

Research Roundup: The impact of diet and supplements on four key areas of health



Does dairy increase the risk of breast cancer? The role of dairy products in the promotion of breast cancer has been controversial. When I was a macrobiotic vegan 40 years ago, it was taken a given: How could the unnatural consumption by adults of the secretions of the mammary glands of a large-bodied mammal *not* cause cancer?

It made intuitive sense. In addition to the milk-producing hormones inherent in cows' milk, modern agricultural practices boost productivity by feeding livestock dicey growth factors, like recombinant bovine growth hormone (rBGH), and anabolic hormones like trenbolone acetate.

Whole dairy products are rich in saturated fat, which some implicate (erroneously) in cancer promotion. Their high content of branched-chain amino acids is good for muscle support, but also boosts insulin-like growth factor (IGF1), thought to fuel the growth of cancer cells.

Conversely, dairy products are rich in conjugated linolenic acid (CLA), which may have anti-cancer effects. Dairy is also a main dietary source of vitamin D, which is cancer preventive.

Convinced of dairy's cancer-promoting effects, the Physicians' Committee for

Responsible Medicine, a radical vegan front group, actually sued the FDA in 2017 to compel them to put a warning label on all cheese products. Years before, they mocked Rudy Giuliani, just then coming off a prostate cancer diagnosis, with a billboard depicting the former NYC mayor with a milk mustache captioned "Got cancer?"

The latest meta-analysis, a compilation of 21 large studies comprising over one million women followed for over 8-20 years, sheds light on this perplexing question.

Overall there was *no* clear association observed between the consumption of specific dairy foods and the risk of breast cancer. In fact there was a slight trend toward protection from breast cancer, but it did not reach statistical significance. Yogurt and ricotta/cottage cheese seemed to shield women somewhat from triple-negative breast cancer, the type with the worst prognosis.

As to prostate cancer, a 2019 review also revealed no clear association with dairy consumption.

And no, lest you be skeptical, these studies were not whitewashed (pun alert!) by having been underwritten by the American Dairy Association.

An apple a day. . . You know the thing. Many studies have confirmed the benefits of apple consumption. They're rich in soluble fiber, polyphenols like quercetin, and vitamin C. Now comes yet another with the daunting title: **Daily apple consumption reduces plasma and peripheral blood mononuclear cell-secreted inflammatory biomarkers in adults with overweight and obesity: a 6-week randomized, controlled, parallel-arm trial.**

After just six weeks of consuming three Gala apples per day, overweight subjects were found to have improvements in several inflammatory markers, including a reduction of C-reactive protein by 17%. Apple consumption increased total antioxidant capacity by 9.6%.

Since "inflammaging" is thought to be a main pathway to premature disease and death, it makes sense to consume fresh fruit like apples. What remains is to test other plausibles like blueberries, broccoli, avocados, walnuts, etc.

More evidence that the gut-brain connection is real. There's no question that the composition of the microbiome influences brain function. Imbalances in gut bacteria have been implicated as contributory to depression, anxiety, Parkinson's Disease, and even Alzheimer's Disease.

A remarkable new Chinese study is among the first to link gut microbiota and diet with the incidence of mild cognitive impairment (MCI) in elderly adults.

It was found that individuals with the highest dietary quality scores had a 25-46% lower risk of MCI, underscoring the importance of diet in fending off cognitive decline. Moreover, the composition of the gut microbiome was distinctly different between normal subjects and those with MCI; stool analysis was predictive of MCI by virtue of the presence of harmful bacterial species and the absence of beneficial ones.

An additional factor, mitochondrial RNA, a marker of cellular energetics that's only used in advanced research settings, showed changes indicative of a propensity to MCI. (Take home: You're only as smart as your mitochondria!)

The authors suggest that, regardless of whether mitochondrial RNA tests become commercially available soon, a diet questionnaire and a poop test might eventually

become good ways to screen people for risk of age-related cognitive impairment, saving money on pricey brain scans, and without reliance on imprecise memory tests.

Protecting vegans from osteoporosis. It's well-established that total vegans are susceptible to osteoporosis. In fact, among female vegans, risk of hip fracture is 55% higher than for non-vegetarians. I've seen this a lot in my practice, even among men. Given that many people opt for a vegan diet for ethical or health reasons, what's the best way to shield them from bone loss?

A new study confirms that, while the risk of osteoporosis is higher in unsupplemented vegan women, taking additional vitamin D and calcium could render them no more susceptible to hip fractures than their non-vegetarian peers.

How much did it take? On average, the vegans supplemented with around 600 IUs of vitamin D and 600 mg of calcium per day.

This is interesting, considering that many trials of modest doses of vitamin D and calcium in omnivorous women make no difference in bone outcomes. It may matter for vegan women because an unsupplemented vegan diet provides considerably less vitamin D and calcium than a diverse diet.

So, if you're vegan, add D and calcium to your supplementary regimen of B12, omega-3s, and perhaps zinc.