



FACULTATEA DE EDUCAȚIE
FIZICĂ ȘI SPORT IAȘI



UNIVERSITATEA
„ALEXANDRU IOAN CUZA“
din IAȘI


THE 10TH INTERNATIONAL CONFERENCE IN PHYSICAL EDUCATION, SPORTS AND PHYSICAL THERAPY

NOVEMBER 18-20, 2016
FIRAT UNIVERSITY, FACULTY OF SPORT
SCIENCES, ELAZIG, TURKEY

Book of Abstracts

#ICPESPT2016

<http://icpespt2016.firat.edu.tr>

icpespt2016 

@icpespt2016 



P054

THE EFFECTS OF L-CARNITINE ON OXIDATIVE STRESS AND GLUCOSE TRANSPORTERS IN RUNNING RATS

¹GENÇ E., ¹PALA R., ²ORHAN C., ³TUZCU M., ²SAHİN N., ¹ÇINAR V., ²SAHİN K

1. Department of Movement and Training Science,
Faculty of Sports Sciences, Firat University, Elazig, Turkey
rpala@firat.edu.tr
2. Department of Animal Nutrition, Faculty of Veterinary Medicine, Firat University, Elazig,
Turkey.
3. Department of Biology, Faculty of Science, Firat University, Elazig, Turkey.

ABSTRACT

OBJECTIVE: In the present study, the effect of L-Carnitine supplementation on the level of oxidative stress, glucose transport, and serum biochemical parameters were investigated in exercised rats.

METHODS: Six groups (Control, L-Carnitine, Exercise, Exercise + L-Carnitine, Acute Exercise and Acute Exercise + L-Carnitine) 7 including a total of 42 8-week-old male Wistar albino rats have been used. Rats were initially started to run 10 m / min. At the end of 2-weeks run period, 30 m / min, 0% grade, 30 minutes of jogging protocol has been applied with a controlled rise. After using L-Carnitine dietary, rats were subjected to a 5 days per week for 6 weeks of exercise and the last day of exercise protocol (rats running in the treadmill until exhaustion) was applied.

Data was assessed using ANOVA procedure on the package of IBM SPSS (version 22). Comparisons between groups were analyzed by the Tukey post hoc test. Data group average and standard error of mean (SEM) were calculated. For statistical significance, the probability values have been identified as significant for values that are less than 0.05.

RESULTS AND CONCLUSIONS: L-Carnitine did not effect on liver and kidney functions, glucose which is on cardio metabolic biochemical parameters but it has been shown to decrease the cholesterol and triglycerides levels. Acute exercise increases oxidative stress, and however, chronic exercise and L-Carnitin reduced the level of lipid peroxidation. It also showed the effects of PPAR- γ and by regulating the glucose transporters. In addition, PPAR- γ carnitine consumption in rats showed the effect of increasing the level of GLUT-2 and GLUT-4. Meanwhile chronic exercise and carnitine showed a synergistic effect has been found to reduce oxidative stress.

Keywords: Exercise, L-Carnitine, Oxidative Stress, Glucose Transporters.