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EFFECT OF PHYSICAL EXERCISE ON ADIPOSITY AND AEROBIC FITNESS IN MIDDLE AGE MEN 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 45 men with normal BM (mean age=43.7±3.6 years; BM=78.3±3.9 kg; height=177.5±4.6cm; %BF=23.1±2.1%), 46 overweight men (42.0±2.9; 89.9±3.1; 178.1±4.0; 28.9±2.2%) and 38 obese men (43.8±3.0; 97.4±4.6; 178.3±3.2; 32.1±3.4%). All these subjects were without regularly movement training before the starting of intervention. 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 men with normal BM ranged from 1090 kcal to 2350 kcal (mean 1600±350 kcal) in males with overweight from 1338 kcal to 2180 kcal (1790±270 kcal) and in obese men from 1710 kcal to 2340 kcal (1980±330 kcal). Reduction in %BF ranged from 15.6% in obese to 16.4% in normal BM of starting value, ECM/BCM relationship decreased from 11.0% in subjects with normal BM to 12.2% in obese, and in VO₂peak increased from 14.3% in normal BM to 16.7% in obese. In middle aged men 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 men, differing in BM.

BIOGRAPHY

Vaclav Bunc, Vice dean for Sciences Faculty of Physical Education and Sports, Charles University Prague, Czech Republic. His main topics are: using of bio cybernetics by evaluation of physical fitness, exercise physiology, functional and physical testing in laboratory and field, body composition, BIA methods, moving regimes for prevention in patients. Author more than 400 items in scientific Journals, more than 150 in international journals, practically the same number of publications as co-author and serving as an editorial board member of repute. Referee of scientific papers with topics of physical fitness, exercise physiology and biomedical engineering. He is a member of Czech and International scientific societies, together is a lector of Ph.D. study on Charles University and University of Graz. He is the Head of many research projects and author of great numbers of research reports with topics of exercise physiology (from children to seniors, athletes and non-trained subjects, healthy subjects and/or patients).

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