



VITAMINS-A ROAD OF WELL-BEING: A BRIEF NOTE

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ABSTRACT

Vitamins help your body grow and function as it should. There are 13 essential vitamins – vitamins A, C, D, E, K, and the B vitamins (thiamin, riboflavin, niacin, pantothenic acid, biotin, B6, B12, and folate). Vitamins have different functions to help the body function properly. Some vitamins help you resist infections and keep your veins healthy, while others can help your body get energy from food or help your blood clot properly. Like vitamins, minerals also help your body function. Minerals are elements that our bodies need to function that can be found on Earth and in foods. Some minerals, such as iodine and fluoride, are needed only in very small amounts. Others like calcium, magnesium and potassium are needed in higher amounts.

KEYWORDS: *vitamins, minerals, Dietary nutrients.*

INTRODUCTION

Vitamins and minerals are essential nutrients because they play hundreds of roles in the body. There is a fine line between getting enough of these nutrients (which is healthy) and too much (which can harm you). Eating a healthy diet is the best way to get enough of the vitamins and minerals you need. Dietary nutrients are important for brain structure and function, so they have a potentially profound effect on mental health. A strong body of research points to the harmful effects of unhealthy diets and nutrient deficiencies and the protective value of a healthy diet, along with essential nutritional supplements, on maintaining and promoting mental health.

The research literature suggests that dietary improvements and nutritional interventions may help reduce the risk of certain mental disorders or even prevent the progression. Clinical studies support the use of certain nutrients, which exert a range of beneficial neurochemical activities, as medicinal supplements for the treatment of mental disorders. Clinical research evidence supports the use of several nutritional medications for certain mental disorders: omega-3 fatty acids; N-acetyl cysteine (NAC); S-adenosyl methionine (SAME); zinc; magnesium; vitamin D; and B vitamins (including folic acid). Other natural compounds such as amino acids, plant-based antioxidants and probiotics (obtained from fermented food or laboratory synthesis) are also known to affect brain health. But while some

evidence supports these natural compounds have brain chemical-modulating effects, or play a role in treating certain mental disorders, we cannot currently name particular foods to be effective for treating mental illness. Huh. can do. The best nutritional advice at this point is to cultivate an unprocessed whole food diet with judicious use of nutrients (if necessary) based on the advice of a qualified health professional.

ESSENTIAL NUTRIENTS FOR YOUR BODY

Every day, your body builds skin, muscles, and bones. It pumps out rich red blood that carries nutrients and oxygen to distant outposts, and it sends nerve signals that travel thousands of miles to the brain and body. It also makes chemical messengers that travel from one organ to another, issuing instructions that help sustain your life. But your body needs some raw materials to do all this. These include at least 30 vitamins, minerals and dietary components that your body needs but cannot manufacture on its own. Vitamins and minerals are considered essential nutrients – because acting in music, they play hundreds of roles in the body. They help to shore up bones, heal wounds, and strengthen your immune system. They also convert food into energy, and repair cellular damage.



