Commentary

iMedPub Journals
www.imedpub.com

Journal of Clinical Nutrition & Dietetics
ISSN 2472-1921

2023
Vol.9 No.8:066

Chronic Lack of a Vitamin in Vitamin Deficiency

Monica Diaz Beltran*

Department of Nutrition and Biochemistry, Pontificia Universidad Javeriana, Bogota, Colombia

Corresponding author: Monica Diaz Beltran, Department of Nutrition and Biochemistry, Pontificia Universidad Javeriana, Bogota, Colombia, E-mail: beltran.monica@gmail.com

Received date: July 04, 2023, Manuscript No. IPJCND-23-17860; **Editor assigned date:** July 07, 2023, PreQC No. IPJCND-23-17860 (PQ); **Reviewed date:** July 21, 2023, QC No. IPJCND-23-17860; **Revised date:** July 28, 2023, Manuscript No. IPJCND-23-17860 (R); **Published date:** August 04, 2023, DOI: 10.36648/2472-1921.9.8.66

Citation: Beltran MD (2023) Chronic Lack of a Vitamin in Vitamin Deficiency. J Clin Nutr Die Vol.9 No.8: 066.

Description

A condition characterized by a chronic lack of a vitamin is called vitamin deficiency. A primary deficiency is one that is brought on by a lack of vitamin intake, whereas a secondary deficiency is one that is brought on by an underlying disorder like malabsorption. Two main causes of an underlying disorder can be: Physiologic reasons, niacin deficiency, also known as pellagra, can be caused by genetic defects in enzymes involved in the kynurenine pathway of niacin synthesis from tryptophan. Options for one's life: Habits and choices that raise vitamin requirements, like smoking or drinking alcohol, are lifestyle choices. For healthy people, government guidelines on vitamin deficiencies recommend certain intakes, with particular recommendations for women, men, infants, children, the elderly and those who are pregnant or breastfeeding. Vitamin food fortification programs have been mandated in many nations to prevent common vitamin deficiencies.

Discovery of Vitamin Deficiencies

In contrast, hypervitaminosis refers to symptoms brought on by taking in more vitamins than the body needs, especially fat-soluble vitamins that can build up in tissues. From observations that certain conditions, such as scurvy, could be prevented or treated with certain foods high in a necessary vitamin, to the identification and description of specific molecules essential for life and health, the history of the discovery of vitamin deficiencies progressed over centuries. For their contributions to the discovery of vitamins, a number of researchers received either the Nobel Prize in Chemistry or the Nobel Prize in Physiology or Medicine. Japan, the European Union, the United States and Canada are just a few of the countries that have published guidelines defining vitamin deficiencies and recommending specific intakes for healthy individuals. The guidelines differ for women, men, infants, the elderly, pregnant women and women who are breast-feeding. As new research is published, these documents have been updated. In the United States, the Food and Nutrition Board of the National Academy of Sciences established Recommended Dietary Allowances (RDAs) for the very first time in 1941. The dietary reference intakes were the culmination of periodic updates. Estimated Average Requirements (EARs) and RDAs are defined in a set of tables that were published by the US Food and Drug Administration in 2016. To accommodate individuals with higher-than-average needs, RDAs are increased. Dietary reference intakes include these in their entirety. There is insufficient information to establish EARs and RDAs for some vitamins. An Adequate Intake is shown for these, based on the assumption that healthy people consume enough. The quantities of vitamins required to prevent deficiency vary across nations. For instance, the RDAs for vitamin C for women in Japan, the European Union (called population reference intakes) and the United States are respectively 100, 95 and 75 mg/day. 40 mg per day is recommended by India. Loss of weight, emotional disturbances, diminished sensory perception, limb weakness and pain and periods of irregular heartbeat are all symptoms. Red blood cell count and urine output are used to determine the level of deficiency. Especially prevalent in nations that do not require rice and wheat flour to be fortified to replace the naturally occurring thiamine content that is lost through milling, bleaching and other processes. Beriberi is caused by severe deficiency and it became more common in Asia as more people ate mostly white rice. Beriberi disorders include Korsakoff syndrome and Wernicke encephalopathy. Vitamin deficiencies can also result from alcoholism. Deficits over time can be life-threatening. Angular cheilitis, inflammation in the corners of the mouth, chapped and cracked lips and a sore throat are all symptoms of deficiency. Eyes can be irritated, watery, bloodshot and light-sensitive. Anemia also results from riboflavin deficiency, which results in fewer but still normal-sized red blood cells with low hemoglobin content. This is different from folic acid deficiency anemia. Especially prevalent in nations that do not require rice and wheat flour to be fortified with riboflavin to replace the naturally occurring vitamin that is depleted during processing.

End-Stage Malabsorption Syndromes

The four classic symptoms of pellagra, a reversible nutritional wasting disease caused by deficiency, are referred to as the four Ds. death, dermatitis, diarrhea and dementia. The dermatitis appears on sun-exposed parts of the skin, like the backs of hands and neck. A diet deficient in both niacin and the precursor amino acid tryptophan leads to niacin deficiency. As a non-specific indicator, low plasma tryptophan may have other causes. Within days of taking a significant amount of the vitamin orally, the symptoms of niacin deficiency begin to return. Electroencephalographic abnormalities, atrophic glossitis with

ulceration, angular cheilitis, conjunctivitis and intertrigo are among the symptoms of microcytic anemia. Depression, somnolence, confusion, neuropathy, microcytic anemia and impaired sphingosine synthesis are the neurologic symptoms. It is uncommon, but some conditions, like end-stage kidney disease or malabsorption syndromes like celiac disease, crohn's disease, or ulcerative colitis, may exhibit it. Fine, brittle hair and red, patchy rashes around the mouth generalized muscular pains (myalgia), hallucinations, lethargy, mild depression that may progress to profound fatigue and, eventually, somnolence and paresthesias are all symptoms. Biotin deficiency is more easily identified by urinary biotin excretion and 3-hydroxyisovaleric acid excretion than by blood concentration. Although impaired biotin status can occur in alcoholics, pregnant women and nursing mothers, it is uncommon. Skin health and hair growth are affected by deficiency. It's possible to lose weight and feel less hungry. A sore tongue, weakness, headaches, heart palpitations, irritability and behavioral problems are additional symptoms. Anemia, also known as macrocytic megaloblastic anemia, can indicate advanced folate deficiency in adults. Common and linked to a variety of health issues, but mostly to Neural Tube Defects (NTDs) in infants born to mothers whose plasma concentrations were low during the first third of their pregnancies. In more than 60 countries that use this type of fortification, the incidence of NTDs has decreased by 25% to 50% as a result of government-mandated food fortification with folic acid. Rare genetic factors, such as MTHFR gene mutations that impair folate metabolism, can also cause deficiency. A rare condition known as cerebral folate deficiency results in normal blood levels of folate but low concentrations in the brain. Neurological and digestive disorders, as well as anemia. Low-grade fevers, shakiness and feeling permanently cold, rapid heartbeat, cold hands and feet, easy bruising and bleeding, pale skin, low blood pressure, nausea, stomach upset, loss of appetite, weight loss, heartburn, constipation, diarrhea, severe joint pain, paresthesia to the fingers and toes and tinnitus may be experienced at levels that are only slightly lower than normal.