The effect of three different ad libitum diets for weight loss maintenance: a randomized 18-month trial

Purpose: To test the effect of three diets in their ability to sustain weight loss and improve type 2 diabetes (T2D) and cardiovascular disease (CVD) risk markers after 18-month intervention. Methods: Following a ≥8 % weight loss, 131 healthy, overweight/obese (BMI ± SD 31.5 ± 2.6 kg/m²) men (n = 55) and women (n = 76) aged 28.2 ± 4.8 years were randomized to either 1. Moderate fat (40 E%) with 20 E% MUFA and low in glycemic index (GI) (MUFA, n = 54), 2. Low fat (25 E%) and medium in GI (LF, n = 51) or 3. Control (35 E% fat) and high in GI (CTR, n = 26) all with similar protein content, and all provided ad libitum. First 6-month intervention with 100 % food provision (previously reported) following 12 months of moderately intensive intervention with 20 % food provision now reported. Results: Attrition rate was higher in MUFA (63 %) than in LF (37 %, P = 0.019) and CTR (42 %, P = 0.09) group. Weight regain in completers was not different between groups (mean ± SEM), MUFA 7.1 ± 2.1 % versus LF 5.6 ± 1.3 % versus CTR 7.2 ± 1.5 %, nor was body fat regain, MUFA 4.8 ± 1.0 % versus LF 4.7 ± 0.8 % versus CTR 5.7 ± 0.6 %. The MUFA group reduced LDL/HDL ratio by −0.47 ± 0.09 compared with −0.23 ± 0.11 in LF (P < 0.05) and 0.06 ± 0.14 (P < 0.005) in CTR groups. Conclusions: Weight regain or body composition did not differ between diets over 18 months. No effects on risk markers for T2D or CVD were found, with the exception of an improvement in the LDL/HDL ratio by the MUFA diet compared to the CTR diet. The LF diet was generally more satisfactory and the MUFA diet seemed more difficult to follow.

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