

Women's Multivitamin Study: 'A little, too late' study, designed to fail

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Updated on:

12 Feb 2009

Published on::

12 Feb 2009

Another study designed to fail? We think so.

[[Download](#) ^[1] PDF of press release issued 12 February 2009]

[[Download](#) ^[2] PDF version of critique]

A study just published in the *Archives of Internal Medicine* ^[3] (Vol 169, No. 3, Feb 9, 2009) has provided further fodder for the anti-supplement brigade to classify food (dietary) supplements as useless.

Here are some of the negative headlines generated:

- [CNN \(USA\): Study: Multivitamins don't lower older women's cancer risk](#) ^[4]
- [Australia: Experts say multivitamins have no impact on older women's risk of cancer or heart disease](#) ^[5]
- [China: Study: multivitamins does not lower cancer risks](#) ^[6]
- [Guardian UK: Multivitamins don't help women live longer, or protect against major diseases](#) ^[7]
- [Reuters India: Multivitamins may not thwart cancer, heart disease](#) ^[8]
- [Canada: Multivitamins don't cut women's disease risk](#) ^[9]
- [USA Today: Study doubts multivitamin benefit vs. cancer, heart disease](#) ^[10]
- [Independent UK: Multivitamin supplements a 'waste of time'](#) ^[11]

- Daily Mail UK: Vitamin pills 'won't make you live longer', study reveals [12]

The desk-based study utilises data collected in the Women's Health Initiative [13], a 15-year research programme which aims to investigate the causes of death, chronic disease and poor quality of life in post-menopausal American women.

The authors of the study introduce their paper by claiming that the 50% of Americans who routinely use dietary supplements do so because of the common "*belief that these preparations will prevent chronic diseases, such as cancer and cardiovascular disease....and [t]hese views are often fueled by product health claims, consumer testimonials, and an industry that is largely unregulated owing to the 1994 Dietary Supplement and Health Education Act.*"

The observational study, led by Dr Marian Neuhouser of the Fred Hutchinson Cancer Research Center [14] in Seattle monitored a group of 161,808 postmenopausal women over an eight-year period. It found that 42% of these women, aged between 50 and 79, reported regular use of multivitamins.

When the rate of cancer, heart disease and death were evaluated, it was found that there were no significant differences between multivitamin users and non-users.

We feel (once again) compelled to ask the authors of the study:

- Were you surprised by the results of your study?
- What results were you expecting from your study?
- How else could you have used your research funds (from the National Heart, Lung, and Blood Institute, National Institutes of Health and the US Department of Health and Human Services) to better understand how nutrition and supplementation may be able to be used to reduce the risk of chronic diseases like cancer and heart disease?

Let us explain below what we see as the limitations of the study:

1. **Applicability to the general population.** Let's start with the no brainer. A study on overweight, partially sick older women cannot have applicability to the general population. We need say no more on this, surely.
2. **The doses of supplements.** The multivitamin (MV) and multivitamin and multimineral (MVM) supplements evaluated were all low dose, by comparison with what integrative medicine practitioners know would be required to reduce risk of chronic diseases like cancer and heart disease. In fact, the MVM supplements, the very supplements that might have the greatest potential to work because of the synergistic interactions between the nutrients and the food matrix (with which they are normally consumed) were very low dose. As the methods of the study reveal, the MVM supplements "*were preparations with 20 or 30 vitamins and minerals and nutrient levels of 100% or less of US RDA*". Even the third group of multis that was included, so-called 'stress multisupplements' were "preparations with higher doses (often 200% of US RDA) of several B vitamins and often including large doses of vitamin C or selected minerals, such as selenium or zinc." Given the RDA's of B vitamins are less than 2 mg, this would still mean the dosages were relatively trivial. And what about this? The authors of the paper continue: "*Supplement mixtures with fewer than 10 components, such as B complex or antioxidant mixtures, were not considered multivitamins*". Eh? In actual fact, these smaller combinations are often the higher dosage products (you see, it's expensive to have high doses of 20 or 30

ingredients!)—so it appears there's another selection criterion that could have impacted the outcome! For more on the importance of dosage, see the Orthomolecular Medicine News Service article, dated 2 February 2009, entitled "*Vitamins: It's Dose that Does It*"^[15]. It is astonishing that the very supplements that were most likely to yield positive results were excluded from the study. Possible reasons for this could be that an insufficient number of women were consuming higher dose products or, more cynically, that there was a deliberate effort to exclude supplements that were likely to be more efficacious.

