**Abstract**

**Thesis title:**

Physical activity as a means of lifestyle change

**Thesis objective:**

The objective of the thesis at hand was to verify effectiveness of the exercise program that leads to a change from predominantly sedentary lifestyle to an active one.

**Methods applied in the thesis:**

To find out the effectiveness of the controlled exercise intervention, it was applied, for three months, to a group of four persons (one male and three females, aged 28 to 36). The effectiveness was evaluated by exercise test in a laboratory run by FTVS UK in Prague.

**Outcome:**

The first proband managed to reduce the overall weight by 2 kg (i.e.2.65 %), out of which the percentage of body fat decreased by 11.82 % and the weight of fat-free matter increased by 0.2 kg (i.e.0.3 %). The ECM/BCM ratio increased by 0.04 (i.e. 4.7 %). The value of aerobic endurance $VO_{2max}$ increased by 8.9 $ml.kg^{-1}.min^{-1}$ (i.e. 23.2 %). The running speed per one kilometre ($min.km^{-1}$) at the anaerobic threshold level fell from the original 4:58 minutes to 4:30 minutes (acceleration of 28 seconds). Probands Nos. 2, 3 and 4 managed, on average, to increase their overall weight by 1.7 kg (i.e. 2.11 %), out of which the percentage of body fat increased by 3.07 % and the weight of fat-free matter increased, on average, by 0.73 kg (i.e. 1.11 %). The ECM/BCM ratio increased, on average, by 0.01 (i.e. 0.69 %). Aerobic endurance $VO_{2max}$, converted from the values reached on bicycle (values ca. 10 % lower than those reached on treadmill – current levels of running skills in these probands were so low that they were unable to put up with the load on the treadmill), generally decreased by 1.71 $ml.kg^{-1}.min^{-1}$ (i.e. 10.1 %).

**Key terms:**

exercise intervention, health, sedentary lifestyle