

Mango Consumption Is Associated with Increased Insulin Sensitivity in Participants with Overweight/Obesity and Chronic Low-Grade Inflammation

Eating mangos daily may help people living with overweight or obesity maintain better blood sugar control through improvements with insulin sensitivity.

WHY IS THIS TOPIC IMPORTANT?

Chronic low-grade inflammation, overweight and obesity have been shown to influence the development of type 2 diabetes mellitus (T2DM)(1,2). Low fruit intake has been identified as a major dietary risk in disability-adjusted life years due to CVD and T2DM (3). Feeding studies in humans suggest that mango intake contributes to glucose control, although the mechanisms underlying the effects are not clear (3,4). Previous study findings on mangos suggests glucose control may be achieved through improvements in insulin sensitivity (6).

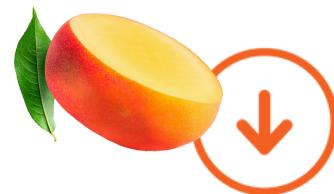
STUDY APPROACH:

This study included 46 overweight or obese adults. Participants were split into two groups: one group was instructed to eat 2 cups of mangos/daily (1 cup in the morning and 1 cup in the afternoon) for 4 weeks, while another group was instructed to avoid mangos and other high polyphenol foods. All participants were instructed to maintain their normal diet and exercise routine and completed an Oral Glucose Tolerance Test (OGTT) at the beginning and end of the 4 week intervention period.

STUDY FINDINGS

Compared to baseline, the group eating mangos for 4 weeks had significantly lower:

- Insulin concentrations following OGTT
- Fasting insulin concentrations



There were no significant findings among either group for changes in glucose concentrations, inflammation markers or cholesterol levels.

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MORE ABOUT THE STUDY

This was a 4 week randomized, placebo-controlled, single-blinded, parallel design clinical trial. Participants' inclusion criteria included $\geq 25 \text{ kg/m}^2$, high sensitivity C-reactive protein (hs-CRP) >1.0 and $<10.0 \text{ ng/L}$, fasting blood sugar $>100 \text{ mg/dL}$ and $<126 \text{ mg/dL}$ [28], and age 20–60 years. Participants visited the lab five times for assessments (e.g., Oral Glucose Tolerance Test [OGTT] at baseline and at 4 weeks) and study product pickup. At each visit, 3-day food records were collected and anthropometrics, body composition and vital signs were measured. OGTTs were performed, using 75 g dextrose in 150 mL of water. Participants were advised to consume the glucose drink in 5 min following blood samples taken 30, 60, 90 and 120 minute intervals. The mango group was instructed to consume and provided with 126.9 g Kent mango and 38.1 g Keitt mango daily for 4 weeks (~2 cups), while the control group were provided with the same calories worth of Italian ices. The study endpoints measured included glucose, insulin, hs-CRP, cholesterol/lipids, and various inflammatory markers.

A strength of this study was its design; however, the study was conducted during COVID-19, which may have impacted the inflammation data and interpretation of result.

Pett KD. Mango Consumption Is Associated with Increased Insulin Sensitivity in Participants with Overweight/Obesity and Chronic Low-Grade Inflammation. *Nutrients*. 2025.

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CULINARY CORNER

MORNING BOOST



Blend mango chunks into your **smoothie** for a tropical twist.

SALAD ENHANCER



Add diced mango to **salads** for a sweet and nutritious addition.

SNACK TIME



Enjoy fresh **mango slices** on their own or paired with a handful of nuts.

DESSERT DELIGHT



Make **Frozen Yogurt-Dipped Mango Pops** with Greek yogurt and honey