3. **Frequency of use.** The trial relied on patient reports of use and made no attempt to compare plasma or urine levels of nutrients between supplement users and non-users. This prevented any comparison being made of the overall intake from the diet as against supplements in addition to the diet. In other words, there was no independent means of verifying compliance. Moreover, there was no requirement that the supplements be taken daily with the study being based only on those supplements which were reportedly taken "at least once a week." MVM supplements used less than daily or even every day—would, in the case of many vitamins, not produce a significant increase in many circulating nutrients. This has been demonstrated in the UK National Diet and Nutrition Survey Programme^[16].
4. **The forms of supplements.** No indication is given in the study as to the nutrient forms of the supplements used. However, given that the multivitamin and mineral supplements were low dose, it is most likely that the forms were cheap pharmaceutical forms that are known to be of lesser efficacy than natural complexes derived from natural sources. This is known to be particularly the case with vitamins such as beta-carotene and vitamin E. Also, a key nutrient that women in northern latitudes are very deficient in and appears to be strongly correlated to nutrient intake is vitamin D. There was no separate record made of vitamin D intakes and it is likely that intakes as part of the MV or MVM supplements were around or below the US RDA of 200 IU. However, studies show that at least 20 times this dosage of supplementary vitamin D3 is considered (assuming no summer sun exposure) an optimal dose for preventative health (Vieth et al, *Am J Clin Nutr.* 2001; 73(2): 288-94).
5. **Duration and periods of supplement use.** There was no requirement for women to have been taking one or more supplements prior to the start of the study—the duration of supplement use prior to the study not appearing to have been recorded by the study authors, or, in any event, not being reported by them in this paper. Given that this was a study looking specifically at the ability of supplements to prevent chronic diseases, long-term usage, or possibly even more importantly, use during earlier, vulnerable lifestages (e.g., during critical stages of development such as during breast formation; Knight et al. *Cancer Epidemiol Biomarkers Prev.* 2007;16(3): 422-9) would be required to have a preventative effect, given the long and variable preclinical phases of chronic diseases like cancer and heart disease.
6. **Disease progression.** The study looked at postmenopausal women between the ages of 50 and 79 who weren't particularly healthy. Many or indeed most of the women were overweight or obese and were likely to have progressed a long way down the pathway of one or more chronic diseases. More recent research, now endorsed even by the World Health Organization^[17], shows that chronic diseases generally have their origins at young ages. In this sense, the study was looking at what can only be described as "a little, too late."

Are you going to stop taking your vitamins and minerals now? Do you believe, like the

newspapers will have us believe, that supplements don't work? We certainly don't, and—what's more—because we know nutrients are really good for us, we'll continue taking them in addition to a really healthy, balanced and varied diet!

Let us hope that public funds will soon be used more productively in the quest for cost effective, self-administered, effective and safe preventative health care strategies.

See ANH's [Sustainable Healthcare](#) [18] and [Food4Health](#) [19] campaigns for more information.

See also, [ANH critique published on 12 January 2009](#) [20] on the last vitamin study (in relation to cancer) that we assessed and believe was 'designed to fail'.

ANH PRESS RELEASE

Issued 12th February 2009

Women's Multivitamin Study: predictable results and a waste of valuable research funds

The Alliance for Natural Health (ANH) claims today that the latest study which claims to show that multivitamin supplements don't prevent cancer or heart disease, is a waste of public money. These funds, says the ANH, could be much more usefully spent on aspects of preventative medicine where a positive result was more likely.

The study that has triggered this criticism is one published in the Archives of Internal Medicine on February 9, led by Dr Marian Neuhouser of the Fred Hutchinson Cancer Research Center in Seattle. The study followed, over an 8-year period, the progression of cancer and heart disease in 161,808 postmenopausal women who were part of the US government funded Women's Health initiative. Of these women, no difference in disease outcome was found between the 42% of women, aged between 50 and 79, who took multivitamin and mineral supplements and those who did not.

But the ANH slammed the research. Dr Damien Downing, the ANH's medical director, a medical doctor who has practiced nutritional medicine for 25 years, called the research "childish naivete". He also said the findings could not be applied to the general public because the study involved only less than healthy, overweight postmenopausal women taking trivial amounts of multivitamins and minerals with no data on their earlier lives when disease causation would have been initiated.

Dr Robert Verkerk, executive and scientific director of the ANH, said, "Like so many of the large studies conducted to evaluate the effects of supplements, any good scientist could have predicted the result. How much more public money needs to be wasted, or do we really have a health care system where so few scientists and doctors close to the big money know anything about preventative medicine?"

