

# HOLLY HILL HEALTH FOODS

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## Natural Insights for Well Being®

June 2022

### “B” is for Better

#### B vitamins protect against depression

##### B-complex plays a role in mood

Vitamin B12 and other B-complex vitamins are essential—meaning the human body does not synthesize them, and must obtain them from diet. B-complex vitamins help produce brain nerve-signaling chemicals that influence learning, memory, mood, and behaviors related to achieving reward. Low levels increase chances for depression.

##### Low B1, B2, B6, and B12 linked to depression

In this review of 13 articles and 18 B-vitamin-depression studies through 2020, those who got the highest levels of vitamins B1, B2, B6, and B12 in the diet were less likely to report symptoms of depression compared to those who got the least of these essential nutrients.

Overall, men and women with the highest levels of the four B-vitamins were 31 percent less likely to report depressive symptoms compared to those with the lowest levels. Women with low B-vitamin levels appeared more susceptible to depressive symptoms than men with low levels.

##### B6 reduced depression in college women

Some of the best food sources of vitamin B6 include beef, pork, fowl, and fish; with dairy, eggs, and shellfish



containing lesser amounts. Overall, U.S. men and women may be deficient in B6 15 and 30 percent of the time, respectively, and for women taking oral contraceptives, 40 percent may be deficient.

In this new pilot study, eight healthy college women, aged 18 to 25, using oral contraceptives for at least 12 months, took a placebo or 100 mg of vitamin B6 per day, in two alternating four-week phases, pausing for four weeks in between before switching groups, while maintaining their normal diet and exercise habits.

On the standard Beck Depression Inventory II scale, after the vitamin B6 phases, symptom scores decreased by 20 percent, but increased by 11 percent during placebo phases. Discussing the findings, doctors said the data supports a growing body of evidence that vitamin B6 may reduce symptoms of depression in young women using oral contraceptives.

REFERENCE: NUTRITION REVIEWS; 2022, VOL. 80, NO. 3, 351-66

JUNE'S

### Healthy Insight Focus with Vitamin C

After measuring levels of vitamin C in 214 healthy adults, aged 20 to 39, doctors asked the 46 participants with levels below 50 micromoles per liter of blood to take a placebo or 500 mg of vitamin C twice per day.

After four weeks, participants took the Stroop Color-Word Test, which asks participants to name the *color* of letters in a word, a slower process than simply reading. The test gauges cognitive flexibility, resistance to external influence, ability to focus, and creativity.

Those taking vitamin C had better attention and ability to focus exclusively on tasks, with fewer signs of fatigue compared to placebo.

REFERENCE: EUROPEAN JOURNAL OF NUTRITION; 2022, VOL. 61, NO. 1, 447-59

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# Exercise

## Nutrients boost oxygen, reduce fat in exercise

### Grape seed extract, L-citrulline, and muscle

Grape seed extract and L-citrulline have circulatory benefits. In this study, doctors combined the two to test for synergies, giving 11 healthy, lean young men with normal blood pressure a placebo, 600 mg of grape seed extract alone, 6,000 mg of L-citrulline alone, or the two together.

Before the seven-day trial, participants cycled on an ergometer until no longer able to maintain 60 rpm under steadily increasing load. After seven days, the men again cycled at 30, 60, and 80 percent load, resting for 15 minutes before the last segment, each five minutes long.

While the placebo group did not improve, those taking the combined nutrients had increased heart output and total blood-flow volume at the 80 percent workload, which doctors

attributed to greater oxygen delivery to muscles.

### Betaine and body fat in young women

In this study, 23 active women, average age 21.8, with average body fat 23.2 percent—normal in the physically fit—took a placebo or 2,400 mg of betaine per day. Before and after the two-week trial, the women cycled on an ergometer at maximum power for 30 seconds.

While the placebo group did not improve, women taking betaine had increased fat-free muscle mass, reported less perceived exertion, and produced 3.2 percent greater power output during the cycling exercise.

Reviewing the results, doctors said, “Betaine may offer women a dietary supplement which can improve body composition and enhance performance

in the latter stages of exercise or competition.”

REFERENCE: JOURNAL OF DIETARY SUPPLEMENTS; 2022, ARTICLE ID 2023246



# Mobility & Energy

## NMN and olive leaf extract improved physical function, fatigue

### Nicotinamide mononucleotide improved sleep quality

The evening was the most effective time to take nicotinamide mononucleotide (NMN) for improving lower-limb function and reducing daytime drowsiness in those who

reported fatigue. In this study, 108 men and women, aged at least 65, took a placebo or 250 mg of NMN once per day—at any time other than between noon and 6 p.m. After 12 weeks, those who had taken NMN in the evening saw the most improved lower-limb function, and reported less drowsiness compared to NMN at other times of day, and to placebo.

Doctors said this is “the first study to demonstrate the effects of time-dependent intake of MNM on older adults, with significant improvement in sleep quality and physical function.”

