

Mindfulness Linked to Lower Blood Sugar Levels in People with Type 2 Diabetes

New research shows that mind-body practices like yoga effectively lower blood sugar in people with type 2 diabetes.

- Type 2 diabetes is a chronic condition with widespread prevalence, but symptoms are manageable through medication, a healthy diet, and lifestyle modifications, including physical activity.
- A new meta-analysis of the current research shows that mind-body practices effectively lower blood sugar in people with type 2 diabetes.
- Results indicate that yoga had the most significant effect compared to other mindfulness practices that were studied.
- While rigorous physical activity can be helpful for managing T2D, gentler mind-body practices, including meditation, breathwork, and basic yoga postures, can also be effective.

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Around 37 million Americans have diabetes, 90–95% of cases of which are [type 2 diabetes \(T2D\)](#), according to the [Centers for Disease Control and Prevention \(CDC\) Trusted Source](#). Type 2 diabetes is a chronic condition, but symptoms are manageable and, in some cases, [potentially reversible](#) through treatments like prescription drugs, a healthy diet, and regular physical activity.

New research shows that mind-body practices like [yoga](#) can help people with type 2 diabetes lower their blood sugar (blood glucose) levels. Rooted in [mindfulness](#), mind-body practices are intended to be used alongside current standard treatments.

By keeping blood glucose levels within the recommended range, people can reduce their risk of [complications](#) associated with type 2 diabetes, such as [cardiovascular disease](#), kidney damage, nerve damage, and vision problems.

Mindfulness yields similar benefits to diabetes medication

In the study, recently published online in the *Journal of Integrative and Complementary Medicine*, the authors combined and analyzed results from 28 previous randomized controlled trials in what's known as a [meta-analysis](#).

Earlier studies involved people with type 2 diabetes doing a mind-body practice alongside standard diabetes treatment. Researchers compared them to a second group of people who received only the standard treatment.

In a [previous Trusted Source](#) meta-analysis published in 2017, [Herpreet Thind](#), Ph.D., MPH, associate professor in the Department of Public Health at the University of Massachusetts

Lowell, and her colleagues found that people with type 2 diabetes who did yoga saw improvements in their blood glucose levels.

The new analysis, led by [Fatimata Sanogo](#), a Ph.D. student in the Department of Population and Public Health Sciences at the Keck School of Medicine at the University of Southern California in Los Angeles, expanded on the previous research and included studies looking at the benefits of other mind-body practices, such as:

- [meditation](#)
- [qigong](#)
- [mindfulness-based stress reduction \(MBSR\)](#)

However, the majority of studies included in the analysis were yoga interventions.

The results from the new analysis show that mind-body practices led to an average reduction of 0.84% in participants' [hemoglobin A1c \(HbA1c\)](#)^{Trusted Source}. This is a measure of the average blood glucose levels over the past 3 months.

Yoga had the biggest impact on blood glucose levels, leading to an HbA1c reduction of 1%. The other mind-body practices studied also had a positive impact on blood glucose.

Study author [Richard M. Watanabe](#), Ph.D., a professor of population and public health sciences at the Keck School of Medicine at USC, told Healthline that many doctors who specialize in diabetes would not be surprised that mind-body practices can positively impact blood glucose levels.

“What is surprising in this study, though, is the magnitude of the effect,” he said. “It’s almost the same effect size that you would see with pharmacologic intervention.”

One ^{Trusted Source}, for instance, found that treatment with the drug metformin by itself lowered people’s HbA1c by 1.12%, compared to people taking an inactive placebo.

Watanabe added that the impact of mind-body practices on blood glucose levels was “on top of the standard of care,” such as diet, physical activity, and medication treatments.

Promising results, but more research needed

Watanabe said one of the strengths of the new analysis is that the studies were done in several countries — although the majority occurred in India.

As a result, “the consistency in the outcomes [of these studies] suggests that what we’re observing probably can be generalized to the entire human population,” he said.

Thind, the lead author of the 2017 meta-analysis, agreed that the new study’s results are promising.

