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The effect of stress and aerobic training on brain- derived neurotrophic factor in Wistar rats

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The purpose of the present study was to evaluate the influence of aerobic training and stress on BDNF and uric acid in Wistar rats. Subjects of study included 90 Wistar rats (weight 200±40gr). Healthy rats were randomly divided into 6 groups of aerobic training (T), Emotional Stress (ES), Physical Stress (PS), Physical stress and aerobic training (TPS), Emotional stress and aerobic training (TES), and Control (C). Research programs included one session and two weeks aerobic training on treadmill with or without emotional and physical stress. Findings indicated significant differences between groups in BDNF. Following the first session, BDNF in groups of T, was significantly different with PS, ES, C groups, and BDNF significantly increased in T group compared to other groups. Moreover, BDNF significantly decreased in ES groups compared to T, PS, TPS and TES groups. Furthermore, following first session the Uric acid level was significantly different in all groups compared with control group. After 2 weeks, there were no significant differences between all groups in Uric acid. In summary, one session of aerobic training has increased BDNF and Uric acid however, two weeks aerobic training increased BDNF with no change in Uric acid.

Biography

Sheyda Ghanbari Ghoshchi is currently studying Physical Activity and Health Promotion at Tor Vergata University, Faculty of Medicine, Italy. She received her MSc in Sport Physiology from Shiraz University of Iran. She has been involved in teaching for more than 10 years at schools and universities and has been involved in different projects in the field of sport psychology and published in peer reviewed journals.

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