



Tables Turn on Building Immunity

Research Finds Proper Diet Outdoes Taking High Doses Of Nutritional Supplements

As cold-and-flu season arrives, so do the pitches for products that claim to increase the body's natural immunity and ward off infection. And with alarming reports about avian flu and a threatened global pandemic, it may be tempting to load up on mega doses of vitamins, minerals and herbal supplements as an added precaution.

But as scientists delve more deeply into how the immune system works, they are finding evidence that it is the complex interaction of nutrients in food that helps the body build its defenses against disease and infection, in part by controlling some types of inflammation that can weaken the immune system. Single nutrients and cocktails of nutrients consumed alone can't provide the same benefit, they warn, and large doses of some supplements such as selenium, zinc, vitamin A, vitamin B6 and vitamin E may even harm and suppress the immune response.



The best defense against influenza is getting vaccinated as soon as possible -- and the most important way to prevent the spread of colds is frequent hand washing. But experts say that following the most basic tenets of good nutrition -- consuming a balanced diet rich in fruits and vegetables and low in saturated fats, and eliminating highly processed and junk foods -- can actually help ward off illness.

"There is lot people can do with proper nutrition to improve their chances of warding off the flu or making the disease less pathogenic," or harmful, says Simin Nikbin Meydani, director of the nutritional immunology laboratory at Tufts University's Jean Mayer USDA Human Nutrition Research Center on Aging.

Exercise and maintaining a normal weight are equally important, Dr. Meydani adds, because obesity can also impair immune function and make people more susceptible to many types of infections. Tufts researchers have shown that moderate caloric restriction in humans appears to be beneficial for immunity.

In a paper published this year in the Journal of the American Medical Association, Tufts researchers said there is no consistent or significant effect of any single vitamin or combination of vitamins on the incidence of disease, while a growing body of research shows that a healthy diet can help decrease the risks.

(The 2005 U.S. Dietary Guidelines, www.health.gov/dietaryguidelines/dga2005/recommendations.htm¹, help consumers find which foods deliver the best balance of nutrients).

In a healthy immune system, studies show, after an injury or cut, the body's inflammatory response combats the damage. Poor nutrition can lead to chronic inflammation, thereby weakening the immune system and making the body vulnerable to an array of illnesses, says Mehmet Oz, a professor of cardiac surgery at New York's Columbia University, and co-author of the book, "You: The Owner's Manual."

Dr. Oz says a single multivitamin can be beneficial, such as one that contains at least 800 micrograms of folate, 400 international units -- or IUs -- of vitamin D, 1,200 milligrams of calcium and 400 milligrams of magnesium. But he says only a healthy diet can provide the inflammation-fighting nutrients that may protect against colds and flu in the short term and potentially fight diseases such as Alzheimer's, cancer and heart disease over time.

To be sure, researchers say, more study needs to be done on vitamins. A widely reported study in the New England Journal of Medicine last spring warned that taking the commonly used dosage of vitamin E -- 400 IUs -- carries risks for cardiac patients. But in a study of 617 nursing-home residents, Tufts researchers found that smaller doses of vitamin E -- 200 IUs daily, or half the dose of most supplements -- significantly reduced the incidence of common colds.

In its wellness guide for consumers (www.berkeleywellness.com²), experts at the University of California at Berkeley warn to be wary of any supplement that promises to raise immunity, such as protein supplements, enzyme supplements and specific vitamins and minerals. It also warns against products such as nasal pumps containing zinc, which claim to reduce cold severity and duration but may also cause loss of smell, and says there is no evidence of effectiveness for tablets that dissolve in water and contain high doses of vitamins A, C or E, Chinese herbs, magnesium, selenium and zinc.

The federally funded National Center for Complementary and Alternative Medicine (nccam.nih.gov³) is paying for studies into a number of herbal compounds. The New England Journal of Medicine reported in July that a study funded by the center found that none of three preparations of the most commonly used herbal preparation, echinacea, had any effect on whether study volunteers became infected with the cold virus or on the severity or duration of symptoms among those who developed colds. However, critics of this study -- mostly herbal supplement makers -- protested that the doses studied were too low, and additional studies are under way.