“It is encouraging to see that the research on mind-body interventions is increasing and consistently showing beneficial outcomes [for type 2 diabetes],” she told Healthline. However, she pointed out that most of the studies did not have a long-term follow-up to see if the benefits of the mind-body interventions persisted.

By comparison, another [recent study](#), which looked at the health benefits of online yoga for knee osteoarthritis, found that once the study ended, people’s participation in the classes dwindled, as did the benefits.

“Overall, we need more rigorous research to make any conclusive statements about the efficacy of yoga or other mind-body interventions as a complementary therapy for individuals with prediabetes or type 2 diabetes in the United States,” Thind said.

Reducing diabetes-related stress

Many mind-body practices include physical activity, which in itself can improve blood glucose levels.

In addition, “mind-body interventions also lead to increased awareness, so they may help promote self-care activities including improved diet and physical activity,” Thind said. According to Dr. [Rashmi S. Mullur](#), an endocrinologist at UCLA and education director of the UCLA Health Integrative Medicine Collaborative, mind-body practices can also help people with type 2 diabetes cope with stress, including any stress related to their condition. This is the stress that comes from living with diabetes (i.e., carefully monitoring what you eat and how active you are and possibly taking medications.)

“As a stress-reduction tool, yoga and other mind-body approaches have been shown to improve blood sugar numbers for patients with diabetes-related distress,” Mullur noted. In terms of future research, Watanabe said he’d like to see more research looking specifically at how mind-body practices impact the body’s stress response in people with type 2 diabetes alongside the changes in blood glucose levels.

Some [studies](#) have already begun to explore the association between stress hormones and type 2 diabetes.

“I think the next step is to see if stress hormones such as cortisol, glucagon, or epinephrine are elevated [in these people] and whether these mind-body interventions can lower them,” he said.

Types of mind-body practices

Many people are familiar with [yoga](#) as a form of physical activity, but this traditional practice also includes breathing exercises, meditation, and other techniques to help focus the mind and improve overall health.

“As an Indigenous practice to India, yoga includes the physical, mental, and spiritual practices that support an overall healthy lifestyle that is part of [Ayurvedic living](#),” Muller said.

Meditation can also be practiced by itself. As with yoga, there are a number of [types of meditation](#), such as keeping your attention on the breath or another object, visualization, or reciting a phrase ([mantra](#)).

A similar practice is mindfulness-based stress reduction (MBSR), an 8-week structured program developed by Jon Kabat-Zinn, Ph.D., and based on the traditional Buddhist practices of mindfulness and meditation. It includes both sitting meditation and mindful movement. Qigong is a [traditional Chinese practice](#) [Trusted Source](#) that involves gentle movements, deep breathing, and meditative techniques, all aimed at improving health and well-being.

Gentler practices are still effective

An intense physical practice — such as what’s often seen with certain types of yoga — can positively impact blood glucose levels through increased physical activity and weight loss. But gentle and seated yoga practices may also improve blood sugar levels, in part, by improving diabetes-related distress.

“If we think about yoga in its gentlest form — sitting, breathing, and linking breath with movement — that has a huge impact on patients with diabetes,” Mullur noted.

And many of the benefits of yoga come from its role not as a physical practice but as a mind-body awareness practice.

“The support for [the blood glucose benefits of] yoga is really around the physical practice linked with [pranayama](#) — the breath — and with meditation,” Mullur said.

Takeaway

A growing body of research suggests that mind-body practices, particularly yoga, can lower blood sugar levels in people with type 2 diabetes.

Despite the positive implications, however, more long-term research is still needed. Be that as it may, almost anyone can benefit from practicing mindfulness. Thind said that people with type 2 diabetes could try out the mind-body practices included in the recent research to see if they are beneficial.

If you’re living with type 2 diabetes and are curious whether mind-body practices could help you manage your symptoms, you may wish to speak with your doctor first. And regardless of which type of mindfulness practice you choose, it’s always a good idea to learn from a qualified teacher.

“Individuals with chronic conditions who are new to yoga or qigong should practice them under the supervision of a trained instructor to ensure their safety,” Thind said. Getty Images/Jessie Casson

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