

Vitamin Myths and Truths

Vitamins have become increasingly popular since William Fletcher concluded that "special factors" (vitamins) had a great deal to do with health and disease back in 1905, and the term "vitamine" was coined by the Polish scientist Cashmir Funk in 1912.

Although countless research articles have been published and nearly everyone has consumed vitamin products at some point during their lives, there are still quite a few misconceptions that exist regarding vitamins, especially in supplemental form.

The purpose of this article is to hopefully expose some vitamin misconceptions and provide information that will help the public make more informed and thus better decisions when it comes to vitamin supplementation and sources.

Myth: We get all the vitamins we need from our foods.

Two hundred years ago it might have been possible to supply the body with all the vitamins, minerals and nutrients it needed without the need for additional supplementation. However, with the advent of chemical use and modern farming practices, getting complete and pure nutrition from foods is becoming more difficult.

Farmland is becoming increasingly toxic due to the presence of chemicals used to enhance food growth and production. In turn, the crops grown in these soils are absorbing these toxic substances rather than absorbing essential nutrients. For example, fruits and grains can absorb lead, while lettuce, corn, and wheat can absorb pesticides and cadmium from soils, putting food supplies at risk.¹

Additionally, much of our land has become progressively over-farmed. The continuous use of the same soil depletes it of beneficial microbes and minerals that are essential for healthy produce. Dr. William A. Albrecht, Chairman of the Department of Soils at the University of Missouri, stated, "A declining soil fertility, due to a lack of organic material, major elements, and trace minerals, is responsible for poor crops and in turn for pathological conditions in animals fed deficient foods from such soils, and that mankind is no exception."²

Myth: It's okay to take any vitamin product as long as I take something.

Not all vitamin supplements are created equally. For the last several decades the health industry has been promoting thousands of various vitamin brands. However, most vitamin supplements contain petroleum derivatives and/or hydrogenated sugars. Even though they are often labeled as natural, most non-food vitamins are isolated substances and crystalline in structure.³ Vitamins found naturally in real food are not crystalline and never isolated.⁴

Myth: As long as a vitamin supplement says it is "organic," it is okay to take.

¹ Wilson, D., "Fear in the Fields," The Seattle Times, July 3, 1997, citing Agency for Toxic Substances Disease Registry, EPA. of contamination by toxic substances that could threaten human health.

² U.S. Dept. of Agric., *Soils and Men*, Yearbook of Agriculture 1938, pp. 347-360.

³ Budvari S, et al editors. The Merck Index: An encyclopedia of Chemicals, Drugs, and Biologicals, 12 th ed. Merck Research Laboratories, Whitehouse Station (NJ), 1996

⁴ Vitamin-Mineral Manufacturing Guide: Nutrient Empowerment, volume 1. Nutrition Resource, Lakeport (CA), 1986

Webster's dictionary states one definition of organic as, "designating or of any chemical compound containing carbon."⁵ Vitamin supplements, therefore, can contain misleading information because by its scientific definition, the term 'organic' can mean that it is a carbon-containing substance. Thus, all petroleum derivatives (hydrocarbons) technically can be classified as organic. The naturopathic (or even governmental) view is a much different definition. It is important then to distinguish between different types of organic.

Myth: The more vitamins you take, the better they are for you.

We've been convinced primarily through media-fostered misinformation that mega-doses of vitamins are necessary for health. However, research has shown that just the opposite is true. Since most supplements are colloidal (large molecule), synthetic, and contain inorganic elements, in addition to binders and fillers, most of the benefits are lost or not utilized properly. Most synthetic vitamins come in several forms: powders, pills, and capsules. Binders and fillers, such as dibasic calcium phosphate (DCP) and microcrystalline cellulose (MCC), used in discounted, mass-volume supplements, cannot be broken down by the body, so they may pass right through along with the beneficial nutrients.⁶ They also can be stored in the intra and extra cellular spaces. The body subsequently does not recognize them as beneficial, but rather as foreign invaders which can lead to auto-toxicity and various health problems.

For example, vitamin A found in nature is referred to as Retinol and Carotene. Foods high in carotenoids that become vitamin A in the body do not cause toxicity. However, too much vitamin A from supplements can damage bones and can become toxic over a long period of time.⁷

Myth: By taking vitamins regularly, we do not need to exercise.

There is no substitute for exercise. The benefits of circuit training or a 30-minute walk, or other physical activity, cannot be replaced -- especially if one is overweight, has high-blood pressure, or has a heart condition.

F. Patrick Robinson, a bio-behavioral research fellow at the University of Illinois-Chicago, stated, "There's a decade of research that shows that aerobics and weight lifting can reverse metabolic complications. Some studies have revealed that exercise helps decrease triglyceride levels and may help with the reduction of localized weight gain and improve sensitivity to insulin."⁸

Myth: Vitamins replace the need to eat properly.

Many believe that vitamins can replace whole foods and therefore do not eat foods they should. Vitamins cannot function without the energy generated from food such as carbohydrates, fats, and proteins. Therefore, it is important to consume a variety of foods that supply both energy and vitamins naturally. If deficiencies exist, additional supplements in the right form and combination can compensate for these deficiencies.

