Martínez et al. (1) recommended against vitamin D supplements for reducing the risk of cancer. However, the evidence that vitamin D reduces the risk of cancer is very strong despite reports to the contrary.

There are several types of evidence: ecological, case–control, cohort, and randomized controlled trials. Each approach has its strengths and limitations. The strengths of the ecological approach include the large number of cases and the large number of data sets available for such studies. The limitations include assessing the role of confounding factors, but many cancer risk–modifying factors are included in most recent ecological studies. A recent review of ecological studies found strong support for solar ultraviolet-B in reducing the risk of 15 types of cancer, with weaker support for another nine types of cancer (2).

No factor other than vitamin D production is that a single blood collection at the time of enrollment is used to determine serum 25(OH)D concentration, whereas the hazard ratios for all-cause mortality rate increased at a rate of 0.017/year (4). In addition, only cohort studies that find direct relationships between serum 25(OH)D concentration and cancer incidence rates, such as for pancreatic and prostate cancer, are mentioned in References 66 and 68 (1).

Many randomized-controlled trials such as the Women’s Health Initiative used only 400 IU/day vitamin D3. However, a reanalysis of the Women’s Health Initiative restricted to women who had not taken vitamin D or calcium (CaD) supplements before enrollment found that “CaD statistically significantly decreased the risk of total cancer, total breast cancer, and invasive breast cancers by 14–20% and nonsignificantly reduced the risk of colorectal cancer by 17%.” (5). Marshall et al. recently reported that for those with low-risk prostate cancer, supplementing with 4000 IU/day vitamin D3 led to biopsy-assessed tumor regression in 55% of case patients (6).

When all the evidence regarding solar ultraviolet-B and vitamin D is evaluated using the criteria for causality in a biological system proposed by AB Hill, the evidence is found to be strong for several types of cancer (2,7).

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References