Essentials of Health

A recent study suggests that vitamin C supplementation may result in measurable improvements in activity level and decrease the duration and severity of upper respiratory tract infections in college men with low-to-adequate vitamin C status during peak cold season.

# Vitamin C reduces the frequency and severity of colds and improves physical activity in men with suboptimal vitamin C status

Although severe vitamin C deficiency resulting in scurvy is a rare occurrence in modern society, as many as 22% of U.S. adults are believed to have inadequate vitamin C status, with as many as 6% classified as vitamin C deficient. Insufficiencies are often undiagnosed because early symptoms of poor vitamin C status are not obvious and may include fatigue, malaise, depression and irritability. Inadequate vitamin C levels have also been associated with increased duration and severity of colds during the peak of cold season.

In a new study published in the journal *Nutrients*, researchers examined the impact of vitamin C status on physical activity and upper respiratory tract infections during the winter months.

The participants in this double-blind randomized trial included healthy, nonsmoking college men, with a marginal plasma vitamin C level, who were not training for or competing in sports. The men were randomized into one of two groups that received either 1000 mg of vitamin C/day or a placebo. Participants were given a booklet at the beginning of the study that contained the Wisconsin Upper Respiratory Symptom Survey-21, the Godin Leisure-Time Exercise Questionnaire, and a short food frequency measure. Over the course of the eight week study, the men completed the symptom survey daily, and the exercise and food frequency measures weekly.

During weeks 6-8 of the study, the physical activity score for the vitamin C supplemented group rose moderately compared to the placebo group. The number of cold episodes reported during the study was lower in the vitamin C group (7) compared to the placebo group (11), as was the reported duration of colds (reduced 59% versus placebo).

Although this study was limited by a relatively small sample size, the results suggest that there may be measurable health advantages associated with vitamin C supplementation in men with adequate-to-low vitamin C status. Since this study was conducted during winter months and included only men with similar vitamin C status, more research is needed to determine whether these results can be extended to other populations and seasons.

Carol S. Johnston, Gillean M. Barkyoumb, and Sara S. Schumacher. Vitamin C Supplementation Slightly Improves Physical Activity Levels and Reduces Cold Incidence in Men with Marginal Vitamin C Status: A Randomized Controlled Trial. Nutrients 2014, 6, 2572-2583; doi:10.3390/nu6072572.

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