein and affects 28.5 percent more of those on dialysis vs. the general population. Here, 22 people on dialysis three to four times per week for more than six months took 6 grams of leucine, 8 grams of protein, 400 IU of vitamin D, and 290 mg of calcium per day. After 12 weeks, 21 of the 22 improved in at least one parameter. Hand grip strength increased between 31.8 and 63.6 percent compared to the start of the study. Walking speed and sit-to-stand time improved 59.1 and 63.6 percent, respectively.

Ginkgo biloba treated colitis

There is no safe, effective treatment for chronic inflammatory bowel diseases such as colitis. In the lab, mice pre-treated with ginkgo biloba extract for three weeks had a remarkable reduction in inflammation caused by colitis. Ginkgo also promoted the anti-inflammatory factors interleukin-4 and -10.

Doctors said ginkgo improved gut microbiota and increased short-chain fatty acids in the descending colon. These are responsible for decreasing pro-inflammatory factors and increasing anti-inflammatory factors while strengthening the intestinal barrier function to maintain intestinal integrity.

Probiotics reduced inflammation, NAFLD

Studies have established non-alcoholic fatty liver disease (NAFLD) interacts with intestinal microorganisms, suggesting probiotics may provide relief. In the lab, mice on a high-fat diet took either *L. fermentum* or *L. plantarum* at 1-billion colony-forming units per day. After 12 weeks, both probiotics groups had lost body weight and had reduced elevated levels of liver enzymes. Probiotics also restored liver triglycerides and total cholesterol to normal levels. Pro-inflammatory cytokines were also reduced in the two probiotics groups.

REFERENCE: FRONTIERS IN NUTRITION; 2023, VOL. 10, NO. 69651

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Smoother Skin

Lycopene improved skin appearance, function

Fewer fine lines and wrinkles, better hydration

Maintaining a healthy, youthful appearance with age is a common desire, and carotenoids offer strong antioxidant and anti-inflammatory properties that can improve the skin barrier function. In this study, 50 women, aged 35 to 55, took 15 mg of tomato-derived lycopene per day. There was no placebo group.

After 12 weeks, transepidermal water loss—meaning excess moisture evaporating through the skin—declined by 8.9 percent compared to the start of the study, signaling improved skin-barrier function and hydration. Fine lines surrounding the eyes decreased an average of 41.45 percent, and deeper eye

wrinkles reduced by 26 percent.

Skin brightness, or radiance, also increased 13.5 percent, and skin tone, smoothness, and firmness, improved 18.3 percent. Discussing the findings, doctors said lycopene increased the skin-barrier function, and participants noticed the improvements in skin appearance.

REFERENCE: JOURNAL OF COSMETIC DERMATOLOGY; 2023, VOL. 22, NO. 6, 1786-98



Your Good News!®

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