

## Evidence mounts that vitamins might not do anything for your health

Vitamins are to health as music is to dancing — or at least that is what the multi-billion dollar vitamin and supplement manufacturing industry wants you to think. Yet in the past few years, medical research has started to question that tenet.



As many debates are in science and health, there are plenty of varying opinions, but according to a new study published<sup>1</sup> in the *Journal of the American College of Cardiology*, the most popular vitamin and mineral supplements provide zero health benefits.

The study, which was conducted by researchers at *St. Michael's Hospital* and the *University of Toronto*, analyzed data and single randomized control trials published in English from January 2012 to October 2017. The systematic review found that multivitamins, vitamin D, calcium and vitamin C showed no benefit, or added risk, in the prevention of cardiovascular disease, heart attack, stroke or premature death.

The review looked at the aforementioned vitamins using the *National Health and Nutrition Examination Survey* data (from 1999 to 2012), which found supplement use in the U.S. reached a high in 2012. Multivitamins were taken by an estimated 31 percent of the population, vitamin D by 19 percent, calcium by 14 percent, and vitamin C by 12 percent, according to the report<sup>2</sup>.

*"We were surprised to find so few positive effects of the most common supplements that people consume,"* said Dr. David Jenkins<sup>3</sup>, the study's lead author, in an announcement<sup>4</sup>. *"Our review found that if you want to use multivitamins, vitamin D, calcium or vitamin C, it does no harm — but there is no apparent advantage either."*

The study found that niacin and antioxidants suggested there may be a small **increased** risk of death (!) from any cause for those taking said supplements.

However, taking folic acid alone, or B-vitamins with folic acid, might contribute to decreasing cardiovascular disease and stroke.

<sup>1</sup> <https://linkinghub.elsevier.com/retrieve/pii/S0735109718345601>

<sup>2</sup> <https://www.ncbi.nlm.nih.gov/pubmed/27727382>

<sup>3</sup> <https://stmichaelshospitalresearch.ca/researchers/david-jenkins/>

<sup>4</sup> [https://www.stmichaelshospital.com/media/detail.php?source=hospital\\_news/2018/0529](https://www.stmichaelshospital.com/media/detail.php?source=hospital_news/2018/0529)

"These findings suggest that people should be conscious of the supplements they're taking and ensure they're applicable to the specific vitamin or mineral deficiencies they have been advised of by their healthcare provider," Dr. Jenkins said.

This study echoes what others have suggested in the past, dating back to the 90s. Indeed, a study published in *The New England Journal of Medicine*<sup>5</sup> in 1994 observed the effect beta carotene had on Finnish men who smoked. The results concluded that those who had consumed beta carotene for five to eight years were more likely to die from lung cancer or heart disease.

In 1998, researchers at the University of Leicester found that a Vitamin C supplement of 500 milligrams a day could damage a person's genes. The article at the time, published in the British journal *Nature*, corroborated previous warnings<sup>6</sup>. More recently, in 2013, a study in the *Annals of Internal Medicine* concluded that oral multi-vitamins and minerals did not reduce cardiovascular events in patients who had heart attacks<sup>7</sup>.

Perhaps the most direct call to stop the vitamin craze originated in the *Annals of Internal Medicine*, in the 2013 editorial "Enough Is Enough: Stop Wasting Money on Vitamin and Mineral Supplements."<sup>8</sup>

"Despite sobering evidence of no benefit or possible harm, use of multivitamin supplements increased among U.S. adults from 30% between 1988 to 1994 to 39% between 2003 to 2006, while overall use of dietary supplements increased from 42% to 53%," the authors note.

Their editorial concluded:

"β-carotene, vitamin E, and possibly high doses of vitamin A supplements are harmful. Other antioxidants, folic acid and B vitamins, and multivitamin and mineral supplements are ineffective for preventing mortality or morbidity due to major chronic diseases. Although available evidence does not rule out small benefits or harms or large benefits or harms in a small subgroup of the population, we believe that the case is closed—supplementing the diet of well-nourished adults with (most) mineral or vitamin supplements has no clear benefit and might even be harmful. These vitamins should not be used for chronic disease prevention. Enough is enough."

Yet the industry continues to grow. According to a McKinsey report<sup>9</sup>, the supplement market in 2013 was valued at around \$82 billion globally. In the U.S., which accounts for an estimated 28 percent of the global valuation, sales increased by an estimated \$6 billion between 2007 and 2012. Pharmavite, which was a big player in the vitamin space, was acquired by Otsuka Pharmaceutical in 1989. Many companies who manufacture vitamins are part of the pharmaceutical industry.

<sup>5</sup> <https://www.nejm.org/doi/full/10.1056/nejm199404143301501>

<sup>6</sup> <https://www.nytimes.com/1998/04/09/us/taking-too-much-vitamin-c-can-be-dangerous-study-finds.html>

<sup>7</sup> <https://annals.org/aim/article-abstract/1789248/oral-high-dose-multivitamins-minerals-after-myocardial-infarction-randomized-trial>

<sup>8</sup> <https://annals.org/aim/fullarticle/1789253/enough-enough-stop-wasting-money-vitamin-mineral-supplements>

<sup>9</sup> <https://www.mckinsey.com/business-functions/marketing-and-sales/our-insights/cashing-in-on-the-booming-market-for-dietary-supplements>

So why, despite warnings from doctors and researchers, has the government failed to get involved?

Pediatrician Paul Offit<sup>10</sup> offered some insight in a *New York Times* editorial titled "Don't Take Your Vitamins."<sup>11</sup> He explained that in 1972 the F.D.A. announced a bill to regulate vitamin supplements — those that contained more than 150 percent of the recommended daily dosage — but the vitamin industry ultimately succeeded in destroying it.

More recently, the U.S. Preventive Services Task Force said there is insufficient evidence<sup>12</sup> on benefits or harms of multivitamins to prevent cardiovascular disease or cancer. However, it does recommend not using beta carotene or vitamin E supplements to prevent cancer or cardiovascular disease.

☐ Nicole Karlis is a news writer at [Salon](#) whose writing has appeared in *Marie Claire*, the *New York Times*, the *Bold Italic*, and other publications. Tweet her [@nicolekarlis](#).

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<sup>10</sup> <https://paul-offit.com/>

<sup>11</sup> <https://www.nytimes.com/2013/06/09/opinion/sunday/dont-take-your-vitamins.html>

<sup>12</sup> <https://www.uspreventiveservicestaskforce.org/Page/Document/RecommendationStatementFinal/vitamin-supplementation-to-prevent-cancer-and-cvd-counseling>