

Review Finds Heart and Metabolic Benefits to Whey Protein Consumption



According to the World Health Organization, more than 1 in 3 adults (35%) aged 20 years or older worldwide were overweight in 2008, with the United States having the highest obesity rates at 35.5% of the US population. Obesity-related illnesses cause 3 million deaths every year worldwide, with obesity doubling in the past 3 decades. Obesity is a harbinger for

numerous chronic diseases, especially Metabolic Syndrome, characterized by:

- Increased blood pressure ($\geq 130/85$ mmHg)
- Blood sugar problems (fasting plasma glucose ≥ 100 milligrams/deciliter)
- Abnormal blood fats (triglyceride levels ≥ 150 milligrams/deciliter)
- Excess waist circumference (≥ 102 centimeters)
- Low HDL ("good") cholesterol (< 40 milligrams/deciliter in males and < 50 milligrams/deciliter in females).

Combined, all of these health parameters increase the risk of heart disease, heart attack, and stroke and can increase medical costs per patient by at least 20% compared to those without metabolic syndrome. Now a new review of the research suggests whey protein may help with both heart and metabolic health. In the study, researchers found that whey protein supplementation helped at least three areas of health:

- **Blood sugar control:** The researchers noted "immediate health benefits" with whey protein isolate supplementation. They cited a 2005 study in 14 patients with type 2 diabetes in which 27.6

grams of whey protein before breakfast and lunch (totaling 55.2 grams per day) increased insulin response by 31% after breakfast and 57% after lunch compared with the meal without whey protein ($p < 0.05$). Insulin is the hormone that transports sugar into cells for energy production so an increased insulin response will help maintain healthier blood sugar levels.

- **Weight Loss:** Whey supplementation may significantly improve weight loss. A 2011 study in 31 overweight and obese post-menopausal women (body mass index (BMI) ranging from 27.8 to 39.6 kg/m²) who received 25 grams of whey protein concentrate twice per day for 6 months lost nearly twice as much % of starting weight as those taking a sugar (maltodextrin) supplement (8% vs 4.1% of bodyweight lost after 6 months, $p = 0.059$).
- **Blood Pressure:** In a 2006 study, 30 patients with early signs of high blood pressure (between 120/80 and 155/95 mmHg) received either 20 grams per day of either a hydrolyzed whey protein or an unmodified whey protein (control group) for 6 weeks. The researchers found that those in the hydrolyzed whey protein group had an 8.0 mmHg decrease in systolic blood pressure ($p < .05$) and a 5.5 mmHg drop in diastolic blood pressure ($p < .05$), compared with the control group.

For the researchers, "The collective view of current scientific literature indicates that the consumption of whey protein may have beneficial effects on some symptoms of the metabolic syndrome as well as a reduction in cardiovascular risk factors."

Source: "The effects of whey protein on cardiometabolic risk factors" in the November 2011 issue of Obesity Reviews. This study lists the benefits of consuming whey protein. It improves insulin response in order to control blood sugar, significantly improve weight loss and lower blood pressure.

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Spring Allergy Season

It seems like the long dark of winter is over and that spring is finally here. Although that may be good news, for many spring is the season when allergies really kick in. It is during this time that nasal congestion, runny eyes, cough and generally feeling tired is a daily event until summer arrives.

There are a number of very effective medications for the treatment of seasonal allergies. However, many of these medications have uncomfortable side effects and as a result people may be looking for alternatives. There are a number of safe and effective alternatives that are worth trying before having to use over-the-counter or prescription medications.

One of the oldest and simplest ways of keeping your sinuses free and clear of allergens is to wash them out on a regular basis with saline (saltwater). Historically this is a therapy used for thousands of years in Ayurvedic medicine (India) using a device called a neti pot.

A neti pot looks like a small tea pot. A person flushes their sinuses by pouring water in one nostril and it runs out the other. It is usually done once per day.

In my experience I found this to be inadequate for people with seasonal allergies. In addition, the water that is used in a neti pot is rarely sterile and there have been instances of serious infections using tap water.

A better recommendation would be to use sterile saline nasal sprays that can be found at any drugstore, grocery store and even the large discount stores. Using the saline nasal spray numerous times during the day can be quite effective at keeping the sinuses clear of the offending allergens. This process is simple and can be done throughout the allergy season.

