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Review Article

Effects of Healthcare Supplements

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Abstract

The term "dietary supplement" refers to a wide variety of items that include vitamins and minerals, herbs and other botanicals, amino acids, enzymes, and other substances. Dietary supplements come in a variety of types, including pills, gummies, powders, liquids, teas, and bars. Dietary supplements, unlike medicines (drugs), are not designed to treat, diagnose, prevent, or cure illness. The Food and Drug Administration (FDA) regulates all prescription and non-prescription medications. Dietary supplements, on the other hand, are viewed more like special foods. In general, the FDA considers new drugs to be harmful unless they are shown safe in clinical studies.

Keywords: Medicines; Drugs; Preventative Supplements; Vitamins

Introduction

Everyone wonders if supplements can assist, that's an excellent question. Here's where we are now, but keep a look out for fresh findings, since recommendations will update when new scientific research are published.

Sadly, with a few exceptions, most research has failed to corroborate our aspirations. Many individuals take supplements in the hope that they would improve their health or prevent sickness; others use supplements to address particular illnesses that have already emerged. We'll look at popular supplements in both categories, beginning with preventative supplements, which are mostly utilized by healthy people.

Preventive Supplements

Vitamin D:

We need a lot of sunlight to receive vitamin D the old-fashioned way, by producing it in our skin. Nevertheless, as our jobs have migrated from the farm to the office and we've learned to wear sunscreens to limit the danger of skin cancer and wrinkles, many individuals are deficient in the "sunshine vitamin." Older folks, people with chronic conditions, and people of color are more vulnerable; Vitamin D is required for calcium absorption from the intestines, and therefore it is essential for bone health [1-4]. Current recommendations are 600 IU (international units) per day for those under the age of 71, and 800 IU per day for those above the age of 71. Although many scientists suggest 800 to 1,000 IU a day for most individuals; daily dosages up to 4,000 IU are regarded safe, but higher can be dangerous.

Antioxidant Supplements

Antioxidant supplements include concentrated versions of antioxidants, which are elements that protect your body's cells from free radical damage. Free radicals are chemicals that are formed by your body as it digests food or when you are exposed to cigarette smoke or radiation. Antioxidants can be made up of hundreds, if not thousands, of different chemicals, the most well-known include vitamin C, vitamin E, beta-carotene, and other carotenoids, as well as the minerals selenium and manganese [5-8].

Antioxidants are required for all living organisms to survive; your body produces antioxidants on its own, including the cellular antioxidant glutathione.

But so far, several well conducted randomized clinical trials have found no protection against heart disease, cancer, or other disorders. That's not even the worst of it. Indeed, even moderately high doses of vitamin A increase the risk of hip fractures, and high levels of vitamin A have been linked to an increased risk of prostate cancer; beta carotene increases the risk of lung cancer in smokers; and vitamin E increases the risk of prostate cancer in addition to respiratory infections, heart failure, and the overall death rate.

The B Vitamins:

- B1 (thiamin)
- B2 (riboflavin)
- B3 (niacin)
- B5 (pantothenic acid)
- B6 (pyridoxine)
- B7 (biotin)
- B9 (folate [folic acid])
- B12 (cobalamin)

These vitamins assist a number of enzymes in performing their functions, which range from releasing energy from carbs and fat to breaking down amino acids and moving oxygen and energy-containing substances throughout the body.

Because vitamin B12 is only found in animal-based foods, strict vegetarians may require supplements. Also, many elderly people do not produce enough stomach acid to extract B12 from animal sources so that it may be absorbed. Yet, B12 is added to fortified grain products and other meals, and this synthetic B12 is easily absorbed even in the absence of stomach acid. It implies a single bowl of cereal can meet your RDA 2.4 micrograms (mcg). Nonetheless, if your fortified grain diet is inconsistent, a B12 supplement is a good idea [9].

Folate is a more complicated vitamin. The vitamin is required for the synthesis of red blood cells, as well as for the production of DNA and the repair of genetic code abnormalities. Although folate is found in a range of leafy green vegetables, fruits, legumes, and meats, many people did not meet their RDA of 400 mcg from diet until the late 1990s - and folate shortages during pregnancy significantly raise the risk of catastrophic birth abnormalities. That's why the U.S. and Canadian governments adopted legislation mandating folic acid fortification of all grain products (including cereal, bread, flour, pasta, and rice) from 1998 onward.

Multivitamins Supplements

A multivitamin's principal function is to cover nutritional gaps and ensure that people obtain their daily amount of underutilized nutrients such as vitamins A, C, D, E, and K, calcium, magnesium, dietary fiber, choline and potassium. Despite their popularity, there is no proof that multivitamins improve health or prevent sickness. The best approach to determine if you need a multivitamin or a specific trace nutrient is to have blood testing, this test will reveal what your body is missing. If a person is aware that their diet is insufficient, they may be more likely to take a multivitamin [10].

Other Supplements

Fish Oil Supplements

Fish oil is a kind of oil extracted from the tissues of oily fish. Fish oils contain the omega-3 fatty acids eicosapentaenoic acid and docosahexaenoic acid, both of which are precursors to specific eicosanoids known to decrease inflammation and alleviate hypertriglyceridemia. Fish oil supplements may help decrease pain, alleviate morning stiffness, and relieve joint discomfort in persons with rheumatoid arthritis, according to research. While relief is frequently minimal, it may be sufficient to lessen the need for anti-inflammatory drugs.

It is deemed safe to take up to 3 grams of fish oil daily in supplement form; Take no more than that unless you consult your doctor beforehand, consuming more over 3 grams per day may raise the risk of bleeding. Heartburn, loose stools, and nosebleeds are some of the negative effects of fish oil [11]. If you opt to take fish oil, avoid fish liver oil, which contains an excessive amount of vitamin A.

Selenium

It can be obtained in foods or as a supplement.

Selenium is a necessary component of several enzymes and proteins known as selenoproteins, which assist to create DNA and protect cells from damage and viruses; these proteins are also involved in reproduction and thyroid hormone metabolism. When taken orally, selenium is probably safe at short-term dosages of less than 400 mcg daily. Nevertheless, selenium may be harmful if taken in excessive levels or over an extended period of time. Dosages more than 400 mcg per day may increase the risk of developing selenium poisoning.

Herbal Supplements

Herbal supplements are plant-based dietary supplements. These supplements are taken orally, whether as a pill, tablet, powder, or liquid. Ginkgo biloba, ginseng, echinacea, and black cohosh are just a few examples. Researchers are investigating the use of herbal supplements to prevent or cure some health issues, but it is too early to tell if they are both safe and effective. Prior research on several herbal supplements found no advantages. It is critical to understand that just because a supplement is natural or derived from plants does not necessarily imply that it is safe [11-15].

Conclusion

Too much of a vitamin or mineral might be detrimental at times. Food should provide the majority, if not all, of your daily vitamins and minerals, consider how much of each nutrient you get from food and drinks, as well as any supplements you take, when deciding if you need more of a vitamin or mineral. Strict criteria must be devised to allow the scientific community to record possible benefits and side effects of dietary supplements in a more systematic and thorough manner. A suitable mechanism for tracking the usage of dietary supplements should be created. Its use would allow the scientific community, regulatory authorities, and the nutritional supplement business to analyze, identify trends in, and assess this increasingly frequent practice more efficiently.

Conflict of Interest

The author have no conflict of interest to declare.

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