Lipoic Acid as Dietary Supplements to Support Weightloss

A research conducted by Oregon State University and Oregon Health & Science University showed that lipoic acid given as a dietary supplement caused many of the patients lose weight.

The research, published in the Journal of *Nutrition*, analyzed the effects of 24 weeks of daily, 600-milligram doses of lipoic acid supplements on 31 people, with a similarly sized control group receiving a placebo.

Produced by both plants and animals, lipoic acid sets up shop in cells' mitochondria, where it's normally attached to proteins involved in energy and amino acid metabolism. A specialized, medium-chain fatty acid, it's unique in having two sulfur atoms at one end of the chain, allowing for the transfer of electrons from other sources.

The body generally produces enough lipoic acid to supply the enzymes whose proper function requires it. When taken as a dietary supplement, lipoic acid displays additional properties that might be unrelated to the function in the mitochondria. They include the stimulation of glucose metabolism, antioxidant defenses and anti-inflammatory responses—making it a possible complementary treatment for people with diabetes, heart disease

and age-related cognitive decline.

Contrary to what was expected by the researchers, decreased levels of triglycerides were not seen in all the participants taking lipoic acid.

"The effect of lipoic acid supplements on blood lipids was limited," said Gerd Bobe, an LPI scientist who collaborated on the study. "But people who lost weight on lipoic acid also reduced their blood triglyceride levels—that effect was clear." Other effects of the lipoic acid supplements were measurable as well.

Cinnamon to Potentially Improve Blood Sugar Control in Pre-Diabetics

With a recent study making the case for cinnamon, researchers suggest that nutraceutical solutions may serve an adjunctive role in prediabetes prevention efforts.

A recent clinical trial which was published in the Journal of the *Endocrine Society* found that cinnamon can improve blood sugar control in people with prediabetes, and potentially slow the progression of prediabetes to type 2 diabetes. A randomized clinical trial studied the effects of daily cinnamon supplementation at 500 mg, three times daily, versus a placebo over a period of 12

weeks.

The authors of the study hypothesized that cinnamon could improve blood glucose control in prediabetes patients due to its propensity to increase GLUT4 membrane translocation, stimulate post-prandial levels of glucagon-like peptide-1 (GLP-1), inhibition of alpha-glucosidase activity, and antioxidant properties.

Cinnamon supplementation resulted in a significant reduction in plasma glucose from baseline to 12 weeks, while no changes were observed in the placebo group. Additionally, cinnamon resulted in a significant decrease in plasma glucose two hours after an oral glucose tolerance test was administered over the 12-week period.

Additionally, the authors observed that cinnamon supplementation raised fasting insulin levels compared to placebo.

Seaweed Extract for Improved Gut Health and Immune Function

Researchers from Mucosal Immunology Research Group at Griffith University in Queensland, Australian have uncovered the potential for a unique seaweed extract to improve the gut health of high-performance athletes.

Fucoidan is a bioactive compound found naturally in brown seaweeds. Independent research supports the beneficial effects of fucoidan on both the gut microbiome and the immune system. These areas are of particular interest to elite athletes whose intense and prolonged exercise regimes often exacerbate inflammation in the gut and destabilize the microbiome.

The study measured key markers of immunity and inflammation, including fecal lysozyme, an antimicrobial enzyme considered an indicative marker of mucosal immune function. Lysozyme concentrations are often depressed in athletes, as was indicated in the baseline fecal lysozyme concentrations recorded in the study. Lysozyme concentrations of the elite athletes were approximately 73% lower than the healthy adults. Following fucoidan supplementation, lysozyme concentrations

in the elite athletes increased by 45%.

Dr. Amanda Cox, lead author of the study explained, "The significant increase in the lysozyme concentration certainly suggests that fucoidan could be beneficial in supporting a healthy gut and enhancing immune function in high performance athletes."

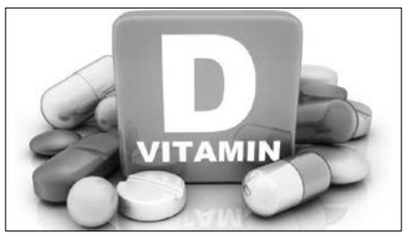
The paper, "Fucoidan Supplementation Restores Fecal Lysozyme Concentrations in High-Performance Athletes: A Pilot Study", published in *Marine Drugs.*

Keeping Vertigo Away with Vitamin D Consumption

Benign paroxysmal positional vertigo happens when a change in head position gives you a sudden spinning sensation. It's one of the most common types of vertigo. Treatment includes doctor performing a series of head movements that shift particles in the ears that cause the vertigo, but the condition tends to recur frequently.

