

Body Composition Response to Lower Body Positive Pressure Training in Obese Children

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Abstract : Background: The high prevalence of obesity in Egypt has a great impact on the health care system, economic and social situation. Evidence suggests that even a moderate amount of weight loss can be useful. Aim of the study: To analyze the effects of lower body positive pressure supported treadmill training, conducted with hypocaloric diet, on body composition of obese children. Methods: Thirty children aged between 8 and 14 years, were randomly assigned into two groups: intervention group (15 children) and control group (15 children). All of them were evaluated using body composition analysis through bioelectric impedance. The following parameters were measured before and after the intervention: body mass, body fat mass, muscle mass, body mass index (BMI), percentage of body fat and basal metabolic rate (BMR). The study group exercised with antigravity treadmill three times a week during 2 months, and participated in a hypocaloric diet program. The control group participated in a hypocaloric diet program only. Results: Both groups showed significant reduction in body mass, body fat mass and BMI. Only study group showed significant reduction in percentage of body fat ($p = 0.043$). Changes in muscle mass and BMR didn't reach statistical significance in both groups. No significant differences were observed between groups except for muscle mass ($p = 0.049$) and BMR ($p = 0.042$) favoring study group. Conclusion: Both programs proved effective in the reduction of obesity indicators, but lower body positive pressure supported treadmill training was more effective in improving muscle mass and BMR.

Keywords : children, hypocaloric diet, lower body positive pressure supported treadmill, obesity

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