

## Editorial on Benefits and Risks of Diet Supplements

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### INTRODUCTION

Dietary supplements are the products intended to daily intake of nutrients, including vitamins and minerals. Many are safe and provide various health benefits depending on one's health condition but there are some that pose health risks, especially if overused or used without proper guidance.

#### Health benefits

A Balanced diet is the one which provides all the nutrients in required amounts. However, supplements provide extra nutrients. These are used when diet is lacking in required nutrients or under certain health conditions (such as cancer, diabetes, or chronic diarrhea) trigger a deficiency.

- A multivitamin/mineral supplement will provide all the micronutrients that a body needs. They are generally safe as they contain only small amounts of each nutrient.

Large doses of vitamin B3 (niacin) improves high-density lipoprotein (HDL) cholesterol which is good to health.

Folic acid is generally used to reduce the risk of a birth defect called spina bifida.

Antioxidants, such as vitamin C and vitamin E, help reducing the toxic effect of chemotherapy drugs

Unless a specific deficiency is identified, a supplement is usually not required if one eats a balanced diet and exercise regularly. The appropriate use of supplements avoids risks and side effects associated with overuse.

#### Risks and side effects

Like any other drugs, dietary supplements too have risks and side effects if used without knowledge. These are mostly self-prescribed with no advice from medical sources like doctors, nurses, or pharmacists. Most dietary supplements are safe as long as one follows the product instructions. But high doses of certain nutrients may have adverse effects on health. Among some the harmful interactions or dosing concerns:

- Vitamin K may reduce the effectiveness of blood thinners like Coumadin (warfarin).
- Vitamin E may influence the action of blood thinners, leading to easy bruising and nosebleeds.
- Vitamin B6 (pyridoxine), when used for a longer period in high doses, may cause severe nerve damage. It can also reduce the effectiveness of the anti-seizure drug Dilantin and levodopa (used to treat Parkinson's disease).

Vitamin A used with retinoid acne medications such as Accutane (isotretinoin) and Soriatane (acitretin) may cause vitamin A toxicity.

Iron and calcium supplements can reduce the effectiveness of certain antibiotics by 40%.

Vitamin C when taken in higher doses that a gut can tolerate may cause diarrhoea.

Selenium, boron, and iron supplements may turn out to be toxic if taken in large amounts.

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