

# Stress reduction may reduce fasting glucose in overweight and obese women

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A treatment known as mindfulness-based stress reduction (MBSR) may decrease fasting glucose and improve quality of life in overweight and obese women, new research suggests. The results will be presented in a poster Friday, March 6, at ENDO 2015, the annual meeting of the Endocrine Society in San Diego.

MBSR is a secular mindfulness meditation program that was developed by Jon Kabat-Zinn, PhD at the University of Massachusetts Medical School. The practice of MBSR involves paying attention to one's thoughts, feelings, and bodily sensations in the present moment in a nonjudgmental and nonreactive manner through mindfulness exercises such as breathing awareness. MBSR may be beneficial for overweight and [obese women](#) as it has been shown to reduce stress and improve quality of life.

"In overweight and obese women, stress may contribute to increased diabetes and cardiovascular disease," said Nazia Raja-Khan, MD, assistant professor of medicine and obstetrics and gynecology at the Penn State College of Medicine in Hershey, Pennsylvania. "MBSR significantly reduces fasting glucose and improves quality of life without changing body weight or [insulin resistance](#). Increased mindfulness and reduced stress may lead to physiological changes in the hypothalamic-pituitary-adrenal (HPA) axis and/or sympathetic nervous system that result in lower glucose levels."

Dr. Raja-Khan and her colleagues conducted a pilot randomized

controlled trial of 86 overweight or obese women who were similar in age and [body mass index](#). The women received 8 weeks of either MBSR or health education control (HEC) and underwent fasting blood work and completed questionnaires at baseline, 8 weeks and 16 weeks.

The MBSR group's mindfulness scores significantly increased and its perceived stress scores significantly decreased, compared to the HEC group's scores. While sleep, depression, anxiety and overall psychological distress improved in both groups, fasting glucose dropped significantly and quality of life improved significantly in the MBSR group, but not in the HEC group.

Weight, body mass index, blood pressure, lipid profile, hemoglobin A1c, fasting insulin, homeostasis model assessment of insulin resistance (HOMA-IR) and high-sensitivity C-reactive protein (hsCRP) remained similar with MBSR.

"Given the increasing epidemics of obesity and diabetes, this study is particularly relevant to the general public, as it demonstrates that stress management, specifically with mindfulness-based interventions such as MBSR, may be beneficial for reducing perceived [stress](#) and blood glucose and improving quality of life in overweight or obese women," said Raja-Khan. "This research supports the integration of mindfulness-based interventions with conventional medical approaches to obesity and diabetes prevention and treatment."

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Provided by The Endocrine Society

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