

Why You Should Not Stop Taking Your Vitamins

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Do vitamins kill people?

How many people have died from taking vitamins?

Should you stop your vitamins?

It depends. To be exact, it depends on the quality of the science, and the very nature of scientific research. It is very hard to know things exactly through science. The waste bin of science is full of fallen heroes like Premarin, Vioxx and [Avandia](#) (which alone was responsible for 47,000 excess cardiac deaths since it was introduced in 1999).

That brings us to the latest apparent casualty, vitamins. The recent media hype around vitamins is a classic case of drawing the wrong conclusions from good science.

Remember how doctors thought that hormone replacement therapy was the best thing since sliced bread and recommended it to every single post-menopausal woman? These recommendations were predicated on studies that found a correlation between using hormones and reduced risk of heart attacks. But correlation does not prove cause and effect. It wasn't until we had controlled experiments like the [Women's Health Initiative](#) that we learned Premarin (hormone replacement therapy) was killing women, not saving them.

A new study "proving" that vitamins kill people is hitting front pages and news broadcasts across the country. This study does not prove anything.

This latest study from the [Archives of Internal Medicine](#) of 38,772 women found that "several commonly used dietary vitamin and mineral supplements may be associated with increased total mortality". The greatest risk was from taking iron after menopause (which no doctor would ever recommend in a non-menstruating human without anemia).

The word "may" is critical here, because science is squirrely. You only get the answers to the questions you ask. And in this case, they asked if there was an association between taking vitamins and death in older woman. This type of study is called an observational study or epidemiological study. It is designed to look for or "observe" correlations. Studies like these look for clues that should then lead to further research. They are not designed to be used to guide clinical medicine or public health recommendations. All doctors and scientists know that this type of study does not prove cause and effect.

Why Scientists are Confused

At a recent medical conference, one of most respected scientists of this generation, [Bruce Ames](#), made a joke. He said that epidemiologists (people who do population-based observational studies) have a difficult time with their job and are easily confused. Dr. Ames joked that in Miami epidemiologists found everybody seems to be born Hispanic but dies Jewish. Why? Because if you looked at population data in the absence of the total history and culture of Florida during a given time, this would be the conclusion you would draw. This joke brings home the point that correlation does not equal causation.

Aside from the fact that it flies in the face of an overwhelming body of research that proves Americans are nutrient deficient as a whole, and that nutritional supplements can have

significant impact in disease prevention and health promotion, the recent study on vitamins is flawed in similar ways.

How Vitamins Save Money and Save Lives

Overwhelming basic science and experimental data support the use of nutritional supplements for the prevention of disease and the support of optimal health. The [Lewin Group estimated a \\$24 billion savings](#) over 5 years if a few basic nutritional supplements were used in the elderly. Extensive literature reviews in the [Journal of the American Medical Association](#) and the [New England Journal of Medicine](#) also support this view. Interventional trials have proven benefit over and over again.

The concept that nutritional supplements "could be harmful" to women flies in the face of all reasonable facts from both intervention trials and outcome studies published over the past 40 years. Recent trials published within the last two years indicate that modest nutritional supplementation in middle age women found their [telomeres didn't shorten](#). Keeping your telomeres (the little end caps on your DNA) long is the hallmark of longevity and reduced risk of disease.

A plethora of experimental controlled studies -- which are the gold standard for proving cause and effect -- over the last few years found positive outcomes in many diseases. These include the use of calcium and vitamin D in women with bone loss; folic acid in people with cervical dysplasia (pre-cancerous lesions); iron for anemics, B-complex vitamins to improve cognitive function, zinc; vitamin C, E, and carotenoids to lower the risk of [macular degeneration](#), and folate and vitamin B12 to treat [depression](#). This is but a handful of examples. There are many more.

Why Most Vitamin Studies are Flawed

There is another important thing to understand about clinical trials that review the utility of vitamins in the treatment of disease. The studies that show harm are often designed like drug studies. For example, a study may use a high dose of vitamin E and see what happens. This is actually a prescient example also explored in recent media. Studies recently found that high doses of vitamin E and selenium didn't prevent prostate cancer and may increase risk. What this study didn't explore properly was the true biochemical nature of vitamin E and selenium. These nutrients work as antioxidants by donating an electron to protect or repair a damaged molecule or DNA. Once this has happened the molecules become oxidants that can cause more damage if not supported by the complex family of antioxidants used in the human body. It's sort of like passing a hot potato. If you don't keep passing it you will get burned. This study simply failed to take this into account.

Nature doesn't work by giving you only one thing. We all agree that broccoli is good for you, but if that were all you ate you would die in short order. The same is true of vitamins. [Nutrients are not drugs and they can't be studied as drugs](#). They are part of a biological system where all nutrients work as a team to support your biochemical processes.

