



GLOBAL DAIRY PLATFORM

Animal-Sourced Foods in Plant-Based Diets: They Certainly Deserve a Place at the Table

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If you think about public health nutrition, read about it, or write about it as part of your job, you've heard some facsimile of this statement: *Diets that are primarily plant-based are healthy for most people, with the possible exception of young and growing children, pregnant or nursing women, physically active people, the elderly, the malnourished, people with certain medical conditions, etc.* Generally, proponents of this perspective tend to downplay the need for animal-sourced foods (ASF), and the micronutrients and high-quality protein they provide in the diet.

In fact, the statement has become so cliché that most of us don't stop to consider the various exceptions to the rule: the young, the elderly, and several other demographic groups who constitute a large swath of the global population. For these people, are the plant-based diets so prominently promoted by health professionals, various organizations, and policymakers really the answer to improved health, or can they exacerbate several health/disease conditions?

Zeroing in on an "Exception to the Rule"

Let's home in on one demographic group, the elderly, and look at data that contradicts the theory that plant foods are a cure-all for a global population.

[A recent bone fracture study](#) conducted in Australia is a good example of how sub-optimal intake of animal-sourced foods may lead to poorer health outcomes. In this trial, researchers studied elderly subjects living in aged care facilities who routinely consumed calcium and protein levels below recommended daily values. The project has been hailed by many in the health/nutrition community as a strong definitive study because of the length of the intervention, as well as the number of facilities and subjects who participated in this well controlled clinical trial.

Researchers assessed the antifracture efficacy of a nutritional intervention (milk, yogurt and cheese) in more than 7,000 residents (mean age 86 yrs.) at 60 aged care facilities throughout Australia over a two-year period. Thirty of the facilities provided residents with additional milk, yogurt and cheese each day, leading to an average daily intake of 1142 mg calcium and 69 g protein (1.1 g/kg body weight). The 30 control facilities maintained their usual menus, with residents consuming 700 mg/day calcium and 58 g/day protein (0.9 g/kg body weight).

The diet intervention was associated with risk reductions of 33% for all fractures, 46% for hip fractures, and 11% for falls, which began to manifest itself between three and five months after the Intervention had begun. The authors concluded that improving calcium and protein intakes using dairy foods is a readily accessible intervention that reduces the risk of falls and fractures commonly occurring in aged care residents.



This is a critically important issue for seniors, as falls and hip fractures often contribute to poor outcomes, including an increased risk of death. Most hip fractures in older adults require surgery, which, in and of itself, puts patients at risk for a range of post-surgical complications, including infection, blood clots in the lungs or legs, bedsores, urinary tract infection and pneumonia. Fractures in the elderly often results in a decrease in independence, and a poorer quality of life. Any preventative treatment that can minimize fall and fracture in older adults is a treatment worth considering.

To be fair, the study did not do a head-to-head comparison between plant and animal sources of calcium, so we can't say with certainty that the supplemental dairy performed better than supplemental plant calcium may have. That said, it is widely accepted that most plant foods contain a considerable amount of inhibitory "anti-nutrients," such as oxalates and phytates, that bind to calcium and form insoluble salt complexes, thus decreasing calcium absorption. Particularly in the elderly, in whom dietary calcium absorption can dip well below 25%, food source matters. And most animal sources of calcium are absorbed at a far higher rate than most plant sources. Regardless, the bottom line of the aforementioned study is that animal sources of calcium can have rather profound health benefits in an elderly population, a benefit that might be missed in elderly people who opt for the plant-based diet favored by many health experts.

Several Other Nutrient Deficiencies Exist in the Elderly as Well

While the most common micronutrient deficiency cited in many Western countries is calcium, it is far from the only deficiency prevalent in large numbers, particularly among the elderly. A deficiency of Vitamin B12 (which is present solely in ASFs), is often observed in older people, particularly those who consume little or no ASFs. B12 deficiency produces a plethora of conditions, including pernicious anemia, as well as cognitive impairment, depression, and memory loss.

Other nutrients prevalent in ASFs that tend to be deficient in the diet of the elderly include vitamin D, iron, zinc, iodine, and magnesium, all of which can have significant health consequences in the elderly if left unchecked.

A Developing World Problem?

While many might consider elderly malnutrition to be a problem primarily in the developing world, it is worth noting that one in three older adults who are admitted to the hospital in the United States are malnourished (insufficient micronutrient and/or protein deficiencies). In fact, rates of malnutrition reported in several African countries is actually lower than that in the U.S. ([Seid](#)). For example, data from hospitals, communities, and long-term care facilities in South Africa reported undernutrition in up to 4% of the elderly population. The highest rate of elderly malnutrition in a study of several African nations exists in Tanzania, where 26% of elderly hospital patients were reportedly undernourished.

It is also worth noting that the deficiencies cited in most studies of the elderly in Africa are similar to those cited in the West. Vitamin D, zinc, calcium, iron, and high-quality protein, nutrients most prevalent in ASFs, are also lacking in the diets of many elderly Africans.



Similarities in nutrient deficiencies in the elderly, regardless of the region of the world in which they reside, shouldn't come as a complete surprise. While issues of food availability, affordability, and accessibility tend to occur most prevalently in developing countries, many of the issues the elderly encounter in consuming a healthy diet are universal. As one ages, changes in chemosensory acuity, chewing difficulties, and reduced or poor swallowing ability can all affect food intake, diminish appetite and lead to food choices that produce nutrient deficiencies. So too can illness, use of certain medicines, as well as poorer nutrient absorption, which is a natural part of the aging process.

The Bottom Line

Most people in the world already eat a plant-based diet; that is, a diet in which the majority of calories come from non-animal sources. And there's no denying that consuming a preponderance of plant-based foods can have positive health and environmental benefits. But animal-sourced foods certainly have their place in a healthy, sustainable eating regimen, not to mention the enjoyment and variety they bring to the diet, which enhances quality of life. Without sufficient ASFs in the diet, several demographic groups, like the elderly, are at greater risk of developing debilitating health conditions or worse. ASFs provide many of the nutrients that either don't exist in plant-based foods or that exist in small quantities. And, in many instances, ASFs like yogurt or ice cream are easier to chew, easier to swallow, and their nutrients are absorbed more efficiently than those in plant-based foods, key issues that are often overlooked in demographic groups like the elderly, for whom consuming a large volume of fibrous foods that are not easily absorbed is difficult to do and can lead to or exacerbate conditions like malnutrition.

As we strive to create a more effective global food system, we can't forget the "exceptions to the rule" when extolling the benefits of plant-based eating. As is the case in the elderly, ASFs provide benefits that are difficult to replicate in their absence.