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Although there are many supplements, herbs and herbal combinations that are used for seasonal allergies, the research for most of these products is less than robust. That does not mean that they don't work, it simply means that there's just not a lot of research on how well they work.

I do have some favorites that I think can be beneficial. One of them is butterbur. Several small medical studies have suggested that butterbur contains a number of anti-inflammatory compounds and may be as effective as some over-the-counter allergy medications.

However, in the raw state, it does contain compounds called pyrrolizidine alkaloids which can damage the liver. Make sure the label says "free of pyrrolizidine alkaloids."

Butterbur should not be used by women who are pregnant or breast-feeding. Caution is warranted if seriously allergic to plants of the

Asteraceae/Compositae family like ragweed, chrysanthemums, marigolds and daisies.

Astragalus root is another one of my favorite herbs for seasonal allergies. I believe it works well for most people.

Astragalus is most often used in those conditions where the system needs to be strengthened or balanced and it can be taken throughout the year. Like Butterbur, Astragalus should not be used during pregnancy or breast-feeding. It is relatively contraindicated in patients with autoimmune disease since it potentially may make the condition worse.

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“Research has suggested that vitamin D deficiency may increase the risk of autoimmune thyroid disease.”

Study Links Vitamin D to Thyroid Health



Vitamin D is a fat-soluble vitamin obtained by exposure to the ultraviolet rays in sunlight and from food to which it has been added (such as milk). Without sufficient vitamin D, bones can become thin, brittle, or misshapen. However, research has shown that having a vitamin D deficiency in your blood can also increase your risk of cardiovascular disease, cancer and infections.

In addition to chronic diseases, vitamin D deficiency may increase your risk of a certain class of disease called “autoimmune” disease, in which the immune system mistakenly attacks its own tissues. Some autoimmune diseases known to be associated with vitamin D deficiency include type I diabetes mellitus, rheumatoid arthritis and systemic lupus erythematosus.

Researchers have also started to find an association between vitamin D deficiency and thyroid health. The thyroid is an organ that is “vitaly important” to controlling the growth and maturation (including pregnancy) through hormones. When autoimmune antibodies attack the thyroid gland, it can result in an underactive thyroid (a condition called Hashimoto's Disease) or a hyperactive thyroid (a condition called Grave's Disease).

Research has suggested that vitamin D deficiency may increase the risk of autoimmune thyroid disease. In a 2011 study, researchers obtained blood samples from 92 subjects (21 men, 71 women) aged 29 to 68 who were admitted to an endocrinology clinic in Hungary. Fifty of the 92 subjects were diagnosed with either Grave's Disease (22 subjects) or Hashimoto's (28 subjects). Blood samples from the 92 subjects were used to measure their vitamin D levels and were compared to the vitamin D blood levels of 98 age-matched healthy controls. Vitamin D deficiency is defined as having blood levels below 10 nanograms/milliliter.

The researchers found that 58 of the 92 clinic subjects (63%) were vitamin D deficient compared to 30 of the 98 controls (30%) (p < 0.001). Seventy-two % (36/50) of patients with thyroiditis had AITD. Of these AITD patients, those with Hashimoto's Disease (79%) (22/28) and Grave's Disease (64%) (22/28) had particularly higher levels of vitamin D (P,0.001) and (P,0.01) respectively.

The researchers went on to conclude that “significantly lower levels of vitamin D were documented in patients with autoimmune thyroid diseases” and that “our data and those of others point to the involvement of vitamin D in the pathogenesis of autoimmune thyroid diseases”. Finally, the researchers state their results “argue for screening for vitamin D levels in patients with thyroid diseases.”

Source: “Vitamin D and autoimmune thyroid diseases” by S. Kivity et al 2011 in the May 2011 issue of Cell & Molecular Immunology.

Probiotics Improve Antibiotics Effect on Infections in Women

Bacterial vaginosis is the most common vaginal infection in women of reproductive age. It is caused by a combination of overgrowth of harmful (“anaerobic”) bacteria along with reductions in “good” (Lactobacillus) populations in the vagina. When antibiotics are not successful in treating bacterial vaginosis, a secondary infection, called aerobic vaginitis may occur.

