

## **MODIFIED AEROBIC GYMNASTICS ROUTINES IN COMPARISON WITH LABORATORY TESTING OF MAXIMAL JUMPS**

### **Abstract**

*The study compares power in the active phase of take off and height of the jump in maximal and during a modified aerobic gymnastics routine. A group of 5 junior gymnasts (mean age  $17.2 \pm 1.64$  years, height  $161 \pm 6.48$  cm, weight  $52.4 \pm 6.43$  kg and BMI  $20.16 \pm 1.42$  kg.m<sup>2</sup>) underwent in random order a 1.45 min maximal jumps (MJ) and two trials of modified aerobic gymnastics routines (AG I - high impact aerobic routine without difficulty elements, and AG II – high impact aerobic routine with combination of aerobic jumps in every 10 seconds), respectively. The diagnostic system FiTRO Jumper consisting of a special contact switch mattress connected by means of an interface to a computer was used. Jump parameters (power in the active phase of take off and height of the MJ, AG I and AG II) were calculated from the flight and contact times. Results showed that subject achieved the highest value in MJ test. In contrary, during the second aerobic gymnastics trial (AG II) the power in active phase of take off was almost the same as in the MJ trial, but in combination of high impact aerobics and aerobic jumps (AG II) the examined subjects were able to perform maximal power during the test with only slight decrease about 2%. It may be concluded that evaluation of modified aerobic jumps reflect better sport-specific performance. However, test of maximal jump should provide additional information on anaerobic capacity of examined subject.*

**Key words:** aerobic gymnastics performance, explosive power of lower limbs, sport-specific aerobic gymnastics testing