

Joint Event on

# NUTRACEUTICALS & DIET- NUTRITION 2018

May 14-15, 2018 | Singapore City, Singapore

## Effect of 8 weeks of n-3 fatty-acids supplementation on oxidative stress and inflammation in Athletes of middle and long distance running

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**Background:** Long-chain n-3-polyunsaturated fatty acids (PUFAs), eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), may alter oxidative status and immune function after exercise. The aim of the study was to determine the effects of n-3 supplementation on Athlete of middle and long-distance running on oxidative/antioxidative status and immune function.

**Methods:** Twenty nine subjects, males and females, age 17-30 year old divided in two groups: 1) (n=21) Trained Athletes (middle distance runners: 800m, 1500m, 3000m steeplechase; long distance runners: 5000m, 10000m, marathon); 2) (n= 8) Sedentary subjects. All subjects were randomly assigned to 4 g/day of n-3 supplementation, rich in EPA and DHA, for 8 weeks. Blood, saliva and urine samples

were collected pre- (T0) and post- (T1) supplementation. The hematological parameters (trygliceride, total cholesterol, HDL, CPK, LDH, HGH, IGF-1), oxidative parameters (MDA, 8-OHdG, PCO), antioxidant parameters (GPx, SOD, CAT, DPPH scavenger), overreaching index (testosterone and cortisol) and inflammation marker (TNF-  $\alpha$ ) were measured.

**Results:** The results evidenced that MDA, cortisol and TNF- $\alpha$  levels significantly decreased after treatment in both Athletes and sedentary subjects but the variation was greater in Athletes than in sedentary control subjects.

**Conclusion:** 4 g / day of n-3 PUFAs rich in EPA and DHA for 8 weeks was effective to prevent and counteract the onset of oxidative stress and inflammation induced by acute and strenuous physical training.

### Biography

Buonocore D obtained the Master degree of Science in Molecular Biology and Genetics and PhD degree in Biomedicine Sciences from University of Pavia, Italy. She does research in Biochemistry, Pharmacology and Phytochemistry. Her work project was based on "Effect of 8-week n-3 fatty-acids supplementation on oxidative stress and inflammation in middle and long distance running Athletes". She has 30 scientific publications in peer-reviewed international journals.

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