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Effect of Physical Exercise on Adiposity and Aerobic Fitness in Middle Age Women Differing in Body Mass

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Overweight and/or obesity is a growing problem over the world. Alongside a range of health problems associated with increased body mass (BM) – adiposity and reducing of fitness level it is an important limiting factor for realization of regular physical exercise and quality of life. The study goal was to assess the effect of movement intervention in women differing in the BM. Study was carried out in 42 women with normal BM (mean age=42.6±3.6 years; BM=69.3±3.7 kg; height=167.5±4.6cm; %BF=25.1±2.5%), 40 overweight women (42.0 ± 2.9; 80.9±3.9; 169.1±4.0; 28.9±2.9%) and 38 obese women (43.8±3.0; 90.4±4.6; 168.3±3.5; 32.1±3.4%). Body composition was assessed by bioimpedance method using prediction equations that are valid for the Czech middle aged women population, functional variables were assessed on a treadmill. The energy content of weekly movement program for women with normal BM ranged from 990 kcal to 2350 kcal (mean 1590±350 kcal) in females with overweight from 1230 kcal to 1980 kcal (1640±290 kcal) and in obese women from 1510 kcal to 2180 kcal (1780±370 kcal). Reduction in %BF ranged from 15.6% in obese to 16.4% in normal BM of starting value and in VO_{2peak} increased from 13.9% in normal BM to 15.7% in obese. In middle aged women differing in BM are absolute changes in adiposity and aerobic fitness like a result of imposed movement intervention substantively and statistically significant. On the contrary, differences in percentages of pre-intervention values are non-significant. We can conclude that an exercise program with a similar energy content, form and intensity causes the similar changes in adiposity and in motor and functional performance in women, differing in BM.

Biography:

Václav Bunc - graduated from Technical University Prague, professor in the Exercise Physiology from Charles University Prague Main topics: application of mathematical methods and models in PE and sport, using of biocybernetics by evaluation of physical fitness, exercise physiology, obesity reduction, functional and physical testing in laboratory and field, body composition, BIA methods, moving regimes for prevention in cardiac and obese patients. He is member of Czech and International scientific societies, head of many research projects, author of the great numbers of research reports.