



The value of supplements

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Introduction

Nutritional supplements have become more popular in the last 30 years and are taking over shelves in various health and wellness stores.¹ Supplements are sources of vitamins, minerals or other ingredients that are used with the intention of enhancing health, preventing illness and correcting deficiencies.^{2,3} Supplements are usually taken orally and are available in many forms including tablets, capsules, powders and syrups.³ Studies have shown that the majority of people that make use of these products are healthy and do not need to supplement their diets.³ In spite of this, supplements can be extremely valuable to those who need them.

Vitamin and mineral supplements

Vitamins and minerals are micronutrients that the body needs in small amounts in order for it to work properly.^{3,4} It is advised that people take in sufficient micronutrients to maintain optimal health. Adequate amounts of vitamins and minerals are specified by Recommended Daily Allowances or 'RDAs'.⁴ If one is healthy and able to follow a diet rich in fruits, vegetables, lean meats, legumes, dairy and whole grains, it is easy to meet the RDAs for all micronutrients. However, in cases where a person cannot eat a variety of foods, supplements may be beneficial.³ Those who follow restricted eating patterns such as vegans or cannot eat many foods due to allergies/intolerances fall into this category. Furthermore, people living in poverty (particularly children) are more prone to vitamin and mineral deficiencies. These population groups should consider taking a micronutrient supplement. Similarly, pregnant or lactating women, adolescent females, women taking oral contraceptives and the elderly are among other vulnerable groups that could benefit from taking a vitamin and

mineral supplement.³ It is important to note that when taken in excess, vitamin and mineral supplements may be dangerous. It is therefore advised to consult a doctor or dietitian before consuming these products.^{3,4}

Vitamin A

Vitamin A is a fat soluble vitamin that is well-known for its role in maintaining healthy eyesight. However, vitamin A is a versatile vitamin and is also beneficial for skin and reproductive health, as well as immune function. This micronutrient is a known antioxidant and anti-inflammatory, and has been shown to reduce the severity of some infectious diseases.^{3,4} Due to its effect in promoting growth and healthy vision, vitamin A is especially important for children. In the lower socio-economic communities, vitamin A deficiency is prevalent in pre-school aged children. The consumption of a cereal-based diet with limited vegetables, fruit and animal products is the main cause of this. Vitamin A supplementation is highly valuable in these communities.⁵ Other individuals who may benefit from vitamin A supplementation are those who have suffered from prolonged malnutrition, fat malabsorption and certain illnesses such as celiac and liver disease.^{3,6} Although beneficial in some cases, vitamin A supplements may be toxic if taken in excessive amounts.^{4,6}

The B vitamins

The B vitamins are water soluble and help the body to make energy during metabolism. Vitamins B₁, B₂ and B₆ are examples of vitamins needed for important chemical metabolic reactions in the body. They also work together to maintain nerve and muscle health. Another noteworthy B vitamin is vitamin B₁₂, which is required for proper growth and nerve function.⁴ If one includes a variety of foods in the diet, it is unlikely that a B vitamin deficiency will occur. However, a lack of B vitamins in the diet can cause numerous complications such as skin rashes and abnormal brain function. Vitamin B₆ deficiency is

one of the more common deficiencies and can occur in cases of alcohol abuse, certain diseases as well as with the usage of certain medications (e.g. oral contraceptives).⁴ Deficiency of the B vitamins can be corrected with vitamin B supplements if dietary intervention is not successful.³

Furthermore, certain supplements may have a positive impact on overall health. Vitamin B₆ supplements have shown benefits in treating pregnancy-induced nausea, kidney stones and high blood pressure. In addition to this, both vitamin B₆ and B₁₂ supplements are linked to the prevention of conditions such as anaemia and macular degeneration.³

Vitamin C

Vitamin C is one of the most well-known vitamins, and is valued for its ability to ward off a cold.⁴ A powerful antioxidant, vitamin C is important for wound healing and immune function.⁴ People that smoke tend to be deficient in vitamin C, and may benefit from a supplement.⁴ Vitamin C supplements may also enhance iron absorption and reduce cold and flu symptoms. Supplements containing vitamin C are linked to preventing some cancers as well as treating high blood pressure, arthritis and sunburn.³

Vitamin D

In South Africa, vitamin D is best acquired through exposure to the sun. Vitamin D has multiple functions, but is well-known for the role it plays in bone health. Without vitamin D, the body would not be able to absorb calcium or phosphorous (which are crucial for building and maintaining bones). Vitamin D also helps promote brain and nerve health, and helps the immune system fight off infections. Long-term deficiency of vitamin D can cause bone abnormalities in both adults and children. In these cases, supplements may be valuable.⁴ Vitamin D supplements have also shown positive effects in the prevention of some cancers, dental caries, multiple sclerosis, respiratory infections, arthritis and obesity.³

Folic acid

Folate or folic acid supplements are commonly taken by pregnant women. This is because folate is needed to make DNA for rapidly dividing cells (like a growing foetus). Folate has also been linked to the prevention of heart disease, as well as various cancers.⁴ Folic acid supplements may also be effective in treating macular degeneration, depression and high blood pressure.³

Zinc

Zinc is an antioxidant mineral often found in commercial supplements. Zinc helps to keep the body healthy by aiding in immune function, blood clotting, wound healing and growth.⁴ Zinc supplements have been shown to relieve the severity of the common cold, diarrhoea, anaemia, low appetite, burns, ulcers and muscle cramps.³

Other supplements

Vitamins and minerals are not the only supplements dominating the market. Other natural ingredients are also finding their way into pill bottles. These include the likes of fish oil, rooibos, ginseng, marigold and bilberry.

Fish oil supplements have shown benefit in treating and preventing heart disease (especially high cholesterol). A known anti-inflammatory, fish oil is linked to the treatment of arthritis, high blood pressure, macular degeneration, asthma and ADHD.³

Rooibos is an antioxidant that may be beneficial in fighting oxidative stress associated with nervous system diseases (e.g. Parkinson's).⁷ Another natural ingredient commonly found in supplements is ginseng. Ginseng has been shown to help alleviate menopausal symptoms in women, and may help to treat and prevent diabetes and heart disease.⁸

Lutein is a yellow pigment found in Marigold flowers and may be effective in preventing heart conditions, eye disease and certain types of cancers.⁹

Lastly, bilberry extract has the ability to act as an antioxidant and is linked to improving eyesight, controlling blood sugar and treating heart disease, cancer, diabetes and dementia.¹⁰

Conclusion

Although a healthy diet is the best way to promote health and prevent nutrient deficiencies, supplements can help to promote overall health in certain circumstances. Nutritional supplements may confer certain benefits and, when used correctly by those who need them, may help prevent disease and improve health.

References

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