

Body mass reduction markedly improves muscle performance and body composition in obese females aged 61-75 years: comparison between the effects exerted by energy-restricted diet plus moderate aerobic-strength training alone or associated with rGH or nandrolone undecanoate

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Objective: to investigate the effectiveness of a body mass reduction programme entailing diet caloric restriction and moderate physical activity with or without supplementary treatment with recombinant (r) GH or steroids to improve body composition and muscle performance in severely obese women aged 61-75 years.

Methods: twenty women were randomly assigned to one of three groups: body mass reduction alone; body mass reduction plus rGH; body mass reduction plus nandrolone undecanoate. Body composition, isotonic muscle strength and anaerobic power output during jumping were determined before and after the 3-week period.

Results: whatever the experimental group considered, body mass ($p<0.01$), body mass index ($p<0.05$) and fat mass ($p<0.05$) decreased significantly, whereas muscle strength and power increased significantly ($p<0.05$) after the intervention.

Conclusion: small body mass reductions after 3 weeks of energy-restricted diet combined with moderate aerobic and strength exercise are associated with significant improvements in upper and lower limb muscle strength and power and reduction of fat mass in severely obese women aged 61-75 years. Although the association of rGH or nandrolone undecanoate does not appear to exert additional effects on body composition and muscle performance attained by body mass reduction alone, further additional studies with larger study groups, different dosages and more prolonged periods are required for definitive conclusions to be drawn.

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