

Vitamin C Deficiency Among Young Adults

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Vitamin C cures the world's oldest known nutritional deficiency disease, scurvy. It was first isolated by Albert Szent-Gyorgyi in 1928 from pork adrenal glands and called hexuronic acid. In 1933, its chemical structure was established. It was successfully synthesized, and the name was changed to ascorbic acid. Vitamin C is a water-soluble vitamin that is stored in many tissues throughout the body, but the adrenal glands contain the highest concentration.

Humans are one of the few species that cannot manufacture vitamin C. We must depend on our diet, or nutritional supplements, as the source of this vitamin. Vitamin C exists in nature in both its reduced form, L-ascorbic acid, and in its oxidized form, L-dehydroascorbic acid. L-ascorbic acid is the most active form. However, in the body they convert back and forth to each other in a reversible equilibrium, and both prevent scurvy. Buffered vitamin C refers to the sodium, calcium, magnesium, and potassium ascorbate salts. These forms of vitamin C are less acidic and may be less likely to cause gastric irritation when taken in higher doses. Vitamin C can support immunity to a number of illnesses such as colds, asthma, arthritis, cardiovascular disease, cancer, cataracts, diabetes, etc.

A recent study published in the American Journal of Epidemiology has found that one in seven young adults in Canada has a vitamin C deficiency. The study included 979 nonsmoking men and women between the ages of 20 and 29 years, who participated in the Toronto Nutrigenomics and Health Study from 2004 to 2008. The researchers used a comprehensive questionnaire in which participants were asked to assess their food intake over the previous month. From the responses, a total daily vitamin C intake was calculated for each person. Then the researchers measured the participants' height, weight, waist circumference and body mass index and blood tests confirmed their vitamin C, glucose, inflammation, cholesterol and insulin levels. The results revealed that one in seven young Canadian adults has a vitamin C deficiency and that one in three has less than optimal levels of vitamin C. The findings also suggested that young adults with a vitamin C deficiency have significantly higher waist circumference, body mass index, inflammation and blood pressure, all of which are indicators for chronic disease and obesity.¹

Source: Am J Epidemiol

1 Cahill L, Corey PN, El-Sohehy A. Vitamin C Deficiency in a population of young Canadian adults. *Am J Epidemiol*. Aug2009;170(4):464-71.