According to a study published in the online issue of *Neurology®*, the medical journal of the American Academy of Neurology has suggested that taking vitamin D and calcium twice a day has potential of reducing the chances of getting vertigo again.

The study looked at 957 people in Korea with benign paroxysmal positional vertigo who were treated successfully with the head movements. The partic-



ipants were separated into two groups, intervention and observation.

The 445 people in the intervention group had their vitamin D levels taken at the start of the study. The 348 people with vitamin D levels below 20 nanograms per milliliter (ng/mL) were started on supplements with 400 international units of vitamin D and 500 milligrams of calcium twice daily, while those with vitamin D levels equal to or greater than 20 ng/mL were not given supplements.

The 512 people in the observation group did not have their vitamin D levels monitored and they did not get supplements.

Those in the intervention group who took the supplements had a lower recurrence rate for vertigo episodes after an average of one year than those in the observation group. People taking supplements had an average recurrence rate of 0.83 times per person-year, compared to 1.10 times per person-year for those in the observation group, or a 24% reduction in the annual recurrence rate.

There appeared to be greater benefit for those who were more deficient in vitamin D at the start of the study. Those who started with vitamin D levels lower than 10 ng/mL saw a 45% reduction in annual recurrence rate, while those starting with vitamin D

levels at 10 to 20 ng/mL saw only a 14% reduction. A total of 38% of the people in the interventional group had another episode of vertigo, compared to 47% of those in the observation group.

Treating Acute Alcoholic Hepatitis with Herbal Formulation

A study was conducted to determine the clinical efficacy and safety of a polyherbal formulation, containing *Capparis spinosa, Cichorium intybus, Mandura bhasma, Solanum nigrum, Terminalia arjuna, Cassia occidentalis, Achillea millefolium and Tamarix gallica,* in acute alcoholic hepatitis. This open, prospective clinical trial included 34 male patients with a mean age of 45.88 ± 9.52 years. All the patients were administered the herbal formulation as two tablets, thrice daily for 4 months. Clinical evaluation for jaundice, anorexia, nausea/vomiting, fever and pruritus was scored at initiation and monthly thereafter for four months.

The study titled 'Evaluation of Efficacy and Safety of Liv.52 Tablet in Acute Alcoholic Hepatitis: An Open Clinical Study' was conducted by Dange SV, Nikam A, Kamale M. and published in the *Indian Journal of Clinical Practice.*

Treatment with the herbal formulation led to significant improvement in clinical signs and symptoms as well as biochemical parameters. The overall impression by the investigator demonstrated considerable improvement in 7.41%, moderate improvement in 33.33%, slight improvement in 33.33% and no change in 25.92% of the cases. The overall impression by the patients showed cure in 3.7%, marked improvement in 11.11%, moderate improvement in 7.41%, slight improvement in 55.56% and no change in 22.22% of the cases.

Significant relief from the clinical symptoms was observed from 2nd month of treatment and improvement continued until the end of the study period. Significant improvement was also noted in liver function parameters. There were no adverse reactions during the study period and overall compliance to the treatment was adequate.

The polyherbal formulation thus seems to be an effective and safe therapeutic option in patients with alcoholic hepatitis.

Co-Administration of Curcumin and Iron Increases BDNF Protein; Helps in Neurogenesis

Increasing BDNF (Brain-Derived Neurotrophic Factor), a protein abundant within the brain, is well-researched and associated with neurogenesis (the production of new brain cells), protection against neurodegenerative diseases, energy homeostasis, and other aspects of cognitive health, making it an established and sought-after outcome for formulators of cognitive support products.

A clinical trial recently published in the journal *Antioxidants* examined whether the co-administration of Iron supplements and a cold water-dispersible curcumin extract, would be able to significantly increase levels of BDNF after six weeks of supplementation.

The clinical trial, administered by the University of Westminster and Coventry University, found that individuals who were administered the curcumin extract and a low-dose iron supplement experienced a significant increase in BDNF.

The results indicated that participants who supplemented with both curcumin and iron experienced statistically significant increases in their BDNF levels by the completion of the 42-day supplementation schedule.

While previous studies have evaluated the effect of administering either curcumin or iron on BDNF levels, this study represents the first in which co-administration was evaluated. Researchers concluded that while the two standalone ingredients have previously been associated with a BDNF increase, there is an additive effect when they are combined, which warrants more research. The authors indicated that it would be valuable to further generalize serum BDNF levels in addition to administering a battery of cognitive performance tests following supplementation.