VITAMINS	SOURCES
A	<ul style="list-style-type: none"> • Organ meats, such as liver and giblets (3 ounces = 1490-9126 micrograms) • Vegetables: <ul style="list-style-type: none"> ○ sweet potatoes (1 medium potato = 1096 micrograms) ○ pumpkin (1/2 cup = 953 micrograms) ○ carrots (1/2 cup = 679 micrograms) ○ spinach (1/2 cup = 573 micrograms) ○ turnip greens (1/2 cup = 441 micrograms) • Cantaloupe (1/4 medium melon = 233 micrograms)
Calcium	<ul style="list-style-type: none"> • Nonfat or low-fat yogurt (8 ounces = 345-452 milligrams). • Nonfat or low-fat cheese (2 ounces = 400 milligrams). • Low-fat milk (1 cup = 290 milligrams) or skim milk (1 cup = 306 milligrams). • Fish and seafood such as sardines (3 ounces = 325 milligrams), pink salmon (3 ounces = 181 milligrams) and ocean perch (3 ounces = 116 milligrams). • Beans such as soybeans (1/2 cup = 130 milligrams) and white beans (1/2 cup = 96 milligrams). • Spinach (1/2 cup = 146 milligrams). • Oatmeal (1 packet = 99-110 milligrams).
Potassium	<ul style="list-style-type: none"> • Potatoes: <ul style="list-style-type: none"> ○ sweet potatoes (1 sweet potato = 694 milligrams) ○ white potatoes (1 potato = 610 milligrams) • Beans: <ul style="list-style-type: none"> ○ white beans (1/2 cup = 595 milligrams) ○ soybeans (1/2 cup = 485 milligrams) ○ lima beans (1/2 cup = 484 milligrams) ○ kidney beans (1/2 cup = 358 milligrams) • Yogurt: <ul style="list-style-type: none"> ○ nonfat yogurt (8 ounces = 579 milligrams) ○ low-fat yogurt (8 ounces = 531 milligrams) • Milk: <ul style="list-style-type: none"> ○ skim milk (1 cup = 382 milligrams) ○ low-fat milk (1 cup = 366 milligrams) • Fruit: <ul style="list-style-type: none"> ○ bananas (1 medium banana = 422 milligrams) ○ peaches (1/4 cup = 398 milligrams) ○ cantaloupe (1/4 medium melon = 368 milligrams) ○ honeydew melon (1/8 medium melon = 365 milligrams) • Fish: <ul style="list-style-type: none"> ○ halibut (3 ounces = 490 milligrams) ○ yellowfin tuna (3 ounces = 484 milligrams) ○ rockfish (3 ounces = 442 milligrams) ○ cod (3 ounces = 439 milligrams) • Tomato-based products: <ul style="list-style-type: none"> ○ paste (1/4 cup = 664 milligrams) ○ puree (1/2 cup = 549 milligrams) ○ juice (3/4 cup = 417 milligrams) ○ sauce (1/2 cup = 405 milligrams)
Magnesium	<ul style="list-style-type: none"> • Vegetables: <ul style="list-style-type: none"> ○ pumpkin (1 ounce = 151 milligrams) ○ spinach (1/2 cup = 81 milligrams) ○ artichokes (1/2 cup = 50 milligrams) • Bran cereal (1 ounce = 103 milligrams) • Beans: <ul style="list-style-type: none"> ○ soybeans (1/2 cup = 74 milligrams) ○ white beans (1/2 cup = 67 milligrams) ○ black beans (1/2 cup = 60 milligrams)



	<ul style="list-style-type: none"> ○ navy beans (1/2 cup = 48 milligrams) ○ great northern beans (1/2 cup = 44 milligrams) ● Tofu (1/2 cup = 47 milligrams) ● Brown rice (1/2 cup = 42 milligrams) ● Nuts: <ul style="list-style-type: none"> ○ brazil nuts (1 ounce = 107 milligrams) ○ almonds (1 ounce = 78 milligrams) ○ cashews (1 ounce = 74 milligrams) ○ peanuts (1 ounce = 50 milligrams)
Vitamin C	<ul style="list-style-type: none"> ● Fruits: <ul style="list-style-type: none"> ○ guava (1/2 cup = 188 milligrams) ○ oranges (1 medium orange = 70 milligrams) ○ kiwi (1 medium kiwi = 70 milligrams) ○ strawberries (1/2 cup = 49 milligrams) ○ cantaloupe (1/4 medium melon = 47 milligrams) ○ papaya (1/4 medium papaya = 47 milligrams) ○ pineapple (1/2 cup = 28 milligrams) ○ mango (1/2 cup = 23 milligrams) ● Vegetables: <ul style="list-style-type: none"> ○ raw red sweet pepper (1/2 cup = 142 milligrams) ○ raw green sweet pepper (1/2 cup = 60 milligrams) ○ Brussels sprouts (1/2 cup = 48 milligrams) ○ broccoli (1/2 cup 38 milligrams) ○ sweet potatoes (1/2 cup = 34 milligrams) ○ cauliflower (1/2 cup = 28 milligrams)
Vitamin D	<ul style="list-style-type: none"> ● fatty fish: <ul style="list-style-type: none"> ○ salmon (3 ounces = 450 IU) ○ swordfish (3 ounces = 550 IU) ○ canned tuna (3 ounces = 150 IU) ● fortified milk (8 ounces = 100 IU) ● fortified orange juice (8 ounces = 100 IU) ● fortified cereal (1 cup = 40 IU) ● fortified yogurt (6 ounces = 80 IU) ● cheese, Swiss (1 ounce = 6 IU)
Vitamin E	<ul style="list-style-type: none"> ● nuts and seeds: <ul style="list-style-type: none"> ○ sunflower seeds (1 ounce = 7.4 milligrams) ○ almonds (1 ounce = 7.3 milligrams) ○ hazelnuts (1 ounce = 4.3 milligrams) ○ pine nuts (1 ounce = 2.6 milligrams) ○ peanuts (1 ounce = 2.2 milligrams) ○ brazil nuts (1 ounce = 1.6 milligrams) ● turnip greens (1/2 cup = 2.9 milligrams) ● peanut butter (2 tablespoons = 2.5 milligrams) ● spinach (1/2 cup = 1.9 milligrams) ● avocado (1/2 avocado = 2.1 milligrams) ● tomato-based products: <ul style="list-style-type: none"> ○ paste (1/4 cup = 2.8 milligrams) ○ sauce (1/2 cup = 2.5 milligrams) ○ puree (1/2 cup = 2.5 milligrams)

