

10th International Conference and Exhibition on

Obesity & Weight Management

December 08-10, 2016 Dallas, USA

Effect of physical exercise in girls differing in body mass

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Obesity is a growing problem in Czech Republic today, as it is in many countries. Alongside a range of health problems associated with increased body mass (BM) is an important limiting factor for realization of regular physical exercise and qualitative life style. The study goal was to assess the effect of movement intervention in girls differing in BM. Study was carried out on 62 girls with normal BM (mean age = 12.6 ± 2.2 years; BM = 47.8 ± 3.0 kg; height = 157.9 ± 4.1 cm), 48 overweight girls (12.6 ± 2.3 ; 61.9 ± 3.1 ; 158.4 ± 4.5) and 42 obese girls (12.8 ± 2.7 ; 72.6 ± 3.6 ; 157.4 ± 4.0). Body composition was assessed by bioimpedance method using prediction equations that are valid for the Czech child population, functional variables were determined on a treadmill. The energy content of weekly movement program for girls with normal BM ranged from 1390 kcal to 2720 kcal (mean 1990 ± 330 kcal) in children with overweight from 1630 kcal to 2380 kcal (1940 ± 240 kcal) and in obese children from 1910 kcal to 2580 kcal (2280 ± 310 kcal). Relative changes in %BF ranged from 15.6% in obese to 16.4% in normal BM and in VO₂ peak from 13.9% in normal BM to 15.7% in obese. In girls differing in BM have absolute changes in followed parameters like a result of imposed intervention substantively and statistically significant. On the contrary, differences in relative terms are non-significant. We can conclude that an exercise program with a similar energy content, form and intensity causes the similar changes in BC and in motor and functional performance in girls, differing in BM.

Biography

Vaclav Bunc has earned his PhD from TU Prague (1979). He is the Vice-dean of Faculty of PE at Sport Charles University Prague. His main research topics are: obesity management, application of mathematical methods and models in PE and sport, evaluation of physical fitness, exercise physiology, functional and physical testing in laboratory and field, body composition, BIA methods, moving regimes for prevention. He has published more than 350 papers in Czech and internationally reputed journals and serving as an Editorial Board Member of repute.

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