The standard therapy for bacterial vaginosis is an oral antibiotic called metronidazole. But with current treatment success rates of only about 50% and a recurrence rate that frequently exceeds 50% within 6 to 12 months after treatment finding, ways to improve antibiotic effectiveness is needed.

A 2015 study involved 154 women with current bacterial vaginosis and aerobic vaginitis infection as well as a history of recurrence. They received the standard antibiotic for these infections (metronidazole 500 milligrams twice daily for 7 days) and were also given either a probiotic (73 women) or placebo (81 women) twice daily for 10 days. They were followed up every month for 3 months, during which no antibiotic was given but either the probiotic or placebo was taken once daily for 10 days.

The probiotic contained three lactic acid bacteria: L.fermentum 57A,

L.plantarum 57B, and L.gasseri 57C.

Each subject underwent a physical exam to assess for reoccurrence of bacterial vaginosis and aerobic vaginitis.

Unfortunately, the researchers did not provide the levels of probiotics used (colony-forming units).

Over the course of the 3 months of follow-up, the researchers found probiotic supplementation to have a significant beneficial effect, specifically a 54.3% longer time before infection reoccurred compared to the placebo group (71 versus 46 days, p = 0.0125).

For the researchers, “This study demonstrated that oral probiotics lengthened remission in patients with recurrent BV/AV and improved clinical and microbiological parameters.”

Source: Heczko Piotr B., Tomusiak Anna, Adamski Paweł et al. Supplementation of standard antibiotic therapy with oral probiotics for bacterial vaginosis and aerobic vaginitis. BMC Women's Health. 2015;15:115 DOI: 10.1186/s12905-015-0246-6.



“Recent research found artificial food colors and additives result in increased hyperactivity in 3-year-olds and 8/9-year-olds.”

Food Additives Shown to Increase Hyperactive Behavior in Children

It has been suggested that artificial food colorings and food additives affect the behavior of children. The main change in behavior is described as being overactive, impulsive, and inattentive, in other words, hyperactive. A recent meta-analysis confirmed that artificial food colors and additives do affect the behavior of children with ADHD (attention-deficit hyperactivity disorder). But more information was needed in the general population without ADHD and in a wider age range. Recent research found artificial food colors and additives result in increased hyperactivity in 3-year-olds and 8/9-year-olds .

The children were randomly given fruit juice Mix drink A or B, then the alternate after a washout period:

- 3-year-olds -Mix A: (20 mg artificial food colorings, 45 mg sodium benzoate)
- 3-year-olds -Mix B: (30 mg artificial food colorings, 45 mg sodium benzoate)
- 8/9-year-olds -Mix A: (24.98 mg artificial food colorings, 45 mg sodium benzoate)
- 8/9-year-olds -Mix B: (62.4 mg artificial food colorings, 45 mg sodium benzoate)

**For the 3-year-olds, Mix A & B were equivalent to about 2 bags of sweets per day. For the 8/9-year-olds, Mix A was equivalent to about 2 bags of sweets per day and Mix B was equivalent to about 4 bags of sweets per day.*

Week 1, all children received a placebo. Weeks 2, 4, and 6, the children received either fruit juice drink Mix A or B. Weeks 3 and 5 were a washout period on the placebo.

Of the 153 3-year-old children enrolled, 79 were boys and 74 were girls. All the children taking Mix A had significant adverse effects on the Global Hyperactivity scales compared to placebo (0.20[95% CI 0.01-0.39]; p=0.044), in contrast to mix B which was not significant (P=0.093).

Of the 144 8/9-year-old children, 75 were boys and 69 were girls. The 8/9-year-old children showed significant adverse effects with both Mix A (0.12 [95%CI 0.02-0.23]; p=0.023) and Mix B (0.17[95% CI 0.07-0.28]; p=0.001) when analyzing children that drank at least 85% of their drinks on the Global Hyperactivity scales.

In conclusion, food colorings and food additives had a negative effect on hyperactive behavior from young to middle childhood aged children. This is of note, since hyperactivity is associated with educational challenges, especially with reading. These new findings show the adverse effects are not just seen in children already diagnosed with ADHD but also in the general population.

Source: “Food additives and hyperactive behavior in 3-year-old and 8/9-year-old children in the community: a randomized, double-blinded, placebo-controlled trial” by McCann et al in the 370th volume of the journal Lancet 2007.

