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Multivitamins, Part 2

In the past week, there have been more comments on the *Prevention* magazine article titled “Should You Kick the Multivitamin Habit?” written by Sarah Mahoney (1). I did a Google search to see what comments people made about the article, and I’m a little stunned. Many people thought the article had credence; they simply took what was written and posted it verbatim. They should have dug deeper. The *Prevention* article suggested there was “a tsunami of scientific data” demonstrating that a multivitamin does no good and may do some harm.

In the second part of this series, I’m going to examine the largest paper—some 371 pages long—and tell you what that research paper actually said. If anyone working on the article had really read it, especially one sentence in particular, I think they would have come away with a different opinion; that speaks poorly for the experts quoted in the *Prevention* article. But I’m getting ahead of myself. I’m going to tell you what I found. If you want to check for yourself, the link below will allow you to download the report (2).

To repeat, my position is simple: I think we should all take a high-quality multivitamin every day because even if we eat a great diet, we just don’t know which nutrients are and are not in the foods we eat due to wide varieties in time of harvest, methods used to preserve food, variations in soil content, storage methods at the central distribution hub, how far the food travels to reach you, how long it sits before you buy it and eat it, and how you prepare it. There are many opportunities for foods to lose nutrition between the farm and your table, so a little nutritional insurance every day is a good backstop. That’s my starting position, so let’s see whether there’s merit to the *Prevention* article or not.

Agency for Healthcare Research and Quality (AHRQ)

The AHRQ is a government agency charged with examining scientific research and reporting their findings. In 2006, they published a 371-page report titled Multivitamin/Mineral Supplements and Prevention of Chronic Disease. This was the basis for some of the comments in the *Prevention* article. The research was a Herculean effort done by many health professionals. They examined every article published on vitamins and minerals—some 355,000—to answer some specific questions. They found 11,324 that were potentially relevant to their questions. After eliminating studies for one or more reasons, they ended up with 63 articles that addressed one of the Key Questions. From 355,000, 63 were good enough! I’m going to summarize the Key Questions because they’re long and you’d be asleep before you finished reading them. I’ll also address them in reverse order and when I get to number one, you’ll be stunned.

Question 4

What’s the known research on the safety of single nutrients used by adults and children?

They examined the research on calcium and vitamin D, vitamin A, vitamin E, beta-carotene, selenium, and iron. Other than beta-carotene in smokers—and I’ll address that at some point in a future message—there were no significant negative effects on regular users of these supplements. To be fair, the examiners concluded that no research to date really examined the question. Part of the problem is that it would be difficult to do a human trial that is designed to cause harm. You wouldn’t volunteer for that study and neither would I.

Question 3

What is the effectiveness of single or related nutrients in the general population against the development of disease?

They tested many different nutrients with results that wandered all over the place. Beta carotene in smokers was not great, vitamin E was moderate against some forms of cancer, and calcium was moderate for bone health. They spent a lot of time reviewing randomized controlled trials (RCT). The problem? The researchers who did the original research used nutrients as medications, not really as nutrients. I know it sounds subtle, but it makes a world of difference whether you're looking at treating a disease or improving nutrition levels. True, the goal was to determine whether the nutrients will really reduce the risk of getting a disease. But it's the same approach that's used in testing medications. You're looking at specific outcomes; you may be missing other preventive effects because the focus is so narrow. In my opinion, that's why the RCT isn't the optimal way of assessing this question.

Question 2

Are multivitamins safe when used by adults and children based on data from RCT and Observational studies?

They could really not find studies that actually examined this question but they did find eight studies that provided some data. The conclusion? They're safe. Yellowing of the skin with beta-carotene was about the most dramatic effect. But what the authors concluded, again, based on very limited data, was that they were safe, and in fact, *the use of multivitamins reduced mortality in two of the eight studies.*

Question 1

What is the effectiveness in RCT of multivitamin use to reduce one or more chronic diseases?

I told you earlier that this question would provide some information that would stun you. The definition of a multivitamin was three or more vitamins and/or minerals without herbs, hormones, or drugs. They could find only five RCT that fit their definitions. But here is the stunner:

“These studies used designed vitamin/mineral combinations, but not the one-a-day multivitamin supplements available on the United States market.”

Let that sink in a little. The point of the *Prevention* article was that the typical multivitamin sold in the United States was no longer necessary. Yet in the research the author said she used, researchers didn't use a single multivitamin sold in the U.S. market. Ever. If she or any of the other experts had read the full report, they never would have made the comments they made. It's like setting up a football playoff series and let the baseball teams play.

The Bottom Line

This was the most difficult part of this series to research. I didn't read every one of the 371 pages, but the results and conclusions I read in detail. I agree with the overall conclusions of the study's authors:

“Our conclusion is that evidence is insufficient to universally recommend or discourage use of multivitamin/mineral supplements by adults in the general U.S. population for primary prevention of chronic disease.”

It's too bad the author of the *Prevention* article and the experts she quoted didn't read that conclusion. **The authors clearly did not say that multivitamins were of no benefit nor were they harmful. They said that research to date hasn't answered the question.**

I read that tsunamis can come in all sizes, some as small as five feet, but the multivitamin “tsunami” reminds me more of the waves in a blow-up kiddie pool—it wasn't quite as overwhelming as the *Prevention* author suggests. And on the basis of this article, I wouldn't recommend changing a single thing in the supplement

recommendations I give people who ask for advice; and that advice will continue to start with a high-quality multivitamin-multimineral.

What are you prepared to do today?™

Dr. Chet

References:

1. Prevention. November 2010: 52-59.
2. <http://www.ahrq.gov/downloads/pub/evidence/pdf/multivit/multivit.pdf>.

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