Michael Jordan may have been the best basketball player in history, but he couldn't have won six NBA titles without a team.

Obesity is Linked to Malnutrition

The tragedy of media attention on poor studies like these is that they undermine possible solutions to some of the modern health epidemics we are facing today, and they point attention away from the real drivers of disease.

Take the case of obesity for example. Paradoxically Americans are becoming both more [obese and more nutrient deficient](#) at the same time. Obese children eating processed [foods are nutrient depleted](#) and increasingly get scurvy and rickets, diseases we thought were left behind in the 19th and 20th centuries.

After treating over 15,000 patients and performing extensive nutritional testing on them, it is clear Americans suffer from widespread nutrient deficiencies including [vitamin D](#), zinc, magnesium, folate, and omega 3 fats. This is supported by the government's [National Health and Nutrition Examination Survey](#) (NHANES) data on our population. In fact 13% of our population is [vitamin C deficient](#).

Scurvy in Americans in 2011? Really? But if all you eat is processed food - and many Americans do--- then you will be like the British sailors of the 17th century and get scurvy.

Unfortunately negative studies on vitamins get huge media attention, while the fact that over [100,000 Americans die and 2.2 million suffer serious adverse reactions](#) from medication use in hospitals when used as prescribed is quietly ignored. Did you know that anti-inflammatories like aspirin and ibuprofen kill more people every year than AIDS or asthma or leukemia?

Flaws with the "Vitamins Kill You" Study

So what's the bottom line on this study on vitamins in older white women in Iowa?

After a careful reading of this new study a number of major flaws were identified.

1. Hormone replacement was not taken into consideration. Overall the women who took vitamins were a little healthier and probably more proactive about their health, which led them to use hormone replacement more often (based on recommendations in place when this study was done). 13.5% of vitamin users also used hormones, while 7.2% of non-vitamin users took hormones. Remember the Women's Health Initiative Study I mentioned above? It was a randomized controlled trial that found hormone therapy dramatically increases risk of heart attack, stroke, breast cancer, and death. In this Iowa women's study on vitamins, the degree of the effect of harm noted from the vitamins was mostly insignificant for all vitamins except iron (see below) and calcium (which showed benefit contradicting many other studies). In fact, the rates of death in this study were lower than predicted for women using hormone therapy, so in fact the vitamins may have been protective but the benefit of vitamins was drowned out because of the harmful effects of hormones in the vitamin users.
2. Iron should not be given to older women. Older women should never take iron unless they have anemia. Iron is a known oxidant and excess iron causes oxidative stress and can lead to cardiovascular disease and more. This is no surprise, and should not make you stop taking a multivitamin. If you are an older woman, you simply need to look for one without iron. Most women's vitamins do not contain it anyway.
3. Patient background was ignored. In this observational study it was not known why people started supplements. Perhaps it was because of a decline in their health and thus they may have had a higher risk of death or disease that wasn't associated with the vitamins they were taking at all. If you had a heart attack or cancer and then started taking vitamins, of course you are more likely to die than people without heart attacks or cancer.
4. The population was not representative. The study looked only at older white women - clearly not representative of the whole population. This makes it impossible to generalize the conclusions. Especially if you are an obese young African American male eating the average American diet.

5. Forms and quality of vitamins were not identified. There was no accounting for the quality or forms or dosages of the vitamins used. Taking vitamins that have biologically inactive or potentially toxic forms of nutrients may limit any benefit observed. For example [synthetic folic acid can cause cancer, while natural folate is protective](#).
6. A realistic comparison between vitamins and other medications as cause of death was not made. Over 100,000 people die every year from properly prescribed medication in hospitals. These are not mistakes, but drugs taken as recommended. And that doesn't include out of hospital deaths. The [CDC](#) recently released a report that showed in 2009, the annual number of deaths (37,485) caused by improper/overprescribing and poor to non-existent monitoring of the use of tranquilizers, painkillers and stimulant drugs by American physicians now exceeds both the number of deaths from motor vehicle accidents (36,284) and firearms (31,228).

In short, this recent study confuses not clarifies, and it has only served up a dose of media frenzy and superficial analysis. It has left the consumer afraid, dazed, bewildered and reaching for their next prescription drug.

Please, be smart, don't stop taking your vitamins. Every American needs a good quality multivitamin, vitamin D and omega-3 fat supplement. It is part of getting a [metabolic tune up](#) and keeping your telomeres long!

For more information on [getting a metabolic tune up](#) see www.drhyman.com.

Now I'd like to hear from you ...

What do you think about the recent media hype regarding vitamins?

Why do you think vitamins get this kind of media while pharmaceuticals, which have a much larger impact, are often ignored?

Why do you think the decades of research showing positive effects of vitamins is hidden?

To your good health,

Mark Hyman, MD

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