Daily multivitamins do not help people live longer, major study finds

Analysis of 400,000 healthy adults finds no health benefits from taking daily multivitamins

Taking a daily multivitamin does not help people to live any longer and may actually increase the risk of an early death, a major study has found.

Researchers in the US analysed health records from nearly 400,000 adults with no major long-term diseases to see whether daily multivitamins reduced their risk of death over the next two decades.

Rather than living longer, people who consumed daily multivitamins were marginally more likely than non-users to die in the study period, prompting the government researchers to comment that "multivitamin use to improve longevity is not supported".

Nearly half of UK adults take multivitamins or dietary supplements once a week or more, part of a domestic market worth more than half a billion pounds annually. The global market for the supplements is estimated to be worth tens of billions of dollars each year. In the US, a third of adults use multivitamins in the hope of preventing disease.

But despite the popularity of multivitamins, researchers have questioned the health benefits and even warned that the supplements can be harmful. While natural food sources of beta-carotene protect against cancer, for example, beta-carotene supplements can raise the risk of lung cancer and heart disease, suggesting the supplements are missing important ingredients. Meanwhile iron, which is added to many multivitamins, can lead to iron overload and raise the risk of cardiovascular disease, diabetes and dementia.

For the latest work, Dr Erikka Loftfield and colleagues at the National Cancer Institute in Maryland analysed data from three major US health studies. All launched in the 1990s and gathered details on participants' daily multivitamin use. The records covered 390,124 generally healthy adults who were followed for more than 20 years.

The researchers found no evidence that daily multivitamins reduced the risk of death and reported instead a 4% higher mortality risk among users in the initial years of follow-up. The greater risk of death may reflect the harms multivitamins can cause or a trend for people to start daily multivitamins when they develop a serious illness. Details are published in Jama Network.

Dr Neal Barnard, an adjunct professor of medicine at George Washington University and co-author of a commentary published alongside the study, said vitamins were useful in specific cases. Historically, sailors were saved from scurvy by vitamin C, while beta carotene, vitamins C and E, and zinc appear to slow age-related macular degeneration, a condition that can lead to severe loss of eyesight.

It is also the case that vitamins may be beneficial without reducing the risk of early death. A preliminary study in 2022 found evidence that multivitamins might slow cognitive decline in old age, but more research was needed.

Yet "multivitamins overpromise and underdeliver," Barnard said. "The main point is the multivitamins are not helping. The science is not there." Instead of taking multivitamins, we need to eat healthy foods, he said, which provide a broad range of micronutrients, macronutrients and fibre, while limiting saturated fat and cholesterol.

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Duane Mellor, a registered dietitian and senior lecturer at Aston medical school, said: “It’s not surprising to see these do not significantly reduce the risk of mortality.

“A vitamin and mineral supplement will not fix an unhealthy diet on its own, but it can help cover key nutrients if someone is struggling to get them from food. An example of this might be vitamin D where adults in the UK are encouraged to take as a supplement in winter or vegans and vegetarians who might benefit from a supplement of vitamin B12.”

1 What did the major study on daily multivitamin consumption reveal about its impact on longevity?
2 Why did government researchers comment that "multivitamin use to improve longevity is not supported"?
3 What are some potential risks associated with consuming beta-carotene supplements, as mentioned in the text?
4 How did Dr. Erikka Loftfield and her colleagues conduct their analysis on the effects of daily multivitamins?
5 According to Dr. Neal Barnard, in what specific cases can vitamins be useful?
6 What was the main point made by Dr. Neal Barnard regarding the effectiveness of multivitamins?
7 Why does Duane Mellor suggest that vitamin and mineral supplements may not significantly reduce the risk of mortality?

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