



A Food-Mood Connection: B Vitamins and Depression

Getting inadequate amounts of vitamins B6 and B12 is linked with a higher incidence of depression, according to a study published in the August 2010 issue of the *American Journal of Clinical Nutrition*.

Researchers who analyzed data collected from more than 3,000 adults age 65 or older who participated in the Chicago Health and Aging Project found that those who had higher total intakes of vitamin B6 and B12 from foods and supplements were less likely to have depression.

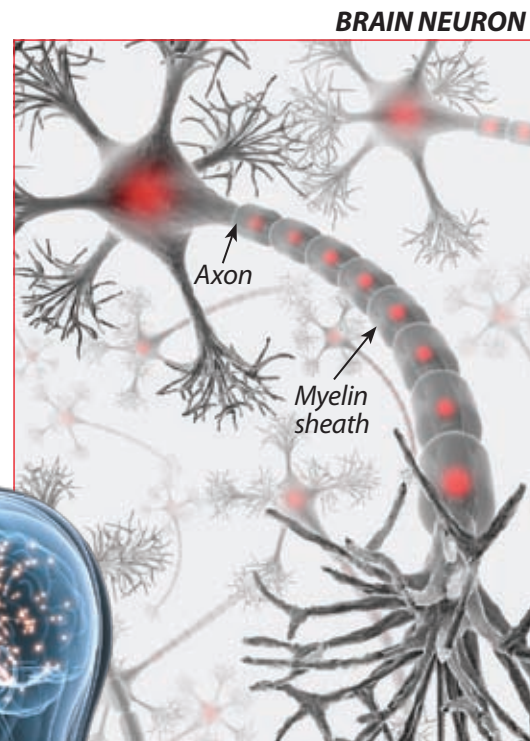
“Both of these vitamins are essential for the creation of neurotransmitters such as dopamine and serotonin, which are chemicals that are known to affect mood,” says Amy Taylor, MPH, RD, CDN, a dietitian at the Weill Cornell Medical Center. “A deficiency of either could inhibit the production of these neurotransmitters.”

Food sources. The best sources of vitamin B6 are beans and peas, meats, fish, and poultry, green leafy vegetables, and some fruits and vegetables. Vitamin B12 is found naturally only in foods of animal origin (meat, fish, poultry, milk products, eggs). Shellfish, fish, beef, and lamb contain the highest amounts of vitamin B12. Some pre-

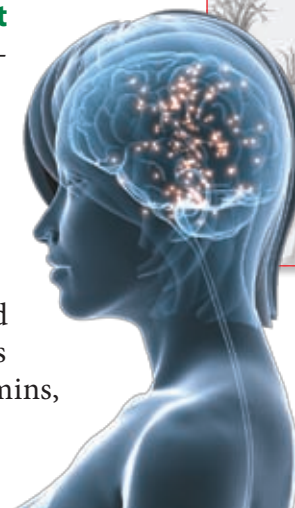
pared foods, such as ready-to-eat breakfast cereals, are fortified with both B6 and B12; check the nutrition label to be certain.

Antidepressant diet? While Taylor says there is not an “antidepressant diet” as such, eating a variety of foods, including fish, whole grains and vegetables, yields a variety of vitamins, minerals and phytonutrients (important components of whole foods that are not vitamins or minerals, but provide health benefits). A balanced diet can provide the majority of vitamins and minerals your brain and body need to function well.

“Other nutrients that have been linked with depression include folate, vitamin D and omega-3 fatty acids,” says Taylor. “However, further research is needed to determine the strength of these associations.” Foods high in folate, which is another B vitamin, include spinach, beans, broccoli



Vitamins B6 and B12 are needed to create neurotransmitters, chemicals that affect mood in the brain. Vitamin B12 also plays a role in the formation of the myelin sheath, a fatty layer that insulates the axons of neurons and allows them to transmit information properly.



and oranges. The highest concentrations of omega-3 fatty acids are found in fish, such as salmon, halibut, mackerel, herring, and sardines. Fish, oysters, shrimp, and milk are the best dietary sources of vitamin D, but mounting evidence from clinical trials indicates that many people are deficient in vitamin D; many experts advise vitamin D supplementation, since its deficiency has been linked with a host of other health issues, including cancer, cardiovascular disease, diabetes, and dementia.

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Should you supplement?

