

Vitalime™

(Vitamin C 500 mg + Zinc Sulphate 5 mg Chewable Tablet)

Composition:

Each Chewable Tablet Contains:

Vitamin C500mg
Zinc Sulphate...5mg
Excipients...q.s.

Clinical Pharmacology:

Vitamin C is an essential micronutrient for humans, with pleiotropic functions related to its ability to donate electrons. It is a potent antioxidant and a cofactor for a family of biosynthetic and gene regulatory enzymes. Vitamin C contributes to immune defense by supporting various cellular functions of both the innate and adaptive immune system. Vitamin C supports epithelial barrier function against pathogens and promotes the oxidant scavenging activity of the skin, thereby potentially protecting against environmental oxidative stress. Vitamin C accumulates in phagocytic cells, such as neutrophils, and can enhance chemotaxis, phagocytosis, generation of reactive oxygen species, and ultimately microbial killing. It is also needed for apoptosis and clearance of the spent neutrophils from sites of infection by macrophages, thereby decreasing necrosis/NETosis and potential tissue damage. The role of vitamin C in lymphocytes is less clear, but it has been shown to enhance differentiation and proliferation of B- and T-cells, likely due to its gene regulating effects. Vitamin C deficiency results in impaired immunity and higher susceptibility to infections. In turn, infections significantly impact on vitamin C levels due to enhanced inflammation and metabolic requirements. Furthermore, supplementation with vitamin C appears to be able to both prevent and treat respiratory and systemic infections. The exact mechanism of action of Vitamin C for the treatment of symptoms and signs of scurvy (a disorder caused by severe deficiency in vitamin C) is unknown; however, administration of Vitamin C in patients with scurvy is thought to restore the body pool of ascorbic acid.

- ❖ It acts as a detoxifier and powerful anti-oxidant, eliminating free radicals.
- ❖ Plays crucial in the maintenance of collagen.
- ❖ Helps in wound repair and healing/regeneration process.
- ❖ Enhances the availability and absorption of iron.
- ❖ Causes significant reduction in LDL and increase in HDL. Provides protection against CAD.
- ❖ Helps in prevention of atherosclerosis by strengthening the artery walls.
- ❖ Reduces fasting and postprandial oxidative stress. Blocks acute hyperglycemic impairment of endothelial function.
- ❖ Stimulates immune system by enhancing T-cell proliferation in response to infection.

- ❖ **Supports antibacterial activity, stimulates natural killer cells.**
- ❖ **Helps to prevent certain diseases such as cancer, common cold, age-related muscular degeneration and cataract.**
- ❖ **Reduces the damage caused by UV-light exposure. Reduced the number of sunburned cells, decreased erythematic response and reduced DNA damage induced by UV exposure.**

Zinc an essential trace mineral, is required for the metabolic activity of 300 of the body's enzymes, and is considered essential for cell division and the synthesis of DNA and protein. Zinc ions (Zn^{2+}) are closely involved in the normal development, differentiation, and function of immune cells, thus considered critical for generating both innate and acquired (humoral) antiviral responses. Zn is involved in various cellular processes and possesses a variety of direct and indirect antiviral properties. It was demonstrated that Zn deficiency is associated with reduced antibody production, affected function of the innate immune system (e.g., low natural killer cell activity), decreased cytokine production by monocytes, and the chemotaxis and oxidative burst of neutrophil granulocytes. It also results in thymic atrophy, altered thymic hormones production, lymphopenia, and defective cellular- and antibody-mediated responses that lead to increased rates and duration of infection. In particular, Zn deficiency reduces the number of peripheral and thymic T cells, their proliferation in response to phytohemagglutinin, and the functions of T helpers and cytotoxic T cells. In addition, Zn deficiency acts indirectly by reducing the levels of active serum thymulin, a zinc-dependent nonapeptide hormone that regulates the differentiation of immature T cells in the thymus and the function of mature peripheral T cells. On the other hand, Zn can affect several aspects of monocyte signal transduction and secretion of pro-inflammatory cytokines, and interfere with the binding of leukocyte function-associated antigen-1 to ICAM-1, thus suppressing inflammatory reaction. Zinc is also critical to tissue growth, wound healing, taste acuity, connective tissue growth and maintenance, immune system function, prostaglandin production, bone mineralization, proper thyroid function, blood clotting, cognitive functions, fetal growth and sperm production.

Benefits of Zinc:

- ❖ An antioxidant.
- ❖ Increased immunity.
- ❖ Balancing hormones.
- ❖ Increased fertility.
- ❖ Helps in muscle growth & repair.
- ❖ Mental health support.
- ❖ Protection against diabetes

Use in special population:**Geriatric Use:**

Glomerular filtration rate is known to decrease with age and as such may increase risk for oxalate nephropathy following ascorbic acid administration in elderly population.

Renal Impairment:

Vitamin C should be used with caution in scorbutic patients with a history of or risk of developing renal oxalate stones or evidence of renal impairment or other issues (e.g., patients on dialysis, patients with diabetic nephropathy, and renal transplant recipients). These patients may be at increased risk of developing acute or chronic oxalate nephropathy following high dose ascorbic acid administration.

Contraindications:

Vitamin C supplementation is contraindicated in blood disorders like thalassemia, Sickle cell disease, and hemochromatosis

Precautions and Warnings:

Oxalate nephropathy and Nephrolithiasis: Vitamin C has been associated with development of acute or chronic oxalate nephropathy following prolonged use of high doses of ascorbic acid infusion. Patients with renal disease including renal impairment, history of oxalate kidney stones, geriatric patients, and pediatric patients less than 2 years old may be at increased risk.

Hemolysis: Patients with glucose-6-phosphate dehydrogenase deficiency are at risk of severe hemolysis; a reduced dose is recommended

Drug Interactions:

Antibiotics: Vitamin C may decrease the activities of erythromycin, kanamycin, streptomycin, doxycycline, and lincomycin. Bleomycin is inactivated *in vitro* by ascorbic acid.

Amphetamine and Other Drugs Affected by Urine Acidification: Vitamin C may cause acidification of the urine and result in decreased amphetamine serum levels and affect excretion and plasma concentrations of other drugs sensitive to urine pH.

Adverse effects:

Adverse effects include headaches, flushing, nausea or vomiting, and dizziness

Route of administration: Oral.

Type of tablet: Chewable tablet.

Flavour: Delicious Orange Lemon flavour

Dosage: As Dietary Supplement, 1 or 2 Tablets daily.

Storage:

Store in cool and dry place.

Presentation: Vitalime Chewable tablet is available as 10x10Tablet.

Marketed By :



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