

ABSTRACT

Title: Longitudinal monitoring of efficiency in 400 women's running in the top world competitions in 1983 -2005

Goals of the work: The main goal of this work is to compare the results of the finalists in women's 400 m runs at the world championships during 1983 – 2005. Results of competitors were always monitored from the run ups till the finals and we were concentrated on the times of the runs, ranking and speed of the competitors. The integral part of this monitoring was also comparing the anthropometric characteristics of the finalists.

Philosophy of the work: In this part of my work we have concentrated on monitoring finalists of the 400 m runs at each world championship (which means 8 fastest runners). For these runners, we have monitored the performance in all the sequential runs, in the run up, quarterfinal, semifinal and the final. We have also gathered the data consisting of times, ranking, running speed and anthropology characteristics of the finalist. We have mutually compared all these data.

Results: Total average age of all finalist that participated at world championships during 1983 – 2005 is 26,09 years. An average high of the finalist in monitored period is 171,03 cm. An average body weight is 60,4 kg. An average values for individual indexes are as follows: for BMI 20,66, for BI –10,63 and for QI 353,06. An average reaction time in monitored period from WC in Athens 1997 till WC in Helsingborg 2005 is 0,168 seconds. Total average for finalists of 400 m runs is 50,36 seconds. The winner finisher with an average times of 49,33 seconds and the medalists with the times of 49,64 seconds.

Key words: Sports performance, anaerobic condition, somatotyp, BMI, Quetel's index, Broc's index.