Plyometric training and fatigue index in women basketball players #58

Christiano Bertoldo Urtado[1,2], Gerson dos Santos Leite[1,3], Hanna Helena Hartog Gimenes[1], Claudio de Oliveira Assumpção[1,2], Jonato Prestes[1,4], Richard Diego Leite[4].

[1]Post-graduation Program in Human and Exercise Physiology – Modulo University Center – Unicsul; [2]Tiete Integration Faculty; [3]Nove de Julho Univesity; [4]Department of Physiological Sciences, Federal University of São Carlos, São Carlos/SP, Brazil.
E-mail: christiano.bertoldo@gmail.com

The plyometric training is an essential tool for improving the explosive force. The objective of the present study was to analyze the responses of a plyometric training program on fatigue index in young women athletes. 14 young female basketball players aged 13.28±0.63 years; body mass 51.71±9.11 kg; height 1.61±6.77 m; and body fat percentage 22.71±4.93 % were selected. The training was developed with the preparatory phase of periodization, during 8 weeks with 3 sessions/week, divided into 3 separate programs: jump training (swedish bench height of 30 cm; barriers with height of 40 cm and stands of timber); depth jumps (with wooden boxes of 40 and 70 cm) and jumps with additional loads on the shoulders (bags of sand with 5 kg and 40 cm wood boxes). The jump training sessions were performed in a circuit fashion. An anaerobic endurance test was done by the forward-backward protocol, before and after the plyometric training. Student's t-test was applied ($p \leq 0.05$). The percentage of fatigue index (%FI) declined by 2% (from 7.4% to 5.4%), showing a significant improvement ($p = 0.022$) in the forward-backward protocol test (Table 1).

Table 1 – Fatigue Index percentage (%FI) pre and post-training.

	%FI pre	%FI post	P value
Means	7.4%	5.4%*	0.022
SEM	3.8%	3.0%	

*Statistically significant difference as compared with pre-training value.

The structure of the proposed plyometric program proved to be effective in improving the rate of fatigue in basketball athletes in an anaerobic test, which may directly affect specific sport performance.

Key works: plyometric; basketball; fatigue index.