

**Current issue****Archival Issues**

Volume 27, 2010  
Volume 26, 2009  
Volume 25, 2008  
Volume 24, 2007  
Volume 23, 2006  
Volume 22, 2005  
Volume 21, 2004  
Volume 20, 2003

**Search****Newsletter****Authors Pathway****Information for Authors****Journal Abstract**

Development of strength abilities in children and youth

W Jagiełło, W Tkaczuk

Biol Sport 2004; 21 (4):

ICID: 891739

Article type: Original article

IC™ Value: 10.26

Abstract provided by Publisher



The aim of the research was to compare the development of various types of skeletal muscles in children and youth of the school age and in the process of the natural biological development, as well as under the effect of a systematic, specialist training process. The aim defined in such way was to be achieved by using the following research method: The maximal strength capacities were defined with the use of a dynamometric method and based on the results of the measurements of the strength of the flexor muscles of the finger flexors, in other words, called more generally as the "hand dynamometer". Strength endurance was defined following the use of two tests - a pull up test and a sit-up test. In order to analyse the statistic differences between children practicing sports and those who do not practice, as well as the differences between every investigated year, we used the programme "Statystyka 6". In these studies 224 young judo athletes participated. They were divided into groups - between 11 and 17 years of age. Sportsmen aged between 11-12 trained usually 3 times a week, those between 13-15 trained usually 3-4 times a week and those between 16-17 trained usually 6 times a week. Training lasted - depending on the age - from 90 to 120 min. Examinations were made at the end of the so-called period of preparation. Only these athletes were selected to the groups (conventionally called experimental groups - EG), whose astrological age fully corresponded to the biological age (evaluated by medical doctor, specialist in sport medicine) [6]. The results of own research were compared to the results of cross-sectional (for the Polish population) research elaborated by Trzeźniowski and Pilicz [24]. We assumed that the data obtained by those authors should be treated by us as the level of examined features of the reference group. It was established that in the process of the many years of training of the judo athletes, the strength endurance of the muscles of the shoulder girdle undergoes significant changes. Young athletes achieved considerable improvement of these results in test exercises. This proves that specialist loads applied in the process of training of the junior judo athletes created significant adaptation changes in these groups of muscles. Statistically significant differences between athletes and those who do not practice sport confirm diagnostic possibilities of this exercise. These results may be used in the training practice to recruit beginner athletes, to control the training process in micro-cycles of various types and to guide the elaboration of the strength endurance norms in relation to age, evaluation of the rate of development of this particular motor trait and in relation to the perspective development of the athletes.

ICID 891739

**FULL TEXT** 378 KB

**Related articles**

- in IndexCopernicus™
  - € Dynamics of the strength indexes of children practicing sport and those who do not practice [0 related records]
  - € School period of the ontogenesis [0 related records]

Search

[Back](#)

Copyright © Biology of Sport 2010

Pages created by **IndexCopernicus™ Journal Management System**