

## **Abstract**

**Title:** Monitoring fitness in elite female handball players.

**Objectives:** The subject of the bachelor thesis is the analysis of the conditioning abilities of a women's handball team playing in the highest Czech competition. The comparison of the results measured during the preparation period, first at the beginning and then in the final phase of the cycle, will show us the positive influence of physical conditioning during the game break or, on the contrary, will serve the coaches of the chosen club as an indicator of incorrectly chosen concept of training units.

**Methods:** Testing was conducted on 18 elite female handball players aged 19 to 30 years. Using 5 selected field tests, we diagnosed the level of selected fitness abilities that are central to achieving quality performance in handball. According to the comparison and statistical processing of the results, differences between pretest and posttest performances were determined. The individual tests concerned dynamic lower limb strength (vertical jump and horizontal jump), throwing arm strength (2kg medicine ball throw), running endurance (beep test) and speed and coordination skills (agility T-test). Primary and secondary measurements were taken 6 weeks apart.

**Results:** Control data from the posttests showed improvement in all tested disciplines. The highest percentage progress of 5.4% was recorded in the medicine ball throw, with an average improvement of 0.5 m. When measuring the vertical jump and horizontal jump, the players improved by 1.9 cm (4.8%) and 4.5 cm (2.2%) respectively. The control beep test recorded an average improvement from level 10 to 10.3, a percentage improvement of 3.5%. The posttest results with the lowest increase in values were measured during the agility T-test, where the average time decreased by 0.1 s. Thus, there was a 0.9% improvement in percentage terms. In isolated cases, some players experienced a slight decrease in performance on the test during the final measurements. However, we attribute this to the current weakening of the organism due to the deterioration of the proband's physical or mental state.

**Key words:** components of sports training, conditioning, testing, women's handball