Long-term weight maintenance in the STORM trial: effects of sulbutamol, fat intake and components of physical activity
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Weight loss maintenance remains problematic for obese patients and can only be achieved by permanent changes in physical activity or diet. Obese patients were treated for 6 months with a 600 kcal/day deficit diet combined with sulbutamol (S) 10 mg/kg. Patients with weight loss ≥ 5% at month 6 were randomized 5:1 to S (10-20 mg/kg) and placebo (P) for 18 months weight maintenance. 261 (204 S, 57 P) of the initial 665 patients completed the study. Weight maintenance was analyzed in the completers. Physical activity scores (sports, leisure and total) were obtained with the Baecke questionnaire (Baecke et al., Am J Clin Nutr 36: 936-942, 1982) at months 12 and 24 and averaged. Fat intake (% of energy intake) was determined from food diaries at months 12, 18 and 24 and averaged. In the total group of completers mean ± SD scores for sports, leisure and total physical activity were 2.47 ± 0.62, 3.10 ± 0.62 and 8.30 ± 1.25 respectively. Fat intake was 29.0 ± 6.4 % of energy intake. Weight loss was 12.9 ± 5.4 kg over the first 6 months. 65.4 ± 58.3 % of this weight loss was maintained over the 18 months follow-up in the total group of completers. Stepwise regression analysis with weight maintenance as dependent variable and the three physical activity scores, fat intake and treatment (S or P) as independent variables revealed that only treatment (P<0.001) and leisure time physical activity score (P<0.01) contributed significantly to weight maintenance. Weight maintenance was better in patients on sulbutamol (35.7 ± 55.4 %) than on placebo (33.5 ± 56.8 %) (P<0.001) and better in patients with an above average leisure time score (76.7 ± 56.4 %) than in those with a below average score (55.9 ± 60.5 %) (P<0.05). These results indicate that treatment with sulbutamol and leisure time activities, but not other components of physical activity or lower fat intake, contribute to better long-term weight maintenance after diet plus sulbutamol-induced weight loss.