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Blueberries help battle diabetes

New study published in Current Developments in Nutrition shows blueberries' positive effects in men with type 2 diabetes



A new research study published in Current Developments in Nutrition has found that the equivalent of one cup of fresh blueberries may beneficially affect areas of health in overweight men with type 2 diabetes.

The study, 'Effect of Blueberry Consumption on Cardiometabolic Health Parameters in Men with Type 2 Diabetes: An 8-Week, Double-Blind, Randomized, Placebo-Controlled Trial', was conducted at the Stratton Veterans Affairs Medical Center in Albany, New York.

The study found that intake of the equivalent of one US cup of fresh blueberries (given as 22g freeze-dried blueberries) resulted in clinically significant improvements in measurable indicators of type 2 diabetes – Hemoglobin A1c (HbA1c) and fructosamine – compared to a placebo.

These indicators represent two ways to measure glycemic control in those living with diabetes. First, measuring HbA1c levels provides insight into long-term

glycemic control, with the ability to reflect the cumulative glucose level history of the preceding two-to-three months. Testing fructosamine levels provides information on average blood glucose levels over a two-to-three-week time period.

The results also showed significantly decreased levels of serum triglycerides after blueberry consumption compared to placebo.

Left untreated or uncontrolled, elevated blood triglyceride levels may increase the risk of serious complications such as cardiovascular disease – the leading cause of morbidity and mortality for individuals with diabetes.

"To date few human clinical trials have evaluated the potential beneficial health effects of blueberries in populations with type 2 diabetes," said Kim Stote, who has a research appointment at the Albany Stratton VA Medical Center, and is the study's lead investigator. "While the results cannot be generalized to all populations, they to the evidence that a dietary intervention with a realistic

serving of blueberries may be an effective strategy to improve metabolic factors associated with type 2 diabetes."

Study

Over an eight-week period, researchers studied 52 overweight male participants between the ages of 51 and 75 who had a medical diagnosis of type 2 diabetes for at least six months as indicated by hemoglobin A1c (HbA1c) > 6.5 and < 9 and BMI > 25 kg/m².

During the study, non-insulin diabetes medications were prescribed to 100 per cent of the participants. Other inclusion criteria for subjects included no insulin use and no heavy exercise.

Participants were randomly assigned one of two interventions: either 1) 22 g of freeze-dried blueberries (the equivalent of one U.S. cup/d fresh blueberries) along with their regular diet or 2) 22g of a placebo powder (matched in energy and carbohydrate content to the freeze-dried blueberries) along with their regular diet. Of note, fibre was not controlled in the study, which is known to influence

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glycemic response.

Fasting plasma glucose and serum insulin were not significantly different after eight weeks of consumption of freeze-dried blueberries, compared with placebo, while total cholesterol, LDL cholesterol, HDL cholesterol, CRP concentrations, blood pressure and body weight were not significantly different after eight weeks of consumption of freeze-dried blueberries, compared with the placebo.

According to the Centers for Disease Control and Prevention, more than

34m Americans have diabetes (about one in ten).

Approximately 90-95 per cent of them have type 2 diabetes, which occurs when insulin is made by the pancreas, but the body's cells gradually lose the ability to absorb and use the insulin.

The prevalence of type 2 diabetes is increasing in the US population due to aging, physical inactivity, being overweight (body mass index (BMI) > 25 kg/m²) and obesity (BMI

> 30 kg/m²) status, all of which are serious risk factors.

The research was funded by the US Highbush Blueberry Council (USHBC), the agriculture promotion group representing blueberry growers and packers in North and South America who market their blueberries in the US and overseas.