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## Higher adherence to the Mediterranean Diet is associated with weight loss maintenance: the MedWeight study

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### Abstract

**Introduction:** Adherence to the Mediterranean dietary pattern has been associated with numerous health benefits in non-communicable diseases, including obesity management. However, the associations of the Mediterranean Diet with weight loss maintenance remain to be evaluated.

**Methods:** We analyzed data from 500 participants (61% women) of the MedWeight study. Eligible volunteers were men and women 18–65 years old, reporting an intentional weight loss of at least 10%, starting from a BMI  $\geq 25$  kg/m<sup>2</sup>. Based on their current weight, participants were characterized as maintainers (current weight  $\leq 90\%$  of maximum weight), or regainers (current weight  $> 95\%$  of maximum weight). Socio-demographics, lifestyle measurements and weight history were recorded. Dietary intake was assessed by 2 telephone 24-hour recalls. Adherence to the Mediterranean Diet was assessed with the MedDietScore (range 0–55, greater scores showing higher adherence). Physical activity levels were assessed with the International Physical Activity Questionnaire-short form. Results are expressed as means  $\pm$  SD, frequencies (%) or Odds Ratio [OR; 95%Confidence Interval].

**Results:** Compared to regainers (31%), maintainers were younger ( $31.4 \pm 10.0$  vs.  $36.6 \pm 10.8$  years,  $p < 0.001$ ), had lower BMI ( $25.7 \pm 4.3$  vs.  $31.4 \pm 5.1$  kg/m<sup>2</sup>,  $p < 0.001$ ), and had greater initial body weight loss ( $25.5 \pm 8.6\%$  vs.  $18.4 \pm 6.9\%$ ,  $p < 0.001$ ). Sex and years of formal education were not significantly different between maintainers and regainers ( $p > 0.05$ ). Being in the highest MedDietScore quintile (vs. the lowest) was associated with 91% higher odds of being a maintainer [crude OR = 1.91; 1.05–3.45]. This association remained significant after adjusting for sex, age, physical activity level (MET $\dot{V}$ minutes/week) and energy intake (kcal/day) [adjusted OR = 2.01; 1.05–3.83].

**Discussion:** Higher adherence to the Mediterranean Diet was independently associated with 2-fold increased likelihood of weight loss maintenance. Our results highlight the favorable effects of a prudent dietary pattern in long-term obesity management, as well as novel targets for diet planning during weight loss maintenance.

### Conflict of Interest

There is no conflict of interest