

Vitamin B-12 and Its Role in Your Health

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I received a request to address the prevalence of vitamin B-12 deficiency, especially among the senior citizen community. Almost 40% of the U.S. population is deficient in vitamin B-12, its occurrence more pervasive in those over 65. It has recently emerged as a nutrient given by injection to energize the body.

Vitamin B-12 is required for red cell formation and the myelin sheaths that surround nerve cells. It is an important nutrient for fertility as well as during pregnancy. B-12 is often used in the treatment of such degenerative diseases such as AIDS, cancer and multiple sclerosis as well as mental and nervous disorders. A lesser known, but vital function of vitamin B-12 involves the replication of genes.

B-12 is most abundant in animal protein products and therefore it is a nutrient that can often be lacking in those with vegetarian diets. I would add specifically those with the nutrient deplete 'white vegetarian' diet consisting primarily of pasta, bagels and bread. Vegetarians who include eggs and fish in their diet are less at risk. Assessing vitamin B-12 supplementation would be important for those following vegetarian diets, especially those planning on pregnancy.

The classic symptom of vitamin B-12 deficiency is in the development of pernicious anemia, a result of interrupted red cell production. There is enough vitamin B-12 stored in the liver, however, to last for 3 to 6 years. For that reason a deficiency can be present for some time before it is noticed. Some of the early signs of B-12 deficiency include malaise, fatigue, muscle weakness, vertigo, diarrhea, indigestion, depression, paleness, faltering memory and an inability to think clearly. As the deficiency progresses and protective myelin sheaths deteriorate there can be a diminished sense of balance along with numbness, tingling, and prickling sensations.

Before you say 'that's me' and run out to purchase some B-12, here are some things to consider.

B12 is actually a co-enzyme, much needed for the life giving enzymatic activity of the body. As vitamins go, B12 is the largest known. The body has developed a very sophisticated system to absorb B12 involving the production of intrinsic factor in the stomach. This intrinsic factor attaches to B12 and allows it to be absorbed in the end of the small intestine.

Oral supplementation of B-12 by itself does not usually work due to the requirement of these intrinsic stomach factors (stomach tissue). Injections of B-12 will often better work as they bypass this need. There are, however, savvy supplement companies that understand the need for the stomach factors and include them in their product to assure B-12 absorption.

What can impair the manufacture of the intrinsic factor by the stomach? One, it is found to reduce with age. I argue in an aging body that hasn't been well nourished. It can be also diminished by stomach surgery, parasites, H. Pylori and bacterial infections.

Once absorbed, the vitamin B-12 is not a stand alone nutrient. It needs another B vitamin folic acid to help it do its job. Often the deficiency of one of these B vitamins can mask the other. Blood tests are often used to determine one's blood level of vitamin B-12. It would be important to also check the folate levels in the blood as well. Although B-12 injections may prove immediately helpful, it is important to address the underlying cause of its deficiency for full recovery. There might be a deficiency of folic acid and/or poor digestion and assimilation at play. Both vitamin B-12 and folic acid deficiency are common among older people. Again I argue for lack of dietary care along the way.

Vitamin B-12 is produced by micro-organisms. In healthy people, large amounts of B-12 are manufactured by beneficial bacteria in the colon, with smaller amounts appearing in the saliva and throughout the gastro-intestinal tract. An imbalance of bacteria in the digestive tract, most notably caused by the use of anti-biotics and diets high in refined sugars, can impair B-12 absorption.

It is interesting to note that foods coming from less sterile environments can harbor the bacteria needed for vitamin B-12 production. In Third World countries where sanitation is poor and B-12 rich bacteria proliferate, people rarely show a deficiency. In Western countries where hygiene is king, this natural propagation of vitamin B-12 is halted by all of the necessary food sanitation.

Additional factors that deplete the body of B-12 are birth control pills, alcohol, coffee, cigarettes, stress

and a compromised liver. To Prilosec users (many of whom are senior citizens) here is the news as demonstrated in studies: Prilosec inhibits B-12 absorption. Of course, it interrupts the stomach's natural activity.

With regard to all of the B vitamins, it is imperative to keep the following in mind. There exists a close interrelationship amongst the B vitamins. Large doses of one member of the complex can create a vitamin imbalance, potentially creating a deficiency and increased need for others B complex members. When embarking on any high dosage vitamin regime, it is important to follow up with the blood tests necessary to be sure that you are not throwing other vitamins out of balance.

Nature, on the other hand, always provides the whole B vitamin complex in foods. It never serves it up in a single B vitamin isolated from the rest. Good food sources of the vitamin B complex are nutritional yeast, liver and whole grains (especially the bran and germ), meats (particularly the organ meats), nuts, beans and peas.

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