Is Nutrition Science Mostly Junk?

By Alex Berezow, PhD — November 20, 2018

One day, coffee causes cancer; the next, it cures cancer. One day, wine is good for you; the next it kills you. Given its self-contradictory wishy-washiness, can nutrition science be trusted?

Not at all, say Edward Archer and his co-authors, in a new paper published in Frontiers in Nutrition. They believe nutrition research is so bad that they call our current scientific discourse on the relationship between diet and disease to be "fictional."

This isn't the first time that Dr. Archer lobbed a grenade into the field of nutrition. In an article for RealClearScience, he (in)famously called the U.S. dietary guidelines a "scientific fraud" based on "implausible" data that "create[s] fear and uncertainty in American citizens."

Clearly, Dr. Archer believes that nutrition science is not just misguided but actually harmful. That's an extraordinary statement that requires extraordinary evidence. Does he provide it in his latest paper?

Nutrition Science on Trial

Dr. Archer begins by noting the early successes of nutrition science. Nutritionists correctly identified several diseases, such as scurvy and beriberi, that were the result of vitamin deficiencies. However, as our knowledge of nutrition increased and public health improved, the number of clear-cut examples of "diet causing disease" diminished. That's when, in Dr. Archer's estimation, the trouble began.

A belief set in that chronic health problems may be related to diet. To investigate, nutrition epidemiologists use food frequency questionnaires and other memory-based methods to acquire data on people's diets. Unfortunately, our memories are downright awful. We routinely forget,
misremember, or flat-out lie when asked about what we ate. To demonstrate the unreliability of dietary data, some of Dr. Archer's previous research suggested that it was actually "incompatible with life." It shouldn't be surprising, therefore, that nutrition research often fails to replicate.

Dr. Archer also quite rightly derides what he calls "pseudo-quantification," the practice of taking anecdotal data (e.g., an estimate of how many donuts a person ate last month) and pretending that it represents a real number.

**An Extraordinary Claim**

Dr. Archer and his colleagues go too far when they claim that nutrition science has "engendered a fictional discourse on the health effects of sugar, salt, fat, and cholesterol" and that "there are no valid data demonstrating that 'diet' per se is causal to increased mortality from obesity, NCDs [non-communicable diseases], and metabolic diseases."

While it would be correct to characterize our national dialogue on, say, salt to be confusing rather than enlightening, it would be a stretch to say the same of sugar and fat. We know, for instance, that feeding mice a high-fat diet can cause them to become diabetic [4]. (Obviously, we can't do a similar experiment in humans for ethical reasons.) Dr. Archer is a bit too eager to throw the baby out with the bathwater.

Having said that, Dr. Archer and his co-authors are on the right track. Nutritional epidemiology has produced so much absurd research -- my personal favorite being a paper that claimed that vegetable oil would turn girls into lazy, TV-watching diabetics [5] -- that the field is in need of a major housecleaning.


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