

Flavonoids and exercise capacity

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Abstract

Flavonoids are antioxidative substances with several roles: anti-atherosclerotic, anti-inflammatory and anti-proliferative. They are beneficial for the bone mass of post-menopausal women and for the physical decline associated with age and increase energy metabolism and resistance to respiratory infections.

Numerous studies have emphasized the appearance of oxidative and nitrosative stress during physical exercise, due to the increase in the reactive oxygen and nitrogen species and the decrease in the antioxidative defense capacity. The data regarding the strong antioxidative effects of the flavonoids demonstrated especially in vitro, stimulated the researches on their use as protective antioxidants in oxidative and nitrosative stress during exercise.

The conflicting results regarding the positive effects or the lack of effects of flavonoids during physical exercise may be due to: the complexity of the flavonoids class and the representatives which were studied, the purity of the extracts used and of the concentration in the active substances, the dose and the duration administrated, the metabolism in the organism, the type of exercise, the training status.

Keywords: flavonoids, oxidative stress, antioxidants, physical exercise.