

Diets Compared -- Losses Modest

Mean weight loss at 1 year was about 6 pounds, in part because less than 2/3 completed the year (completers lost more). Each diet reduced the LDL/HDL ratio by approximately 10%, but without significant effects on blood pressure or glucose. Weight loss correlated better with self-reported adherence than diet type.

diet	loss	completed
Atkins	2.1+-4.8kg	53%
Ornish	3.3+-7.3kg	50%
Weight Watchers	3.0+-4.9kg	65%
Zone	3.2+-6.0kg	65%

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Comparison of the Atkins, Ornish, Weight Watchers, and Zone Diets for Weight Loss and Heart Disease Risk Reduction: A Randomized Trial

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ABSTRACT

Context The scarcity of data addressing the health effects of popular diets is an important public health concern, especially since patients and physicians are interested in using popular diets as individualized eating strategies for disease prevention.

Objective To assess adherence rates and the effectiveness of 4 popular diets (Atkins, Zone, Weight Watchers, and Ornish) for weight loss and cardiac risk factor reduction.

Design, Setting, and Participants A single-center randomized trial at an academic medical center in Boston, Mass, of overweight or obese (body mass index: mean, 35; range, 27-42) adults aged 22 to 72 years with known hypertension, dyslipidemia, or fasting hyperglycemia. Participants were enrolled starting July 18, 2000, and randomized to 4 popular diet groups until January 24, 2002.

Intervention A total of 160 participants were randomly assigned to either Atkins (carbohydrate restriction, n=40), Zone (macronutrient balance, n=40), Weight Watchers (calorie restriction, n=40), or Ornish (fat restriction, n=40) diet groups. After 2 months of maximum effort, participants selected their own levels of dietary adherence.

Main Outcome Measures One-year changes in baseline weight and cardiac risk factors, and self-selected dietary adherence rates per self-report.

Results Assuming no change from baseline for participants who discontinued the study, mean (SD) weight loss at 1 year was 2.1 (4.8) kg for Atkins (21 [53%] of 40 participants completed, P = .009), 3.2 (6.0) kg for Zone (26 [65%] of 40 completed, P = .002), 3.0 (4.9) kg for Weight Watchers (26 [65%] of 40 completed, P < .001), and 3.3 (7.3) kg for Ornish (20 [50%] of 40 completed, P = .007).

Greater effects were observed in study completers. Each diet significantly reduced the low-density lipoprotein/high-density lipoprotein (HDL) cholesterol ratio by approximately 10% (all $P < .05$), with no significant effects on blood pressure or glucose at 1 year. Amount of weight loss was associated with self-reported dietary adherence level ($r = 0.60$; $P < .001$) but not with diet type ($r = 0.07$; $P = .40$). For each diet, decreasing levels of total/HDL cholesterol, C-reactive protein, and insulin were significantly associated with weight loss (mean $r = 0.36, 0.37,$ and $0.39,$ respectively) with no significant difference between diets ($P = .48, P = .57, P = .31,$ respectively).

Conclusions Each popular diet modestly reduced body weight and several cardiac risk factors at 1 year. Overall dietary adherence rates were low, although increased adherence was associated with greater weight loss and cardiac risk factor reductions for each diet group.
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