

The Lipid-Heart Hypothesis

A recommended low-fat diet to reduce the leading cause of death in America, cardiovascular disease and atherosclerosis, was introduced in the 1950s and even today, this aggressive, lipid-lowering approach remains the central component to managing cardiovascular disease. American physiologist, Ancel Keys was determined to put a stop to this heart disease epidemic. He noticed that there were lower rates of cardiovascular disease in northern Europe, post WWII, because of the limited amount of fatty foods available. This realization led to his famous Lipid-Heart Hypothesis which states that high intakes of total fat, saturated fat, and cholesterol lead to atherosclerosis, and consuming less fat and cholesterol as well as replacing saturated with polyunsaturated fats would ultimately reduce risk of heart disease. In hopes to prove this hypothesis correct, Keys conducted one of the first studies on cardiovascular disease called the Seven Countries Study. With follow up studies continuing through the 80's and 90's, this Lipid-Heart Hypothesis was and still is the widely accepted dietary recommendation on an international level.

A defining moment during this epidemic was when President Dwight D. Eisenhower suffered a heart attack in 1955. This brought national attention to the public health crisis. Cardiovascular disease was deemed the leading cause of death but because of the limited amount of knowledge of this disease, the ticking clock for answers began. After publishing, this study gained wide acceptance. The study's consistent findings of dietary differences and rates of heart disease provided extremely compelling support to the Lipid-Heart Hypothesis. There were many other studies that followed, such as the Framingham Heart Study, that corroborated these initial findings. Because of the severity of this epidemic, Key's findings were almost immediately instituted as our dietary guidelines. I find it important to mention Lupia's research article titled "Communicating science in politicized environments". It focused on the difficulties science communicators have to maintain the attention of the public and withstand their widespread credibility. Cases like this are important to analyze because of how efficient these researchers were at communicating, enforcing, and maintaining the general public's perceived understanding of the issue, particularly in an environment of heightened fear and pressure.

Heart disease still remains the leading cause of death, even after decades of apparent understanding of this disease. People began to look into this hypothesis further, and today, Ancel Key's credibility is skewed. There is a wide belief that the results of this study were misrepresented by public and food industry pressure, biases and conflicts of interest in the formulation of dietary guidelines, and reliance on insufficient evidence. The participating countries in this study were not representative, these choices were said to be partially made on the basis of convenience, and the dietary records were incomplete. Additionally, the subjects were all men aged 40-59. It is also said by many researchers in the field that if Keys was to include 20 countries, rather than 7, Key's results would have been inconsistent with his hypothesis. Additionally, this study put natural saturated fat and industrial trans-fat into a single parameter, ignoring the widespread consumption of trans-fat and its effects on serum cholesterol and imbalance of omega-6 to omega-3 fatty acids. It also placed plant-derived and animal-derived saturated fats in a single parameter, ignoring the different compositions.

Saturated fat was defined by the American Heart Association in 1961 as "the fat in whole milk, cream, butter, cheese, and meat", which is still the persisting definition. Recent reviews

have addressed the lack of evidence that saturated fat in general or in specific foods, such as milk and eggs, caused cardiovascular disease, or that reducing saturated fat intake lowers CVD risk. The misconception that cholesterol and saturated fats are harmful substances remains, although both are critically important to life. Cholesterol is produced in all human bodies and is needed for many physiological processes. Likewise, saturated fats are also used to carry out vital functions in the brain, lungs, and other organs. These so-called revolutionary findings have perpetuated misinformed, politicized opinions on our countries dietary regulations and have failed to slow the rate of cardiovascular deaths.

Although numerous studies have failed to validate the Keys hypothesis, these findings have remained the cornerstone of national and international dietary guidelines. Ansel Keys used his credibility to draw unnecessary conclusions, ones that were relatively easy to follow, which enabled the widespread and long-term establishment of this hypothesis. In a scientific literacy journal written by Thomas and Durant, they mention that Maurice Goldsmith suggested that every person become his or her own “science critic”. Blindly following science can lead society down a dangerous path, and can usually be avoided by advocating for a general improved understanding of science. A line of communication between the scientific community and the general public that goes both ways is necessary for avoiding destructive policies such as this.

Sources

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