

What to look for in multivitamins

By Marlene Cimonis

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The first multivitamins hit the market in 1943. By the 1950s, bottles of them could be found on many family dinner tables. Americans were gobbling them down — and still are. But do we need them?

“People view them as a form of insurance,” says JoAnn Manson, professor of medicine at Harvard Medical School and chief of the division of preventive medicine at Brigham and Women’s Hospital. “They are hedging their bets. I don’t discourage anyone from taking a multivitamin. But multivitamins and other supplements will never be a substitute for a healthful diet.”

An estimated one-third of American adults and one-quarter of children and adolescents take multivitamins, with U.S. sales totaling \$8 billion in 2020, according to the National Institutes of Health’s Office of Dietary Supplements.

Some experts believe a nutritious, well-rounded diet should be enough for many people. “I place my emphasis on whole foods,” says Donald D. Hensrud, associate professor of nutrition and preventive medicine at the Mayo Clinic College of Medicine. “I focus on helping my patients eat a healthy diet.”

But other experts say it is more complicated, because people often need more vitamins at certain life stages or have health conditions that make it difficult to absorb vitamins from food. Some also need supplements in addition to multivitamins.

“Some nutrients are very hard to get from food, like vitamin D, as very little occurs naturally in foods,” says Bonnie Liebman, nutrition director at Center for Science in the Public Interest (CSPI). “Many older people don’t produce enough stomach acid to extract natural vitamin B-12 from milk, meat or eggs. Vitamin B-12 deficiency can cause irreversible nerve damage and can mimic dementia — something you want to avoid.”

Scientists who study multivitamins say there is growing evidence that multivitamins also can convey additional health benefits, including a delay in cognitive decline among older people. A recent three-year study of more than 2,200 participants 65 and older funded by the National Institute on Aging, for example, found that those taking a daily multivitamin demonstrated significant cognitive improvement in abilities that tend to decline with normal aging, including short-term memory and such executive functions as decision-making, when compared with those who received a placebo.

The unpublished results, which were presented at a scientific meeting in the fall, showed that multivitamin-takers demonstrated only 1.2 years of mental decline, rather than three years. Put another way, they preserved 1.8 years — almost 60 percent — of their mental sharpness. The research was part of a larger trial that looked at the effects of multivitamins on cancer. The cognition results are expected to be published soon.

The larger study, known as the [COcoa Supplement and Multivitamin Outcomes Study](#), or COSMOS, began in 2014 to try to replicate the findings of an earlier trial, the [Physicians’ Health Study II](#), which ran from 1997 through 2011. PHS II saw an 8 percent reduction in total cancers among those 50 and older who took daily multivitamins, but — unlike COSMOS — did not show any cognitive benefits. The COSMOS study, on the other hand, which ran only 3½ years, did not find a drop in cancers.

But the researchers — the same in both studies — stress that differences in the design and length of the two studies account for the seemingly contradictory results.

“COSMOS was just not long enough to tease out the cancer effects,” says Howard Sesso, associate professor of medicine at Harvard Medical School and one of the investigators. “For cancer, you really need more time to detect the impact of nutritional interventions. We are following up with the participants, sending out surveys to find out if they are still taking multivitamins and to see whether they have developed cancer.”

There also were significant differences between the two studies in how they measured cognition. For example, the first baseline cognition assessment in PHS II occurred one to two years after participants began taking the pills, meaning researchers would have missed any cognitive improvements that happened in those first two years, Sesso says.

“COSMOS had a better study design,” he says. “The first baseline cognition assessment took place before they started taking the multivitamin or placebo. The potential benefits were seen in follow-up assessments at one, two and three years.”

Regardless, experts say multivitamins are important for those who suffer from impaired absorption, the result of medications, gastric bypass surgery or such digestive disorders as Crohn's disease, ulcerative colitis, inflammatory bowel disease and celiac disease.

