

# Even moderate adherence to vegetarian diet could prevent overweight/obesity in middle age

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Eating a diet high in plant-based foods and low in animal-based foods may protect against obesity in middle aged and elderly populations, even if a vegetarian or vegan diet is not strictly followed.

The new research being presented at this year's European Congress on Obesity (ECO) in Vienna, Austria (23-26 May), indicates that a [plant-based diet](#) lowers the risk of developing obesity in the long term—over 26 years follow-up.

Previous evidence suggests that vegan or vegetarian diets high in plant-based foods and that eliminate all or the vast majority of animal products—may cut the risk of developing obesity. However, little is known about if and how varying degrees of adherence to a plant-based [diet](#) beyond a strict vegan or vegetarian diet influences overweight/obesity, or affects [fat mass](#) and fat-free mass (muscle and bone), in middle-aged and elderly populations who are experiencing age-related body composition change and losing muscle mass.

To investigate this further, Zhangling Chen, and colleagues from Erasmus MC Rotterdam in the Netherlands examined the association between varying degrees of plant-based diet and body mass index (BMI), waist circumference, fat mass index (fat weight relative to height), fat-free mass index, and [body fat percentage](#) over the long term in 9,641 middle-aged and elderly adults (average age 62 years) from the

Rotterdam Study—an ongoing population-based study in The Netherlands.

Dietary data were collected using a detailed [food](#) frequency questionnaire at the start of each of three sub-cohorts (1989-1993, 2000-2001, and 2006-2008). From that, the researchers created a plant-based diet index to [score](#) the degree of plant-based foods versus animal-based foods for each participant. Participants earned positive scores for eating plant-based foods such as nuts, fruits, and vegetables, and were given negative scores for eating animal foods like meat, dairy, and fish. A higher score indicated better adherence to a diet high in plant-based foods and low in animal-based products.

Between 1986 and 2016, participants had their height, weight, and waist circumference repeatedly measured every 3 to 5 years, while fat mass and fat-free mass were measured using dual X-ray absorptiometry (DXA) scanning every 3 to 5 years from 2002 to 2016.

Analyses showed that participants who had higher scores on the plant-based diet index had a lower BMI over the long term, mainly due to lower body fat mass, after adjusting for the effects of time of repeated measurements, total energy intake, education, socioeconomic background, and physical activity levels.

Compared with participants with a zero points score on the index, participants with a 10 point score had 0.70 kg/m<sup>2</sup> lower BMI and 0.62kg/m<sup>2</sup> lower fat mass index. The 10 points higher score can be achieved in various ways, such as replacing 50g of red meat per day with 200g of vegetables. Similarly, a higher score was associated with lower [waist circumference](#) and body fat percentage. These associations were stronger in middle-aged participants (45-65 years) than elderly (older than 65 years).

She concludes: "Our study suggests that a more plant-based and less animal-based diet beyond strict adherence to vegan or vegetarian diets may be beneficial for preventing overweight/obesity in middle-aged and elderly populations. In other words, eating a plant-based diet to protect against [obesity](#) does not require a radical change in diet or a total elimination of meat or animal products. Instead, it can be achieved in various ways, such as moderate reduction of red meat consumption or eating a few more vegetables. This supports current recommendations to shift to diets rich in plant foods, with low in consumption of animal foods."

The authors acknowledge that their findings show observational differences rather than evidence of cause and effect, and note that their results need to be confirmed in different populations and through randomised trials.

Provided by European Association for the Study of Obesity

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