

Analysis of Peripheral Fatigue in Non-elite Badminton Player: A Pilot Study

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Abstract

Objective: To verify the effects of the modified badminton field test can be used as the exercise-induced fatigue by measuring the parameter related peripheral fatigue between before and after performing the modified badminton field test.

Methods: Ten badminton players with 1 or 2 years of experience were studied. All parameters were be measured by comparing the parameter related peripheral fatigue between before and after performing the modified badminton field test.

Results: 1) The subject's vertical jump is gradually decreasing every set. There is a declining trend. It is significantly different between Pre_VJ and Post_VJ ($p < 0.001$). The average of change vertical jump arrived in 25.5 ± 4.5 cm. The % relative change of vertical jump declined to more than 39.9 ± 6.6 . 2) The subject's RPE is gradually increasing every set. There is an increasing trend. There was significantly different between Pre_RPE and Post_RPE ($p < 0.001$). 3) It showed that SI and BPM were increased after performing the modified badminton field test. This study indicated that SDNN and RMSSD were obviously declined. There were significantly different in BPM, SDNN and RMSSD ($p < 0.001$). No significant change was observed in stress index ($P = 0.092 > 0.05$). 4) It showed that the subject's BL (16.05 ± 0.74) was obviously increasing after the fifth set. There are significantly different between pre-test and post-test ($p < 0.001$).

Conclusion: From the physical, subjective, physiological and biochemical parameters, we can conclude that the modified badminton field test can be used as the exercise-induced fatigue.

Keywords: Peripheral Fatigue, Modified Badminton Field Test, Non-elite badminton player