

Dairy Intake May Aid Metabolic Health; Milk Proteins Help Blood Pressure, Weight

Rosemont, IL—Two recent studies contribute to the growing body of research demonstrating that adequate dairy consumption as part of a nutrient-rich, balanced diet may help maintain metabolic health and reduce the risk of type 2 diabetes.

In one study, published online ahead of print in the *American Journal of Clinical Nutrition* and administered by the Dairy Research Institute, researchers conducted a clinical trial in which 40 overweight and obese adults with metabolic syndrome were randomly assigned to consume either a low dairy or adequate dairy (at least three servings per day) weight maintenance diet for 12 weeks.

Study results show that, compared with low intake, adequate dairy intake significantly improved multiple health indicators. Specifically, markers of both oxidative and inflammatory stress in subjects with metabolic syndrome were reduced; other key components of metabolic syndrome (such as high blood pressure and insulin resistance) showed improvement; and fat mass and waist circumference declined, with no significant change in body weight for either group.

In a study recently published in the *European Journal of Clinical Nutrition*, Chinese researchers conducted a systematic review and meta-analysis of seven prospective studies examining the association between dairy product consumption and type 2 diabetes.

They found that higher dairy intake was associated with lower risk of type 2 diabetes.

Specifically, there was a significant (14 percent) reduction in type 2 diabetes risk in the population

with the highest consumption of dairy products compared with those with the lowest intakes; lowfat dairy consumption was associated with a significant (18 percent) reduction in type 2 diabetes risk; yogurt consumption was associated with a significant (17 percent) reduction in type 2 diabetes risk; and type 2 diabetes risk was reduced 10 percent with an additional daily serving of lowfat dairy.

Milk Protein Lowers Blood Pressure

Meanwhile, a study reported in *Circulation: Journal of the American Heart Association* found that milk and soy protein supplements were associated with lower systolic blood pressure compared to refined carbohydrate dietary supplements.

The study's results suggest that partly replacing refined carbohydrates with foods or drinks high in milk or soy protein may help prevent and treat high blood pressure, according to Jiang He, M.D., Ph.D., lead researcher of the study.

The randomized, controlled clinical trial is said to be the first to document that milk protein lowers blood pressure for people with prehypertension and stage 1 high blood pressure.

Study participants who took a milk protein supplement had a 2.3 millimeters of mercury (mmHg) lower systolic blood pressure, compared to when they took a refined carbohydrate supplement. Participants who took a soy protein supplement had a 2.0 mmHg lower systolic blood pressure when compared to the refined carbohydrate supplement.

Previous studies have shown that a diet rich in lowfat dairy products

reduces blood pressure.

"Some previous observational research on eating carbohydrates inconsistently suggested that a high carbohydrate diet might help reduce blood pressure," said He, an epidemiologist at Tulane University School of Public Health and Tropical Medicine.

"In contrast, our clinical trial directly compares soy protein with milk protein on blood pressure, and shows they both lower blood pressure better than carbohydrates," He added.

Long-term studies would be needed to make specific recommendations for dietary changes.

Whey Protein Aids Weight Loss

To better understand the relationship between protein intake and weight loss, researchers with USDA's Agricultural Research Service (ARS) recently conducted a rigorously controlled human intervention trial comparing milk proteins (whey) versus soy proteins in overweight and obese adults.

Study participants consumed either whey protein, soy protein, or carbohydrate supplements for 23 weeks.

By the end of the study, body weight of the group consuming the whey protein was significantly (2 percent) lower than that of the group consuming the carbohydrate treatment. Moreover, body fat mass was 2.3 kilograms (about five pounds) lower in the whey protein group compared to the carbohydrate group.

These beneficial effects were not seen in subjects consuming the soy protein supplement.

Consumption of the whey protein (but not soy protein) also resulted in lower circulating concentrations of ghrelin, a stomach-derived hormone thought to stimulate hunger. ■