

Vitamin B12

Vitamin B12, also called Cobalamin, is a water-soluble vitamin, which belongs to the B vitamin family. Human body doesn't produce it, animal products are the best food sources of vitamin B12.

Vitamin B12 is essential for a healthy nervous system and DNA synthesis. It also participates in the formation of red blood cells, which carry oxygen throughout the body.

In order to provide vitamin B12 to the cells:

- One must eat plenty of foods that contain vitamin B12, such as meat, poultry, eggs, and dairy products.
- The body must absorb enough vitamin B12. A special protein, called intrinsic factor is needed for this. It is released by the cells in the stomach.

Vitamin B12 deficiency

Symptoms of vitamin B12 deficiency usually do not appear immediately. The reason for this is that most people have several years worth of vitamin B12 stored in the liver.

Initial symptoms of vitamin B12 deficiency can include: fatigue, anemia, dizziness, hearing problems, lack of appetite and memory loss.

Untreated vitamin B12 deficiency may include: weight loss, an enlarged spleen and liver, hallucinations, mood changes, depression, irritability, damage to the optic nerve.

Causes of vitamin B12 deficiency:

- Many people over age 50, lose the ability to absorb vitamin B12 from foods, because their diets are not healthy, or because they have less stomach acid
- Vegans and vegetarians who do not eat dairy products or eggs, are deficient in vitamin, because vitamin B12 is found only in animal products
- People with digestive disorders, such as celiac disease or Crohn's disease and people who have had gastrointestinal surgery, such as weight loss surgery, lose the ability to absorb vitamin B12
- Lack of intrinsic factor causes Pernicious anemia, a type of vitamin B12 anemia that occurs when stomach cells are not able to make intrinsic factor. Without intrinsic factor, the body cannot absorb vitamin B12
- Heavy alcohol consumption

- Drugs that interfere with absorption of B12
- People with thyroid dysfunction may suffer from vitamin B12 deficiency. According to a study there is B12 deficiency in 40% of primary hypothyroid patients.

Vitamin B12 deficiency and heart disease

Vitamins B12, B9 and B6 work together to control blood levels of amino acid homocysteine and convert into methionine. During B12 deficiency homocysteine level increases, because these reactions cannot take place. As studies suggest, people with high levels of amino acid homocysteine are almost two times more likely to develop coronary artery disease and 2.5 times more likely to have stroke than those with normal levels.

The article was prepared by Tinatin Kachlishvili.

Sources:

<https://www.southerncross.co.nz/AboutTheGroup/HealthResources/MedicalLibrary/tabid/178/vw/1/ItemID/101/Vitamin-B12-deficiency.aspx>

<http://kellybroganmd.com/b12-deficiency-brain-health/>

<http://umm.edu/health/medical/altmed/supplement/vitamin-b12-cobalamin>

<http://cardiologyrichmond.com/hl/?/22440/Vitamin-B12>

<https://www.nlm.nih.gov/medlineplus/ency/article/000569.htm>

<https://www.ucsf.edu/news/2001/08/4932/folic-acid-vitamin-b12-show-potential-heart-disease-treatments>