

# RESEARCH ROUNDUP



It's our goal here at *Good Health Lifestyles* to bring you the latest in cutting-edge research for a variety of common health issues. Because we believe that knowledge is power—especially when it comes to health—we are digging deeper into the exciting new research from leading medical journals and breaking it down to help you get the most from today's science.

## Can Curcumin and Zinc Treat Prediabetes?

### THE STUDY ABSTRACT:

**Karandish M, Mozaffari-Khosravi H, Mohammadi SM, Cheraghian B, Azhdari M. The effect of curcumin and zinc co-supplementation on glycemic parameters in overweight or obese prediabetic subjects: A phase 2 randomized, placebo-controlled trial with a multi-arm, parallel-group design. *Phytother Res.* 2021 Aug;35(8):4377-4387.**

Management of prediabetes is a critical step to prevent type-2 diabetes. Curcumin and zinc have been studied as an antioxidant, anti-inflammatory, and antidiabetic agents. In this clinical trial, 84 subjects were randomized into curcumin (500 mg), zinc (30 mg), zinc and curcumin, and placebo groups for 90 days. At the baseline and the end of the study, the outcomes (fasting plasma glucose (FPG), 2-hour postprandial glucose (2hpp), HbA1 C, insulin, insulin sensitivity (IS), insulin resistance (IR),  $\beta$ -cell function (BCF), weight, body mass index (BMI), dietary intake, and physical activity (PA)) were measured. A hypocaloric diet and PA were recommended for all subjects. In total, 82 subjects completed the study. After the intervention, dietary intake, PA, weight, and BCF% did not show a significant difference among the groups. However, subjects taking only zinc and zinc and curcumin groups experienced decreased BMI compared to the placebo ( $p = .01$  and  $.007$ , respectively). The three treated groups had improved FPG ( $p = .01$ ), 2hpp ( $p = .003$ ), HbA1C ( $p = .004$ ), insulin ( $p = .001$ ), IS% ( $p = .001$ ), and IR ( $p < .001$ ) compared to the placebo. Based on these results, zinc and curcumin supplementation exerted a beneficial effect on several key glycemic parameters.

This clinical study found that curcumin—an anti-inflammatory compound from turmeric, zinc—an essential mineral, or a combination of both improved a variety of health markers in participants with high blood sugar levels lasting over three months. These include:

- **Fasting plasma glucose:** A measurement of blood sugar levels in the morning or after at least eight hours without eating or drinking (except water).
- **2-hour postprandial glucose:** Blood sugar levels two hours after a meal, when numbers can sink or spike.
- **HbA1C levels:** Measures how much blood sugar is attached to hemoglobin, the protein that carries oxygen in red blood cells.
- **Insulin levels:** The amount of circulating insulin after eating foods with glucose.
- **Insulin sensitivity:** How efficiently and effectively the body uses blood glucose.
- **Insulin resistance:** How difficult it is for the body to use blood glucose.

Additionally, those in the zinc or curcumin and zinc combination groups also saw a reduction in body mass index (BMI).

The zinc used in this research was a gluconate form. The curcumin used in this study was a proprietary form known as BCM-95, which is blended with turmeric essential oil. This helps it overcome bioavailability issues common to the compound, enhancing absorption by 700 percent compared to standard extracts.

So, while a healthy diet of whole foods and a regimen of regular exercise are critical for helping you get blood sugar levels in balance, these nutrients can provide valuable assistance, too. ■

### WHAT THIS MEANS TO YOU:

Even at levels below what would be considered diabetic, chronically elevated blood sugar puts you at a higher risk of developing type 2 diabetes, heart disease, metabolic syndrome, or stroke. It damages nerves and blood vessels, creates systemic inflammation, and exhausts your body's ability to process carbohydrates for energy. Fortunately, adding supplemental nutrients to your daily regimen may help.

