Therapeutic and prophylactic use of vitamin C for the common cold

Madam, the common cold is one of the most frequent causes of acute morbidity. It is linked to exorbitant health care costs and productive hours lost through missed work and school.[1] Vitamin C, hailed by many as a wonder drug for many diseases, is commonly believed to help patients with common cold.[2] The first report highlighting the beneficial role of vitamin C was published nearly 60 years ago.[3]

Acting as an anti-oxidant, vitamin C may protect against the reactive oxygen species that are generated within our cells; it may also boost the proliferative responses of T-lymphocytes, and augment the production of interferons. In this way, the beneficial role of vitamin C in treating common cold can be rationalized physiologically.[4] Although uncommon, vitamin C toxicity may occur with massive doses, leading to nausea, vomiting, headaches, heartburn, diarrhoea, abdominal cramps and an increased risk of developing renal stones. Fortunately, the water solubility of this vitamin limits its absorption in large doses; however, no more than 500 mg of vitamin C should ideally be consumed at a time.[1,5]

Proponents of vitamin C assert that its use diminishes the affliction and financial burden associated with the common cold. Results from two large meta-analyses confirmed that vitamin C supplementation, in doses > 200 mg/day, may shorten the duration of common cold symptoms insignificantly by 1 to 4 days.[1] This trend was also validated by another study which demonstrated an average reduction of 14% in symptom days for children and 8% for adults.[3] All 21 placebo-controlled studies published between the years 1970-1995 on the subject have either reported a decrease in the severity of symptoms or in the duration of the common cold episodes with the use of vitamin C.[4]

The utility of vitamin C as a prophylactic agent for the common cold still remains to be established.[3] Combined data reveals that vitamin C supplementation may have a favourable effect only under special circumstances such as use prior to intense physical activity or exposure to major cold stress.[1]

Robust, well designed studies to establish the therapeutic and prophylactic role of vitamin C in the management of the common cold are needed. Consideration should be given to selection of the best means to evaluate the length and severity of the common cold in future studies. Ideally, these studies should have a large sample size to achieve adequate statistical power and individuals with diverse education, socioeconomic backgrounds and immune status should be enrolled in them to boost the external validity of the results obtained. Relevant practices of the participants such as daily "baseline" dietary intake of vitamin C as well as other dietary supplements should also be taken into account.[1] Lastly, specific attention should be given to methods that highlight the mechanisms underlying the observed prophylactic benefits in those exposed to significant physical and/or cold stress.[3]

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