THE INFLUENCE OF SPECIFIC FUNCTIONAL-MOTOR ABILITIES ON FREESTYLE SWIMMING PERFORMANCE TIME

Abstract

The main goal of this research was to determine the relationship between the results in specific motor and functional abilities tests and the 100 m front crawl stroke performance time. The sample was comprised of 42 Top swimmers from the Republic of Croatia. It was found that the following tests correlate with the 100 m freestyle performance time: DYNCOO - dynamometric in water crawl coordination "Tethered swimming - coordination" (r=0,57), DYNHAND – dynamometric in water crawl hands "Tethered swimming - hand" (r=0,42), ERG1 – 1 butterfly strokes with resistance level 4 "Biokinetic swim bench" (r=0,36) and DYNLEG – dynamometric in water crawl legs "Tethered swimming - leg" (r=0,33). The results of the backward stepwise regression analysis indicate that in order to predict the 100 m front crawl stroke performance time, out of all the tests used in this investigation, it is sufficient to use dynamometric test as a predictor of swimming performance in that particular event. Performance time in 100 m front crawl stroke can only partially be explained by the results in the applied tests of specific motor abilities and functional abilities. In order to further explain the relationship between specific motor abilities as well as functional abilities and the 100m front crawl stroke performance time, further research needs to be conducted.

Key words: stroke force, Biokinetic swim bench, tethered swimming, dynamometric