Diet and Heart Disease

Shaping Public Perceptions When Proof Is Lacking

The public has been confused for decades over the relationship between diet and heart disease; the fact that the public perceives confusion to exist also among health professionals should be a signal to our experts that they have done a poor job in explaining the difficult issues and the reasons why clearcut solutions have come so slowly. These public perceptions are understandable; but the reality is that enormous progress has been made in the last 3 decades by scientists in the fields of epidemiology, physiological chemistry, and animal experimentation, as well as in human metabolism and nutrition. That there has been no "quick fix" reflects the fact that the underlying causes of atherosclerotic disease are still not understood, nor has sufficient attention been paid to the heterogeneity of the human species and to the likelihood that multiple causes are differently expressed in different individuals. Impatience is understandable, even among scientists: everyone wants to see real progress within his own lifetime, and for these reasons it is easy to sympathize with Zilversmit's complaints.1

Vexations and complaints aside, there are two questions in Zilversmit's editorial that demand our attention. He asks why the full burden of proof must be carried by the "prudent diet" proponents; why is it not reasonable to ask "the other parties" to produce their evidence that the current U.S. diet is superior to the "prudent diet"? I think there are two answers to this position. First, it has always been traditional in medicine to expect that those who propose changes must explain why and how, as well as to show that the changes proposed are both safe and beneficial. This quite reasonable position is based on the fact that where we are today has been arrived at through a combination of educational, scientific, and economic forces, the sum total of which has been considered to represent progress. Indeed, many experienced observers have stated that the general health of the USA population has never been better, and that to modify in a major way one of the chief environmental factors responsible for this state of health — namely, our diet — would be ill-considered unless the evidence is very strong that a change in diet is both safe and beneficial.

In the present case, this proviso cannot be met: the so-called "prudent diet" has never been put to the test to see if it is truly beneficial. For this reason I cannot predict whether it is truly safe, or in what subsets of the population it may be unsafe and/or disadvantageous. Nor can we say whether in the long run it will be less expensive to produce and distribute nationwide, or whether the impact on the national economy of mandating a "prudent diet" can be borne by food producers and distributors, and ultimately by consumers.

But there is a still more compelling reply to Zilversmit's proposition. He advocates that the defenders of our present diet prove that it is superior to the "prudent diet." However desirable this might be, it is a task that is beyond us; if the health research providers cannot finance a definitive test of the "prudent diet" (or any other dietary change), then they cannot finance a convincing test of our current diet.

Zilversmit's second question is more interesting, but just as elusive. He asks how strong the evidence must be before scientists feel moved to recommend dietary...
changes to the public. Must we be 95% certain, or would 70% be good enough? An advisory panel to the American Society of Clinical Nutrition grappled with this question in 1979, and concluded that the decision lies outside science — that Government is repeatedly forced into decisions when the evidence is seriously lacking and that this seems to be another such case. Various advisory bodies, including the National Academy of Sciences, have addressed this important decisional problem without being able to frame a workable approach. In the present case, Zilversmit and I have looked at the same evidence; he considers it strong enough to recommend a change, and I do not. In 1979, I cited the reasons for my stance in as great detail as I know how.

In an editorial on this matter in the Archives of Internal Medicine, McNamara raises an issue that is brought out by the results obtained in the recently published Oslo Study. A reduction in new events of coronary heart disease (CHD) was obtained through administration of a high polyunsaturated/saturated diet (P/S) to subjects selected on the basis of extremely high plasma cholesterol levels (mean = 328 mg/dl). However, a number of studies in various parts of the world (cited by Carlson) have shown that there is no relationship between CHD risk and plasma cholesterol levels in the bottom three quintiles of the distribution curves for each of these populations; increased risks were demonstrated only in the top two quintiles. The Oslo Study suggests that a high P/S diet moderately high (35%) in fat content may be beneficial for those with the highest cholesterol levels; however, there is no evidence to show that a low-fat low-cholesterol diet will benefit the 60% of the population with the lowest cholesterol levels who are all at the same lower risk.

To end on an activist note, why not put our money on the evidence that really is strong? The evidence that cigarette smoking and hypertension are important risk factors for CHD seems incontrovertible, both in regard to the risk when present and the benefit when withdrawn. If the idea of taxing high-risk foods appeals to Zilversmit as a deterrent, why not have punitive excise taxes on cigarettes and/or lower insurance rates as rewards for treated hypertensives and reformed smokers? And then, in recognition of the public’s confusion, how about telling the diet-heart story “like it is,” with all the uncertainties hanging out? Does Zilversmit think the public really can’t be made to understand the reasons why we aren’t sure at this time? And why not inform our legislators about what we have learned in the last 30 years since the information-explosion in the lipid field? I submit that our progress is nothing to be ashamed of, and that the better questions being asked now (which couldn’t have been asked without these 30 years work) will lead to the answers we need today. Only then can we subdivide the population into the subsets for which targeted advice on diet (or other elements of lifestyle) will be appropriate and truly beneficial.

References

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