

Comparative analysis of the energy expenditure in walking and the running in young men #6

Lucas de Castro Cardoso¹, Marcelo de Castro Cesar¹, Pamela Roberta Gomes Gonelli¹, Claudio Alexandre Gobatto², Gustavo Gomes de Araujo², Marco Antonio Cordeiro¹, Rozangela Verlengia¹.

¹Post Graduation in Physical Education/faculty of Health Science/University Methodist of Piracicaba, UNIMEP Piracicaba, sp, Brazil; ²Laboratory of Sport Applied Physiology - Sao Paulo State University, UNESP - IB, Rio Claro, SP, Brazil.

E-mail: lucaof@hotmail.com

Walking below 6 km/h and running above 8 km/h are efficient effort intensities to maintain the economy of energy expenditure in the mechanical work. However, in the intermediate range (between the transition of the walking to running), the mechanical work against the energy expenditure still requires analysis. So, the purpose of the present study was to compare the energy expenditure between walking and running in the load work immediately below of the inversion point in the caloric expenditure. Ten young male subjects participated of the study (24.2 ± 2.04 years; 180.7 ± 3.8 cm; 79.5 ± 8.6 kg). The transition speed was determined by two cardiopulmonary sub-maximum tests, a walking and a running test, with the starting load of 5 Km/h being followed by an increase of 0.5 km/h per minute until the limit of 9 Km/h. The transition load was defined comparing the energy expenditure between the two forms of movement execution. Following this structure, the volunteers made two cardiopulmonary sub-maximum tests, a walking and a running, with the load immediately below the point of inversion in the energy expenditure (7.4 ± 0.32 km/h) during 30 minutes. The normality of the results was evaluated by the Shapiro-Wilk test, followed by the Test t student to the related samples. Values of caloric expenditure on walking (293.5 ± 47.6 kcal) and running (309.4 ± 23.7 kcal) are not different ($P > 0.05$). In conclusion, the data obtained, showed that independently of the locomotion way (walking or running) the energy expenditure was similar.

Supported by: FAPESP, CNPq and FAP/UNIMEP

Key words: Walking, running, caloric expenditure, aerobic capacity.