Abstract

Title: Specifics of Pre-Competition Training in Bodybuilding and it´s Influence on Body Composition

Objectives: The aim of this thesis is description of specifics nutrition and training methods in pre-competition training in bodybuilding and practical assessment of their influence on body composition in the test subjects.

Methods: Skinfold calliper technique using callipers type Best and bioimpedance analysis using devices BIA 2000 and Tanita MC-980.

Results: After completing of intervention program and measurement of body composition, compiled on the basis of negative energy balance, using carbohydrate restriction combined with high-intensity strength training and subsequent measurement of body composition, we found an expected changes of their parameters as was observed their individual response on intervention. Both subjects achieved a significant reduction of subcutanneous fat (proband no. 1 = - 7 %, proband no. 2 = - 3,2 %) and total fat (proband no. 1 = - 2,7 ± 0,3 %, proband no. 2 = - 3,2 ± 0,4 %). Furthermore we observed a distinct change in the total amount of muscle mass (proband no. 1 = - 2,5 kg, proband no. 2 = + 1,1 kg) while deterioration of muscle quality defined by changes of ECM / BCM coefficient values**.**

Conclusion: The program has ensured the expected changes in the parameters of body composition and it is therefore possible to use these nutrition and training principles on which the program was compiled for bodybuilders during pre-competition preparation and also for fitness athletes in order to reducing the amount of body fat. However it is necessary to consideration of individual characteristics (antropometry, training level, somatotype, daily activities, absolved training program) when compiling the intervention it´s possible adjustment depending on the level of organism adaptation. During the

intervention there is also deterioration in quality of muscle mass, which is propably caused by high intensity training while a negative energy balance, which results in incomplete regeneration of muscle tissue. It is not suitable combination of different measurement methods, when monitoring changes in body composition parameters. These methods are different in measured absolute values but in terms of trends are similar.

Keywords: bodybuilding, pre-competition training, nutrition, body composition, fat reduction