Myth: All vitamins are absorbed by the body in the same way, regardless of when they are taken and in what combination.

The type of vitamin and its source are crucial to how absorbable the vitamin really is. Many pill and capsule-form vitamins simply are not absorbed properly due to the processed and compressed nutrients. The Physician's Desk

⁵ Guralnik, David B, Webster's New World Dictionary, Second Edition, 1986, p. 1002

⁶ 1995, "The effects of slugging and recompression on pharmaceutical excipients", International journal of pharmaceuticals, Vol. 115, pp. 35-43

⁷ Author: Mohsen S Eleidrisi, MD, FACP, FACE, Consultant, Department of Internal Medicine, Division of Endocrinology and Metabolism, King Abdulaziz National Guard Medical Center, Saudi Arabia *Vitamin A Toxicity*

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⁸ That study, "Exercise and Vitamin E Intake Are Independently Associated with Metabolic Abnormalities in Human Immunodeficiency Virus-Positive Subjects: A Cross-Sectional Study," appeared in *Clinical Infectious Diseases* (2003;36(12):1593-1601).

Reference contains research revealing that only 10-20% of the nutrients in solid vitamins are actually absorbed by the body whereas liquid vitamins are absorbed at nearly 98%. Additionally, nutrients are better absorbed when in the correct proportions. For example, it is essential that vitamins and minerals are taken together as vitamins cannot complete their function in the cell's metabolism without minerals.⁹ Trace minerals serve as catalysts to vitamins within the cell.¹⁰

Some nutrients are more effective depending on when they are taken. As a general rule, vitamins are best taken with meals, since most vitamins and minerals come from our food, and typically would be digested and absorbed best in the company of real food.

Another example is B vitamins, which normally are best consumed at mealtime, as they make some people queasy when taken on an empty stomach. Particular Calcium supplements, such as Calcium Carbonate, are best taken immediately after a meal, and Iron supplements should be taken on an empty stomach.

Fat soluble vitamins like vitamin A, D, E, and K require fats for proper absorption and many vitamins require some protein to be properly digested and utilized.

Myth: Even if a vitamin contains some organic or natural substances, it still will benefit me.

“... (A) company might make a product that really is natural, and label it as such, or it could be made of nine synthetic ingredients, with just a little plant extract thrown in.” This quote from Daniel Fabricant, VP of Scientific and Regulatory Affairs at the Natural Products Association, in Washington, D.C., sheds light that a product may be called natural or organic, even if most of the contents are neither.

The United States government has no absolute definition of natural. Therefore, when a company uses terms such as "natural" or "all natural" it does not mean its vitamins are not synthetic. It is important to check the label for proof that the product is truly 100% food.

Myth: Vitamin C supplements are very popular. I have been told that taking ascorbic acid for health aids in preventing colds.

Vitamin C occurs naturally in fruits in two ascorbate forms with bioflavonoids.¹¹ Non-food, so-called ‘natural’ ascorbic acid, is made by fermenting corn sugar into sorbitol, then hydrogenating it until it turns into sorbose. Acetone (commonly referred to as nail polish remover) is then added to break the molecular bond which creates isolated, crystalline, ascorbic acid. It does not contain either vitamin C forms nor bioflavonoids; thus it is too incomplete to be called vitamin C.¹²

Another popular vitamin supplement is vitamin E. Natural vitamin E “as found in foods is [d]-alpha tocopherol, whereas chemical synthesis produces dl-alpha-tocopherol which is synthetic.¹³ Natural vitamin E has up to four times the antioxidant capacity of synthetic vitamin E. In addition, synthetic vitamin E has less ability to correct vitamin E deficiencies than vitamin E from food. The body retains natural vitamin E 2.7 times better than synthetic forms.¹⁴

⁹ Todd, Gary Price, M.D., (1985), p. 20-24, 113-118, *Nutrition Health & Disease*. Whitford Press.

¹⁰ *Catalyst to vitamins within the cell - Williams, Ddr. Roger J. (1977). The Wonderful World Within You. Bio-Communications Press. Wichita, Kansas.*

¹¹ Shils M, et al, editors. *Modern Nutrition in Health & Disease*, 9 th ed. Williams & Wilkins, Balt.,1999

¹² *Vitamin-Mineral Manufacturing Guide: Nutrient Empowerment*, volume 1. Nutrition Resource, Lakeport (CA), 1986

¹³ Traber MG. Vitamin E. In *Modern Nutrition in Health and Disease*, 9th ed. Williams & Wilkins, 1999:347-362

¹⁴ Traber MG, Elsner A, Brigelius-Flohe R. Synthetic as compared with natural vitamin E is preferentially excreted as alpha-CEHC in human urine: studies using deuterated alpha-tocopherol acetates. *FESB Letters*, 1998;437:145-148

To put it simply, natural vitamins cannot be invented. The fact that some drugs are similar chemically to vitamin D as found in foods do not make them true vitamins. It is important to read the label of any supplement to see if the product is truly 100% food. If even one USP vitamin synthetic substitute is listed, then the entire product is probably not real food. The best source of vitamins comes from certified organic real foods grown in fertile soil through liquid, organic real-food supplements that contain the proper combination of nutrients to make vitamins effective at the job they perform.

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