

Effects of Vitamin C and E Against Oxidative Stress: Is Antioxidant Supplementation Efficient?

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Objective: Numerous epidemiological studies show an increased prevalence of metabolic diseases related to oxidation stress causing cell damage. Antioxidant supplementation is therefore useful to protect against the oxidative stress mediated disease development and has become an increasingly popular practice. In this review, a selection of clinical and *in vitro* studies on vitamin C and E supplementation and the evaluation of their beneficial or negative effects have been analyzed.

Results: Clinical studies and supplementation trials show a correlation between antioxidants and metabolic improvement in different diseases such as cancer, cardiovascular disease, diabetes, obesity. Vitamin C (ascorbic acid) and E (α -tocopherol) appear to be among the most commonly used antioxidants. However, taking antioxidant supplements in high doses can be harmful. In some studies, little supportive evidence has been provided on substantial protection against chronic diseases by antioxidants. In addition, previous studies have

revealed negative effects of antioxidant supplements such as pro-oxidant activities in particular conditions including their dosage and the body oxidant/ antioxidant status.

Conclusion: Antioxidant supplements should be used with caution.

Keywords: Diseases, health, negative effect, supplementation, vitamin C, vitamin E.