

In case you missed them, the recent headlines in many newspapers and online news services said: **"Multivitamin supplements may cut cancer risk in men"**.

Now you might be saying to yourself: "Wait a minute. Didn't I just hear that multivitamins have no effect in cancer risk or might even increase cancer risk?" The answer is: "Yes you did". So what is going on here? Why are we hearing all of these conflicting stories?

This goes back to something I've told you previously. Scientific studies often disagree. In fact, many scientific studies are designed to disapprove the conclusions of previous studies. And when we see studies that disagree, sometimes it is obvious that the differences came from the population group studied or the study design. But **often we never really know why the individual studies disagree**. That's why scientists usually wait until there are maybe five or 10 studies that all say the same thing before they consider a hypothesis as proven.

So let's look at this study in a little bit more detail to try and understand its various strengths and weaknesses so that we can put it in the proper perspective.

This is a very robust study performed by scientists at Harvard University (Gaziano et al, JAMA, 308(18): doi: 10.1001/jama.2012.14641). **It enrolled 14,461 male US physicians 50 years or older** (average age = 64). It was a **double-blind, placebo-controlled study. Half the participants received a multivitamin, and the other half received a placebo. 2,669 participants in the study had previously been diagnosed with one form or another of cancer.**

The participants in the study were followed for an average of 11.2 years and total cases of cancer during that time period were recorded. **The participants receiving the multivitamin had an 8% lower incidence of total cancer and total epithelial cancer than the participants receiving the placebo. These differences were highly significant.** The participants receiving the multivitamin also had a 12% lower incidence of cancer mortality, but those differences were not significant.

When the scientists looked at the participants in the study who had previously been diagnosed with cancer, the multivitamin group had a 27% lower incidence in total cancer and a 34% lower instance in epithelial cancer.

Because the use of prostate specific antigen as a screen for detecting prostate cancer has led to a much earlier diagnosis of prostate cancer and a much more favorable outcome for prostate cancer treatment, the scientist also looked at the incidence of total cancer minus prostate cancer. **When they did this they found that multivitamin use resulted in a 12% decrease in cancer incidence in the total group and a 22% decrease in cancer incidence in the group that had been previously diagnosed with cancer. Again, these differences were highly significant.**

The authors of the study concluded: **"These data provide support for the potential use of multivitamin supplements in the prevention of cancer in middle-aged and older men"**.

But, of course, this still doesn't answer the question of how this study differs from previous studies that have reported no effect or maybe even an adverse effect of multivitamins on cancer incidence. Often the best way to get insight into this question is to read the discussion section of the paper. That's because the reviewers almost always require that the authors of the paper address why their study differs from previous studies before they will accept the manuscript for publication. **This is one of the reasons why I only look at studies of been published in peer-reviewed journals.**

The authors pointed out that this study was unique in that: 1) it was a double-blind, placebo-controlled intervention study - the gold standard of clinical trials; 2) it was a very large study and was of much longer duration than most of the previously published studies; 3) there was a much better adherence to actually taking the supplements on a daily basis in this study compared to previous studies (which is interesting because only 60% of the participants actually took the supplements on a daily basis); and 4) cancer incidence was designed as the primary outcome to be measured in this study. That is a very technical concept, but rest assured that it does strengthen the validity of the study.

So what is the bottom line for you? I'm not suggesting that we can say with confidence that multivitamin use decreases cancer risk. On the other hand, you should also ignore those statements from the media and perhaps from your doctors that multivitamins have no effect on cancer, or might even increase your risk of cancer.

The truth is there are multiple studies suggesting that multivitamin use decreases cancer risk, multiple studies suggesting that multivitamin use has no effect on cancer risk, and one or two studies that suggest that it might actually increase cancer risk. The simple answer is we don't really know.

However, almost everyone can agree that multivitamins are an inexpensive way to make sure that you're getting the nutrients that you may be missing in your diet or the nutrients that you may need more of because of your genetic predisposition to poor absorption or utilization of certain vitamins or minerals. If they also decrease cancer risk, that is a side benefit

To Your Health!
Dr. Stephen G Chaney