It's always best to try to get your nutrients from foods. "Keep in mind that vitamins and minerals found within whole foods are ideal, as their beneficial effects may also be reliant on the entire food matrix, which consists of all of the components of a food, including the protein, carbs, fat, fiber, and phytonutrients. These components may interact in a way that allows your body to more effectively absorb and use the vitamins and minerals the food contains," advises Taylor. For those not consuming a balanced diet, Taylor says that a simple multivitamin would be



an acceptable supplement. "Read the label before purchasing a multivitamin to ensure that the majority of the vitamins provided are less than or equal to the 100 percent Recommended Dietary Allowance (RDA).

GOOD SOURCES of VITAMIN B6*

Whole grain TOTAL, ¾ cup	2.0 mg
Chickpeas, 1 cup	1.1 mg
Wheaties, 1 cup	1.0 mg
Tuna, yellowfin, cooked, 3 oz	.88 mg
Potato, baked, with skin, one	.63 mg
Pork loin chops, cooked, 3 oz	.60 mg
Prune juice, 1 cup	.56 mg
Bananas, raw, 1 cup	.55 mg
Beef, top sirloin, cooked, 3 oz	.54 mg
Chicken breast, roasted, 3 oz	.52 mg
Spinach, cooked, 1 cup	.44 mg
Red pepper, raw, 1 cup	.43 mg

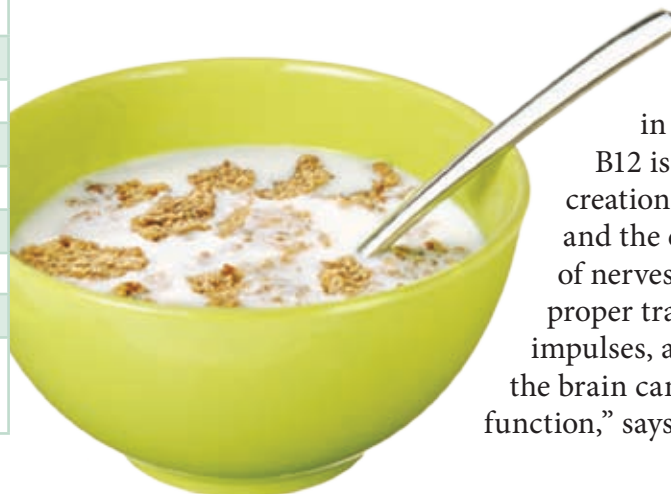
*The RDA for vitamin B6 for women age 50 and older is 1.5 milligrams (mg) and 1.7 mg for men age 50 and older.

GOOD SOURCES of VITAMIN B12*

Clams, cooked, 3 oz	84.1 mcg
Oysters, cooked, 3 oz	13.3mcg
King crab, cooked, 3 oz	9.8 mcg
Blue crab, cooked, 3 oz	6.2 mcg
Whole grain TOTAL, ¾ cup	6.0 mcg
Wheaties, 1 cup	6.0 mcg
Trout, cooked, 3 oz	4.2 mcg
Lamb, cooked, 3 oz	2.2 mcg
Beef, top sirloin, cooked, 3 oz	1.4 mcg
Cottage cheese, low-fat, 1 cup	1.4 mcg
Yogurt, plain, nonfat, 1 cup	1.4 mcg
Milk, reduced-fat, 1 cup	1.3 mcg

*The RDA for vitamin B12 is 2.4 micrograms (mcg) for all people age 14 and older. (One microgram is equivalent to 1/1000 of a milligram.)

Avoid multivitamins that contain very high RDAs, such as 200 to 400 percent, of most vitamins," she says. She also notes that those following a



WHAT YOU CAN DO

To get vitamins B6 and B12 from healthy food sources:

- Choose shellfish and fish that are steamed, broiled, or baked; avoid fried foods, which add excess calories and fat to your diet.
- Select low-fat or nonfat dairy foods to limit your saturated fat and cholesterol intake.
- If you eat canned beans or vegetables, rinse them before eating to eliminate excess sodium.

vegetarian or vegan diet need to take a B12 supplement, as it is not available in vegetarian food sources.

Other functions of B6 and B12.

Vitamins B6 and B12 are essential for other major functions in the body as well.

"B6 is utilized in the metabolism of amino acids (the building blocks of protein) and glycogen (the main form of energy storage in your body). And B12 is important for the creation of red blood cells and the essential fatty layer of nerves, which allow proper transmission of nerve impulses, and without which the brain cannot properly function," says Taylor. 🍌