

Abstract

Title: Influence of sports load on the physical condition of trampoline gymnasts

Objectives: The aim of this thesis is to assess the relationship between the sport load and functional and physical parameters of trampoline gymnasts.

Methods: The thesis has the character of empirical research carried out in the form of observation. The research group consisted of 29 active trampoline gymnasts aged 9 to 17 (20 girls and 9 boys) participating in trampoline jumping competitions at national or international level. The body composition was analysed by Bioelectrical Impedance Analysis (BIA, Tanita MC - 980), functional parameters were tested via Bosco Vertical Jump test (BT) and kinesiological analysis of the athlete. Anamnestic data were collected as a part of kinesiological examination of the gymnasts.

Results: Parameters of trampoline gymnasts were compared from the age point of view – probands were divided into age categories ZAC (10.7 ± 1.1 years) and JUN (14.9 ± 1.2 years) and from the gender point of view – parameters of girls and boys. The values of somatic parameters in JUN were higher than in ZAC; girls had a significantly higher proportion of body fat ($d = 2.307$) and a significantly lower proportion of Total Body Water ($d = 2.222$) than boys. JUN did significantly more work during BT ($d = 2.059$), higher performance ($d = 2.334$) and had significantly higher post-exercise blood lactate concentration ($d = 0.625$) than ZAC. A significantly higher decrease in performance ($d = 0.581$) was measured in girls than in boys. Elderly probands (JUN) spend significantly longer on the trampoline (6 ± 3 years) than ZAC (2 ± 2 years).

Keywords: trampoline, gymnastics, anthropometry, Bosco repeated jump test, body composition