The ANH has today published a critique of the observational study on its website. Its criticism focused particularly on the lack of relevance of the study group to the general population, the doses of supplements used, the frequency of intake, the forms of nutrients taken, and the course of the diseases studied in relation to the time and duration of supplementation.

Dr Verkerk went on to say, *“We were astonished to find that, with no reasons given, the study specifically excluded multivitamin and mineral supplements that exceeded the US RDAs which are known to be far too low to yield useful heart disease and cancer protective effects. Also any multivitamin with less than 10 nutrients was excluded from the ‘stress supplements’ group, and this would have included some of the highest dose, limited combination products which would have been most effective.”*

In its critique, the ANH argues that given that chronic diseases like cancer and heart disease have long development times and are often triggered by events in earlier life, evaluating the effects of low dose supplements in older women is a futile exercise. Many of the women would likely have been in a pre-clinical disease phase, so evaluating the effects of low dose supplements in later life while knowing virtually nothing about their lifestyle and nutrient intakes during their younger years is a classic case of “too little, too late.”

The ANH represents a large and growing number of medical practitioners of nutritional medicine around the world. In the wake of yet another trial that it says was ‘designed to fail’, it is using this opportunity to offer to governments expertise from doctors and scientists associated with it so that they may assist in designing trials using specific diets and nutritional supplements that would have a far greater chance of success than those evaluated in the present Women’s Multivitamin Study.

ENDS.

FOR FURTHER INFORMATION, PLEASE CONTACT:

Liz Davies, ANH Campaign Administrator, Tel: +44 (0)1306 646 600,
Email: info@anhcampaign.org ^[21]

NOTES TO THE EDITOR

ANH critique on the Women’s Health Study

<http://www.anhcampaign.org/news/women%E2%80%99s-multivitamin-study-%E2%80%98a-little-too-late%E2%80%99-study-designed-to-fail> ^[22]

About the Alliance for Natural Health

www.anhcampaign.org ^[23]

The Alliance for Natural Health (ANH) is an international, non-governmental organisation, based in the UK. It was founded in 2002, and works on behalf of consumers, medical doctors, complementary health practitioners and health-product suppliers to help promote natural and sustainable healthcare ^[24] through the use of ‘good science and good law’.

Go to [ANH Campaigns](#) ^[25]

Source URL: <http://www.anhcampaign.org/news/women%E2%80%99s-multivitamin-study-%E2%80%98a-little-too-late%E2%80%99-study-designed-to-fail>

Links:

- [1] <http://www.anhcampaign.org/files/090212-ANHpressrelease-Women-vitamins-cancer.pdf>
- [2] <http://www.anhcampaign.org/files/090211-Womens-Multivitamin-Study.pdf>
- [3] <http://archinte.ama-assn.org/>
- [4] <http://www.cnn.com/2009/HEALTH/02/10/multivitamins.cancer/>
- [5] <http://www.news-medical.net/?id=45751>
- [6] http://news.xinhuanet.com/english/2009-02/11/content_10800766.htm
- [7] <http://www.guardian.co.uk/lifeandstyle/besttreatments/2009/feb/10/multivitamins-dont-help-women-live-longer-or-protect-against-major>
- [8] <http://in.reuters.com/article/health/idINTRE5187HE20090209>
- [9] http://www.ctv.ca/servlet/ArticleNews/story/CTVNews/20090210/multivitamins_study_090210/20090210?hub=Health
- [10] http://www.usatoday.com/news/health/2009-02-09-vitamins-women_N.htm
- [11] <http://www.independent.co.uk/life-style/health-and-wellbeing/health-news/multivitamin-supplements-a-waste-of-time-1605377.html>
- [12] <http://www.dailymail.co.uk/health/article-1140548/Vitamin-pills-wont-make-live-longer-study-reveals.html>
- [13] <http://www.nhlbi.nih.gov/whi/>
- [14] <http://www.fhcrc.org/>
- [15] <http://www.anhcampaign.org/news/vitamins-its-dose-that-does-it-says-isom>
- [16] <http://www.food.gov.uk/science/dietarysurveys/ndnsdocuments/>
- [17] http://www.who.int/chp/chronic_disease_report/part2_ch1/en/index2.html
- [18] <http://www.anhcampaign.org/campaigns/sustainable-healthcare>
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- [20] <http://www.anhcampaign.org/news/cancer-prevention-study-or-study-designed-to-prevent-vitamin-sales>
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- [23] <http://www.anhcampaign.org/>
- [24] http://www.anhcampaign.org/campaigns/current_campaigns
- [25] <http://www.anhcampaign.org/campaigns-background>