

Should We All Be Vegetarians?

As a graduate student studying nutrition in the early 1970s, I became a vegetarian (a lacto-ovo vegetarian, to be exact). Early observational studies had already pointed to better health outcomes on meat-free diets. Similarly, early reports suggested that meat production was wasteful and had adverse environmental impacts. The mainstream nutrition community, though, strongly resisted the growing vegetarian movement, often raising concerns about nutritional deficiencies with the most extreme types of vegetarian diets. By the time I was a third-year medical student, I had returned to eating meat, given the lack of vegetarian options in hospital cafeterias. As my clinical training and experience increased, though, I became convinced that patients in any phase of life, and with virtually any medical condition, could safely follow a meat-free diet.

Today, millions of US citizens describe themselves as vegetarians, and hundreds of millions of people around the globe eat meat-free diets. Vegetarian options are increasingly available in US hospitals, restaurants, and social events. But the question remains: Can vegetarian diets improve health outcomes?

The study by Orlich and colleagues¹ provides additional evidence that vegetarian diets are associated with improved health outcomes, including all-cause mortality. The study is a well-done, prospective cohort study of more than 70 000 Seventh-Day Adventists demonstrating a 12% reduction in all-cause mortality in vegetarians. Vegetarian diets also were associated with reductions in cardiovascular mortality and several other categories of cause-specific mortality.

The study, however, illustrates several challenges in trying to answer the core question of whether vegetarian diets improve health outcomes. Like all observational studies, this one provides associations, not cause-and-effect evidence. Although the authors use state-of-the-art approaches to adjustment for potential confounders, one can never be sure that there are not other factors influencing the association between vegetarian diets and mortality. Recent publication of large randomized trials of different diets and dietary approaches may end reliance on observational studies, which, no matter how well done, have limitations resulting from confounding.^{2,3}

Another weakness of the study is that it relies on a single measurement of dietary intake at baseline and, as the authors (and my personal anecdote) point out, dietary patterns may change over time. The study also is limited by the great variety of diets consumed by those identified as vegetarians. In addition to vegans and lacto-ovo vegetarians, the study includes as vegetarians those who eat fish (pesco vegetarian) and those who eat fish

and nonfish meats monthly but not more than once per week (semivegetarian). Stricter definitions would exclude both of the latter 2 groups as vegetarian.

This variety of dietary intake labeled as *vegetarian* reflects the challenges of clinical practice. That is, patients who self-identify as vegetarian have not yet provided much information about what they eat. Clinicians need to ask additional questions to identify average intakes of dairy products, eggs, fish, and meat. Moreover, grouping patients into these 4 vegetarian categories provides little information about the quality or quantity of the overall dietary intake. Clinicians, either alone or in conjunction with dietitians, also need to assess intake of total calories, added sugars and sugary drinks, refined grains, salt, saturated and *trans* fats, alcohol, vegetables, fruits, whole grains, legumes, nuts, and oils. In short, vegetarian diets can represent a wide spectrum of nutrient intake, and it is the clinician's responsibility to help the patient determine the potential health benefits or harms of a particular diet.

For many, the decision about eating a meat-free diet has more to do with religious or ethical beliefs than achievement of beneficial health outcomes. In these settings, clinicians must work within the patient's predefined belief framework to maximize dietary composition, without contradicting the patient's beliefs.

Environmental concerns also have become a significant force in the conversation about dietary choices. A growing body of literature points to the negative environmental impact of meat, particularly meat produced from industrial farm animals. As opposed to animals grazing in pastures, industrial farm animals consume extremely large amounts of feed, water, land, and fossil fuels and are estimated to contribute substantially to water shortages; soil, water, and air pollution; and climate change.⁴ This may turn out to be a stronger motivation to decreasing meat intake for many than even the potential health benefits.

How then should clinicians advise patients about what to eat? First and foremost, dietary advice needs to be given to patients based on their own dietary history and preferences, their motivation to change their diet, and their clinical circumstances. In each instance, diets with or without meat can be designed to meet clinical goals. For patients with chronic illness, diets become another tool (along with medications and other nonpharmacologic interventions) in the patients' and clinicians' "toolbox" to prevent and treat chronic disease.

For most patients, controlling calories remains the primary nutritional goal. In a society in which weight gain is the norm as we age, preventing weight gain (and im-

proving fitness) remains the primary goal. Although nutrition authorities may disagree about the optimal balance of macronutrients in an ideal diet, and the amount of meat and other specific foods that should be ingested, virtually all agree that diets should limit added sugars and sugary drinks, refined grains, and large amounts of saturated and *trans* fats. Similarly, virtually all diet recommendations include eating substantial amounts of fruits and vegetables. Most authorities will also agree that diets should include whole grains, legumes, and nuts.

Achieving these goals trumps the more narrow goals of whether to include moderate amounts of dairy, eggs, fish, or even meat. Similarly, debates about how much whole grain or vegetable oil should be included may pale compared with the basic tenets described above. In fact, in much the same way that clinicians learn to master a short list of generic medications that can be used in most common clinical circumstances, clinicians can also learn to develop a “generic” diet that meets nutritional requirements. With minor case-by-case adjustments, the generic diet will serve most patients who seek (or could benefit from) dietary advice. More extreme diets, though, also may confer benefit for specific clinical conditions, including short-term weight loss and as alternatives (or adjuncts) to medications to treat specific conditions.

Our debates about the superiority of one diet over another have not served the public well. It is time to ac-

knowledge the common features of diets associated with good clinical outcomes and to focus our attention on helping patients avoid the intense commercial pressures to eat otherwise.

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