MEASUREMENTS FOR VITAMINS AND MINERALS

Vitamins and minerals are measured in a variety of ways. The most common are:

- ✓ milligram - milligram (a milligram is one-thousandth of a gram)

- ✓ mcg - micrograms (One microgram is one millionth of a gram. 1,000 micrograms is equal to one milligram)
- ✓ IU - International Unit (conversion of milligrams and micrograms to IU depending on the type of vitamin or drug).



MICRONUTRIENTS WITH A LARGE ROLE IN THE BODY

Vitamins and minerals are often called micronutrients because your body needs only small amounts of them. Yet failing to receive those small amounts virtually guarantees disease. Here are some examples of diseases that can result from vitamin deficiencies:

- Scurvy. Old-time sailors learned that living for months without fresh fruits or vegetables—the main source of vitamin C—caused bleeding gums and apathy of scurvy.
- Blindness In some developing countries, people still go blind from vitamin A deficiency.
- Rickets. Vitamin D deficiency can lead to rickets, a condition marked by soft, weak bones, which can lead to skeletal deformities such as bowed legs. To partially combat rickets, America has fortified milk with vitamin D since the 1930s.

CONCLUSION & DISCUSSION

Micronutrients are the vitamins and minerals found in food that nourish your body and help keep you healthy. They are essential for your overall health. Choosing foods rich in vitamins and minerals every day is the best way to get what your body needs to stay healthy. So there are seven key nutrients that can positively affect brain health and the foods in which they appear.

1. Omega-3

Polyunsaturated fats (especially omega-3 fatty acids) have an important role in maintaining proper neuronal structure and function, as well as modulating important aspects of inflammatory pathways in the body. Taking omega-3 supplements appears to be beneficial for relieving symptoms of depression, bipolar depression and post-traumatic stress disorder. And it could potentially help prevent psychosis.

Omega-3 fats can be found in nuts, seeds and oysters, although the highest amounts are present in oily fish such as sardines, salmon (especially king salmon), anchovies and mackerel. Because of the high levels of mercury, larger fish, such as mackerel, should be consumed in moderation.

2. B Vitamins and Folate

Need of B vitamins for a range of cellular and metabolic processes, and they play an important role in the production of a range of brain chemicals. Folate (B9) deficiency has been reported in depressed populations and in people who respond poorly to antidepressants.

Several studies have assessed the antidepressant effect of folic acid (a synthetic form of folate) with antidepressant medication. Some antidepressants show positive results in the response rate or onset of response to these drugs.

Folate is found in abundance in leafy green vegetables, legumes, whole grains, brewer's yeast and nuts. Unprocessed meats, eggs, cheese, dairy, whole grains and nuts, in general, are among the highest in B vitamins. If you are going to take a supplement, it is recommended to take B vitamins together as they have a synergistic effect.

