

The right type of vitamin C

VITAMIN C is essential in the production of collagen and certain hormones. It is also a strong antioxidant that reduces the damaging effects of free radicals. In order to do so, high levels of vitamin C in the body must be maintained. The inability to maintain high levels of vitamin C in the blood may result in serious health implications. This is because this nutrient is important in preventing the onset and progression of degenerative diseases like cancer and cardiovascular disease, as well as age-related degenerative diseases.

The role of vitamin C and zinc in immunity

The immune system is designed to defend us against bacteria, viruses, toxins and parasites.

Vitamin C is known to promote a healthy immune system. It is also essential in supporting our body's growth and its ability to repair tissues, including blood vessels. As an antioxidant vitamin, vitamin C helps protect the body from free radical damage and maintains proper function of the immune system.

Vitamin C also plays an important role in preventing respiratory infections, especially among the elderly and people who are constantly exposed to oxidative stress such as chronic smokers and those carrying out heavy physical exercise.

Likewise, a zinc deficiency has been shown to impair the immune system and promote the generation of oxidative stress. It also increases a person's susceptibility to infec-

tions. Zinc has been researched for its potential therapeutic effects on the common cold because of its direct anti-viral activity as well as inhibiting the replication of the flu virus, rhinovirus.

There is a high prevalence of zinc deficiency especially among children in developing countries. Daily intakes of 10-30mg of zinc have shown to be an important adjuvant therapy for treating infectious diarrhoea, malaria and pneumonia in children.

Zinc deficiency primarily affects vegetarians due to decreased absorption, the elderly due to insufficient dietary intake, individuals with intestinal disease, children, pregnant and nursing mothers, and those suffering from chronic infections.

Many trials have also proven that intakes of up to 1g of vitamin C and 30mg of zinc can reduce symptoms and shorten the duration of respiratory tract infections including the common cold.

Adequate intakes of both vitamin C and zinc are essential for health. These nutrients support immune responses and provide protection in the form of antioxidants against endogenous and exogenous free radicals.

The concentration of vitamin C in plasma declines rapidly during infections and stress. Supplementation with vitamin C has been found to improve the function of white blood cells and immune system. Likewise, zinc defi-

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ciency has been shown to impair our immune system, especially our innate or non-specific immunity. Therefore, both nutrients play important roles in immune function, in reducing the risk, severity and duration of infectious disease.

The body cannot store vitamin C and zinc. Therefore, a steady intake of both nutrients is necessary.

Effervescence

In general, effervescent technology provides a unique dosage form for the delivery of nutritional supplements and pharmaceutical drugs to the body.

The ability of effervescent tablets to incorporate large dosages of a wide variety of active ingredients in an easy-to-swallow liquid, with increased absorption offers an advantage over conventional tablets.

Effervescence is the reaction of acids and bases in water, which produces carbon dioxide. The typical acid used in this reaction is citric acid, while sodium bicarbonate is commonly employed as the base. One of the most critical steps is to choose the right binder.

Binders are necessary in effervescent tablets to bring about the hardness to a point where handling is possible.

The ideal amount of binder is one that makes the tablet hard enough to handle, but soft enough to disintegrate and dry enough to be stable.

A simple test to determine the quality of the effervescent tablet is to calculate the time it takes for the tablet to disintegrate in water. A good quality effervescent tablet should dissolve in less than one minute.

Benefits of effervescent vitamin C and zinc

Vitamin C and zinc come in many formulations – tablets, capsules, powder and liquid. However, there is one form that has been proven to deliver these nutrients more rapidly to our body. When vitamin C and zinc are taken in an effervescent formulation, the nutrients are dissolved in water and easier for the body to absorb.

Moreover, effervescent ingredients can buffer the acidity of vitamin C via carbonation, hence reducing the risk of excessive acid in the stomach. This buffering effect causes the stomach contents to empty quickly – usually within 20 minutes – into the small intestine. The result is maximum absorption of the active ingredients.

Conclusion

An adequate intake of vitamin C and zinc is essential for health. These nutrients interact with the immune system by supporting immune responses and providing antioxidant protection against free radicals produced externally and internally during inflammatory responses.

Therefore, high levels of vitamin C and zinc must be maintained in the blood to fight these damaging free radicals. Having the right formulation of vitamin C and zinc is essential in ensuring that the levels of these nutrients are upheld.

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