

Study finds mind-body practices lower blood sugar levels in people with type 2 diabetes

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Mind-body practices such as yoga and meditation are increasingly popular tools for promoting health and combating diseases, including type 2 diabetes. Approximately 66% of Americans with type 2 diabetes

use mind-body practices and many do so because they believe it helps control their blood sugar. Until now, however, whether mind-practices can reduce blood glucose levels has never been rigorously quantified.

According to new research conducted by a team from the Keck School of Medicine of USC, published recently in the *Journal of Integrative and Complementary Medicine*, some mind-body practices can be nearly as effective as commonly prescribed drugs at reducing blood glucose levels in people with type 2 [diabetes](#).

"The most surprising finding was the magnitude of the benefit these practices provide," said Fatimata Sanogo, a Ph.D. student in the Department of Population and Public Health Sciences and lead author of the study. "We expected there to be a benefit, but never anticipated it would be this large."

All practices achieve significant reductions in blood sugar levels

The team analyzed data from randomized controlled trials conducted across the globe between 1993 and 2022. They found 28 trials in which people with type 2 diabetes began a mind-body practice in addition to receiving medication and compared their results with people who only received medication to reduce their blood sugar levels.

This study, the first to analyze a range of mind-body practices including meditation, qigong, yoga and [mindfulness-based stress reduction](#) and their effect on blood glucose levels, revealed that all mind-body practices led to significant reductions in blood sugar levels.

Taken as a whole, the mind-body practices averaged a .84% reduction in hemoglobin A1c, a measure of the average blood glucose level for the

past 3 months. Yoga, the most-studied modality, provided the largest benefit, about a 1% reduction in hemoglobin A1c. The authors noted that a 1% reduction is particularly notable because metformin, the most prescribed diabetes drug, reduces hemoglobin A1c in people with type 2 diabetes by 1.1% on average.

"What is important about this study is that the effect is very strong and that it is on top of the standard of care," said Richard M. Watanabe, Ph.D., professor of population and public health sciences and physiology and neuroscience at the Keck School of Medicine, noting that the research revealed that mind-body practices helped participants achieve reductions in [blood glucose levels](#) on top of the reductions they were getting from medication.

A potential new tool for clinicians

The research suggests that mind-body practices could be used as a both as a complementary nonpharmacological treatment for people with type 2 diabetes and possibly as a preventive measure as well.

New effective methods for keeping type 2 diabetes under control are needed, since only about half of people with type 2 diabetes succeed at reducing their [blood sugar](#) levels to the target level of 7% hemoglobin A1c. At the same time, the number of Americans who are pre-diabetic has grown to about one-third in recent decades.

The studies came from different countries, further suggesting that mind-body practices could benefit people with type 2 diabetes worldwide.

"This could be an important tool for many people because type 2 diabetes is a major chronic health problem and we are not doing a good enough job at controlling it," said Sanogo. "Although this study does not address it as a preventive measure, it does suggest it could help people

who are pre-diabetic reduce their risk for future type 2 diabetes."

More information: Fatimata Sanogo et al, Mind- and Body-Based Interventions Improve Glycemic Control in Patients with Type 2 Diabetes: A Systematic Review and Meta-Analysis, *Journal of Integrative and Complementary Medicine* (2022). [DOI: 10.1089/jicm.2022.0586](https://doi.org/10.1089/jicm.2022.0586)

Provided by Keck School of Medicine of USC

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