3. Amino Acids

Amino acids are the building blocks for making proteins, which make up brain circuitry and brain chemicals. Some amino acids are precursors to mood-modulating chemicals; For example, tryptophan is needed to make serotonin. Another example is cysteine, a sulfur-based amino acid that can convert to glutathione—the body's most powerful antioxidant.

When given as a supplement, an amino acid form known as N-acetyl cysteine (NAC) is converted to glutathione in the body. We have evidence that it is helpful in bipolar depression, schizophrenia, trichotillomania, and other compulsive and addictive behaviors. Another amino acid-based nutrient known as S-adenosyl methionine (SAME), has antidepressant properties. Amino acids are found in any source of protein, especially meat, seafood, eggs, nuts and legumes.

4. Minerals

Minerals, especially zinc, magnesium and iron, play an important role in neurological function. Zinc is an abundant trace element, involved in many brain chemical reactions. It is also a key element supporting proper immune function. Deficiency has been linked to an increase in depressive symptoms and there is emerging evidence for zinc supplementation to improve depressed mood, primarily with antidepressants.

Magnesium is also involved in many brain chemical reactions and a deficiency has been linked to depressive and anxiety symptoms. Iron is involved in many neurological activities and deficiency is associated with anxiety and depressive symptoms as well as developmental problems. This is due, in part, to its role in the transport of oxygen to the brain.

Zinc is abundant in lean meats, oysters, whole grains, pumpkin seeds and nuts, while magnesium is highest in nuts, legumes, whole grains, leafy greens and soy. Unprocessed meats and organ meats, such as liver, and leafy greens such as cereals, nuts and spinach are high in iron in moderate amounts.

5. Vitamin D

Vitamin D is a fat-soluble compound that is as important for brain development as it is for bone development. Data suggest that low maternal levels of vitamin D are implicated in the risk of schizophrenia, and deficiency is associated with an increase in depressive symptoms. But there is little evidence to support the use of vitamin D supplements to prevent depression.



Vitamin D can be synthesized through sunlight: 15 minutes a day between 10 a.m. and 3 p.m. on the skin during the summer, though be sure to seek professional health advice regarding skin cancer concerns. In addition to sunlight, vitamin D can also be found in oily fish, UVB-exposed mushrooms and fortified milk.

6. Plant Based Antioxidants

Increased oxidative stress and damage to brain cells have been implicated in a number of mental disorders, including depression and dementia. Antioxidant compounds (such as "polyphenols," which are found in fruits and some herbs) can "mop up" free radicals that damage cells to provide a natural way to combat excessive oxidation. .

Consuming natural antioxidant compounds through your diet is better than taking high-dose supplements of synthetic vitamins A, C or E, because the oxidative system is finely tuned and excess can actually be harmful. These antioxidant compounds are relatively abundant in fruits and vegetables, especially blackberries, blueberries, raspberries and goji berries; Grape; Mango and Mangosteen; Onion; Garlic; Cauliflower; as well as green and black tea; various herbal teas; and coffee.

7. Microbiotics

Research shows a connection between the bacteria in our gut and brain health, which can affect mental health. When the composition of the gut microbiota is less than optimal, it can result in inflammatory responses that can negatively affect nervous system and brain function. A balanced microfloral environment is supported by a diet rich in foods that nourish beneficial bacteria and reduce harmful microbial species, such as *Helicobacter pylori*. Eating fermented foods such as tempeh, sauerkraut, kefir and yogurt, and pectin-rich foods such as the skin of fruits may also help.

The dietary requirement for a micronutrient is defined as an intake level which meets a specified criteria for adequacy, thereby minimizing risk of nutrient deficit or excess. These criteria cover a gradient of biological effects related to a range of nutrient intakes which, at the extremes, include the intake required to prevent death associated with nutrient deficit or excess. However, for nutrients where insufficient data on mortality are available, which is the case for most micronutrients discussed in this report, other biological responses must be defined. These include clinical disease as determined by signs and symptoms of nutrient deficiency, and subclinical conditions identified by specific biochemical and functional measures. Measures of nutrient stores or critical tissue pools may also be used to determine nutrient adequacy.

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