### Olive leaf for OA knee pain

In this study, 125 people reporting

mild to severe walking knee pain, with or without osteoarthritis (OA), took a placebo or 125 mg of olive leaf extract twice per day. After six months, doctors analyzed the results according to the level of pain participants reported. While there was minimal change in the mild- and medium-pain groups, those who began the study with severe walking pain from OA saw significant improvements in knee pain and function scores.

Reviewing the findings, doctors said they believe olive leaf works by blocking the calcium channels that transmit nerve pain, reducing the sense of pain.

REFERENCE: NUTRIENTS; 2022, VOL. 14, NO. 4, 755



# Diabetes Update

## Berberine, probiotics, and d-tocotrienol improved diabetic metabolism

### Berberine with probiotics lowered lipid levels

Lipid levels after a meal are as important as fasting levels. In this study, doctors measured lipid levels two hours after 365 people with type 2 diabetes ate a standard carbohydrate meal containing simple sugars and starches.

Before the meal, participants took a placebo, 600 mg of berberine alone,



50 billion colony-forming units of a probiotics combination alone, or these two together. There were no changes for placebo, some improvements for berberine or probiotics separately, and best results for the two combined: total cholesterol down by 24.29—and LDL cholesterol by 16.54—mg per deciliter of blood. Gut levels of bifidobacterium also increased. Simple carbohydrates stimulate the liver to produce more triglycerides, which in turn raises levels of LDL.

### Delta-tocotrienol improved glycemic control

In this study, 77 people with prediabetes—elevated, but not yet high blood-sugar levels—took a placebo or

300 mg of delta-tocotrienols per day. After 12 weeks, long-term average blood sugar levels, known as HbA1c, declined to 5.77 from 6.04 percent in the delta-tocotrienol group, while increasing to 6.04 from 5.99 percent for placebo. Levels of HbA1c below 5.7 percent are considered healthy; levels of 5.7 to 6.4, pre-diabetic; and levels 6.5 or higher, diabetic.

Those taking delta-tocotrienol also had lower levels of insulin and reduced insulin resistance, while there were no changes in the placebo group. Doctors concluded delta-tocotrienol significantly improved glycemic control in those with pre-diabetes.

**REFERENCE:** GUT MICROBES; 2022, VOL. 14, NO. 1, ARTICLE ID 2003176

# Mood & Sleep

## Probiotics improve mood; sleep boosts omega-3 levels

### Probiotics ease depression symptoms

Probiotics influence brain function, but doctors don't understand the process. In this study, 71 volunteer women with moderate depression, aged 29 to 63, took a daily placebo or 8 billion colony-forming units of a broad-spectrum probiotic.

After four weeks, those taking probiotics saw a 50 percent improvement in depression symptom scores compared to the start of the study. Compared to placebo, those taking probiotics had 12 percent better accuracy in identifying facial expressions of all emotions, and paid more attention to neutral faces and less attention to happy or fearful expressions. The probiotics group also performed 18 percent better on audible word-recall tasks.

Remarking on the findings, doctors said people with moderate depression may be reluctant to take standard medications, and that probiotics may be an effective early complementary intervention to help prevent major depressive disorder.

### Healthy omega-3s levels depend on good sleep

In this study, doctors measured omega-3 levels in 1,314 adults, aged at least 19, generally overweight, who were not pregnant or breastfeeding, and 13.8 percent of whom reported taking an omega-3 supplement in the past 30 days.

Compared to those who got a normal amount of sleep—between seven and nine hours per night—those who got less than five hours of sleep persistently had lower levels of EPA, DHA, and total omega-3 fatty acids.

Sleeping longer than normal did not change omega-3 levels, nor did having difficulty falling asleep. Those with higher EPA levels tended to have better sleep quality compared to those with lower levels.

**REFERENCE:** PSYCHOLOGICAL MEDICINE; 2022, ARTICLE ID S00329172100550X



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## Krill for Heart

Krill oil lowers high lipid levels

### Large trial validates omega-3 heart benefit

This North American study included 520 men and women whose triglycerides were between 500 and 1,500 mg per deciliter of blood, considered very high levels. More than half of participants had diabetes, and more than half were taking statin drugs to control cholesterol levels. Participants took a placebo or 4,000 mg of krill oil including 1,240 mg of the omega-3s EPA/DHA, per day.

After 12 weeks, triglyceride levels had decreased by 26 percent for those in the omega-3 group compared to 15.1 percent for those taking the placebo. By 26 weeks, those taking krill oil

saw triglyceride levels decline by 33.5 percent compared to 20.8 percent for placebo.

The study took place in 93 Canadian, U.S., and Mexican centers, with about half of participants being of Hispanic or Latino ethnicity. Doctors said the improvements in triglycerides did not depend on age, sex, race, ethnicity, or country of origin.

**REFERENCE:** JAMA NETWORK OPEN; 2022, VOL. 5, No. 1, E2141898



## 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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