Multivitamins can also provide necessary nutrients during specific life stages. Anyone considering getting pregnant should take multivitamins before and during pregnancy to ensure they get enough folic acid, which prevents fetal neural tube defects such as spina bifida. By contrast, postmenopausal women should avoid iron-containing multivitamins, since they no longer lose iron through menstruation.

Some people also require additional supplements such as B-12 and vitamin D. The latter, necessary for bone health, often is inadequate in those who avoid sun exposure — a wise practice to prevent skin cancer — and in those confined indoors, such as nursing home residents.

Manson has conducted several studies on vitamin D supplements that suggest taking extra vitamin D can lessen the risk of developing autoimmune diseases and reduce deaths from cancer, although not prevent it. "Vitamin D may modify the biology of tumors so they are less likely to metastasize," she says.

She also is studying the effect of vitamin D on coronavirus symptoms — specifically, whether it can reduce upper respiratory infections — but there are no results yet. Nevertheless, she thinks taking a little more of it is a good idea. (The recommended daily allowance or RDA is 600 international units, or IUs, or 15 micrograms, but the amount varies among multivitamins.)

"During the pandemic I recommend 1,000 to 2,000 IUs, even though the jury is still out in terms of benefits during covid," she says. "It is very safe. For bone health and other chronic disease, 600 to 800 is sufficient."

Experts say it's also smart to take vitamin B-12 supplements later in life. Most multivitamins contain 2.4 micrograms, the RDA for adults, but some people may need more, experts say.

"Approximately 15 percent of people over the age of 65 have early vitamin B12 deficiency," Hensrud says. He suggests his patients in this age group take 500 to 1,000 micrograms daily. "Vitamin B-12 isn't absorbed well and has a large safety threshold," meaning high doses won't hurt, he says. "It's probably the safest vitamin there is."

CSPI warns consumers not to rely on multivitamins for enough calcium and potassium. "You're better off getting enough potassium by filling half your plate with fruits and vegetables, rather than looking for a supplement," Liebman says. "Whether you need a calcium supplement depends on how much you are getting from foods."

Pre-menopausal women and men up to age 70 need 1,000 milligrams of calcium daily, she says. "You can't rely on a multi to get it because it wouldn't fit in a single tablet, and because you may get enough from food."

Women need 2,600 milligrams of potassium daily, while men require 3,400 milligrams, she says. "Potassium can help lower blood pressure or help keep it from rising as you age," Liebman says. In addition to fruits and vegetables, other potassium sources include dairy foods, beans and seafoods.

Most experts agree that taking a multivitamin can't hurt and probably could help, and people need not spend a lot of money on them.

"I think an ordinary multivitamin-and-mineral supplement is reasonable for many people," Liebman says. "You don't need the Cadillac of multivitamins. A Chevy is fine. Many store brands are usually perfectly adequate."

What vitamins should be in your multivitamin

Vitamin A 700-1,050 mcg (2,300-3,500 IU)

Vitamin C 60-300 mg

Vitamin D 20-25 mcg (800-1,000 IU)

Vitamin E 13-35 mg (20-80 IU)

Vitamin K 20 mcg or more

Thiamin (B-1) 1.1 mg or more

Riboflavin (B-2) 1.1 mg or more

Niacin (B-3) 14-20 mg

Vitamin B-6 1.7-6 mg

Folate Premenopausal women 660-680 mcg DFE (dietary folate equivalent) (400 mcg folic acid); everyone else 400-680 mcg DFE (235-400 mcg folic acid)

Vitamin B-12 2.4 mcg or more

Calcium Don't rely on a multivitamin

Iron Premenopausal women 18 mg; everyone else (no more than 8 mg)

Iodine 150 mcg

Magnesium 40-350 mg

Zinc 8-24 mg

Selenium 18-55 mcg

Copper 0.5-2.2 mg

Chromium 25 mcg or more

Potassium Don't rely on a multivitamin

(Note: "Or more" doesn't mean that a nutrient is safe at any dose, but that levels in multivitamins are unlikely to be high enough to cause harm. This list does not apply to prenatal multivitamins for pregnant people. See your doctor.)

Source: [Center for Science in the Public Interest](#)