

## **Changes in body composition, physical performance and cardiovascular risk factors after a 3-week integrated body weight reduction program and after 1-y follow-up in severely obese men and women**

N.A. Maffiuletti, F. Agosti, P.G. Marinone, G. Silvestri, C.L. Lafortuna, A. Sartorio

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Objective: to investigate the short- and medium-term (ie, at 1-y follow-up) effects of a hospital-based body weight reduction (BWR) program lasting 3 weeks in severely obese individuals.

Design: longitudinal, clinical intervention study entailing energy-restricted diet, tailored aerobic-strength exercise, psychological counselling and nutritional education during a 3-week period followed by 49 weeks of indirect supervision at home.

Subjects: in all, 45 women and 19 men aged  $30.2 \pm 7.2$  y (mean  $\pm$  s.d.) with severe obesity (BMI:  $41.3 \pm 4.3$  kg/m<sup>2</sup>), classified as weight losers (final < initial weight) and regainers (final  $\geq$  initial weight).

Interventions: body composition, physical performance and cardiovascular risk factors before and after the BWR program and at follow-up.

Results: the large majority of the experimental subjects obtained a clinical success after the 1-y period, and the rate was higher in females (n=37/45, ie, 82.2%) than in males (n=11/19, ie, 57.9%). At follow-up, weight losers had higher percent fat-free mass, muscle strength, HDL-cholesterol and self-reported physical activity level and lower total cholesterol and glucose levels than weight regainers ( $P < 0.05-0.01$ ). Males displayed significantly larger fat-free mass losses than females at post-BWR and at follow-up.

Conclusions: a 3-week hospital-based integrated BWR program resulted in a high rate of clinical success in severely obese individuals at 1-y follow-up (particularly in females), that was associated with increased levels of self-reported physical activity and improved muscle strength and lipid profile. Further research is needed to establish the long-term effects (i.e., at 2-5y) associated to this treatment.

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