

Adjusting diet can help women through menopause

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Altering diet can reduce unfavorable health changes associated with menopause such as blood sugar control and cholesterol levels.

The research, published in *eBioMedicine*, is from PREDICT which is the largest study of its kind and explores [menopause](#) affects day-to-day metabolism. The study involved scientists from King's, the personalized nutrition company ZOE, Harvard T.H. Chan School of Public Health, and Massachusetts General Hospital.

Menopause is defined as the point in time when a woman hasn't had a period in 12 months, usually occurring after the age of 45. This change in hormones means women are more susceptible to changes in body composition, mood, sleep, inflammation, glycemic control, and [cholesterol levels](#), contributing to an increased risk of heart disease and many other metabolic health problems.

"Menopause has historically been vastly understudied and women have been under-represented in [health research](#), especially in relation to diet and health. Our research shows that menopause is a time of major metabolic upheaval, which can have significant impact on long-term health. These findings will help us deliver simple yet more personalized nutrition and health advice with greater efficacy to reduce the health burden of menopause," says Dr. Sarah Berry from the School of Life Course & Population Sciences and study lead.

Researchers found key differences in inflammation and blood sugar levels after eating in post-menopausal versus pre-menopausal women. The unfavorable effect of menopause on blood sugar control, which is a key risk factor for [cardiovascular disease](#) and type 2 diabetes, was found even in women of a similar age pre- and post-menopausal women. This shows for the first time that this decline in [blood sugar control](#) was not just an inevitable part of aging.

Another novel finding of this research was that the association between menopause with higher body fat and inflammation was partly mediated by [poor diet](#) and the microbiome. This means diet has potential role in

reducing these risk factors.

The research team also found that post-menopausal women consumed higher intakes of dietary sugars and reported poorer sleep compared with pre-menopausal women. This increased their risk for type 1 and type 2 diabetes, obesity, and cardiovascular disease. These changes in diet and sleep, alongside the decrease in [physical activity](#) reported in previous studies, are linked to declining estrogen and may act in concert to increase the risk for weight gain over time.

The study also observed differences in the abundance of bacterial species between pre- and post-menopausal women, including pro-inflammatory and obesogenic bacteria.

"ZOE's PREDICT study gives us an opportunity to study nutrition and health in thousands of people at an unprecedented scale, breadth and depth. Our insights are helping to unravel the complex connections between lifestyle, hormones, metabolism and health in a way that simply wasn't possible before. Small diet and [lifestyle changes](#) have the potential to make a big difference to how women manage their symptoms and improve this transition," says Kate Bermingham, first author on the paper from the School of Life Course & Population Sciences.

"The good news is that what you eat may partially reduce the unfavorable health impacts of menopause, either directly by reducing inflammation and blood sugar spikes or indirectly by altering the microbiome to a more favorable composition," said Dr. Berry.

More information: Kate M. Bermingham et al, Menopause is associated with postprandial metabolism, metabolic health and lifestyle: The ZOE PREDICT study, *eBioMedicine* (2022). [DOI: 10.1016/j.ebiom.2022.104303](https://doi.org/10.1016/j.ebiom.2022.104303)

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