

It is with alarm that I read Bryan Walsh's article *Ending the War on Fat* that was published in TIME magazine on 23 June 2014.¹ According to Walsh,

Keys' work became the foundation for a body of science implicating fat as a major risk factor for heart disease. The Seven Countries Study has been referenced close to 1 million times. But Keys' research had problems from the start. He cherry-picked his data.

If the book has really been "referenced close to a million times", it means that it has been referenced close to 80 times every day, including weekends, since the book was published in 1980.

Walsh claims that Keys "cherry-picked" his data. It is evident that Walsh has confused with Keys' 1953 paper Keys' paper, *Atherosclerosis, A Problem in Newer Public Health* and his later study *Seven Countries, A Multivariate Analysis of Death and Coronary Heart Disease*.

Walsh fails to elaborate on how Keys "cherry picked" his data. Commencing in 1957, the *Seven Countries Study* studied 12,763 men in 16 regions in seven countries. What data was omitted from this study? How was the data "cherry-picked"?

Keys collaborated with a number of highly regarded researchers, people who spoke the native language of the areas studied. He lists 15 collaborators in *the Seven Countries* book. According to Henry Blackburn,²

At this time, Keys's matchup with great clinicians completed the picture - such leaders as Paul Dudley White of Boston, Vittorio Puddu of Rome, Noboru Kimura of Japan, John Brock of Capetown, Martti Karvonen of Helsinki, and Christ Aravanis of Athens. All saw beyond the clinic and beyond the individual patient - to the origins of common diseases - in the population and in society.

Paul Dudley White was a highly regarded and renowned cardiologist and is frequently viewed as a leader in preventive cardiology.

TIME magazine article contends that Keys manipulated data for his own purposes and at the same time managed to deceive for decades his collaborators who actually collected the data.

Popular commentators frequently falsely accuse Keys of manipulating data in his 1953 paper,

Atherosclerosis, A Problem in Newer Public Health. In this paper, Keys lists death rates from 16 countries for the period 1947-1949. He excludes some of this data for reasons that are explained.

Jacob Yerushalmy and Herman Hilleboe examined the data from 22 countries (33 were available) in the *WHO Epidemiological and Vital Statistics 1951-1953* publication. The results were published in their paper *Fat in the diet and mortality from heart disease*. In this paper, Yerushalmy and Hilleboe criticise Keys for excluding data in his considerations. Note that Keys' paper was presented in January 1953. An earlier version was presented several months earlier in Amsterdam. Yerushalmy and Hilleboe used World Health Organisation data from the years 1951-1953. Does it need to be explicitly stated that Keys's paper was written long before the WHO data was available?

Please, please note that even if data from *all* the 22 countries are included, it still shows:

- positive correlations between heart disease and calories consumed, fat consumption, animal fat consumption, animal protein consumption and
- negative correlations with heart disease and carbohydrate consumption, vegetable protein consumption, vegetable fat consumption.

This point is clearly stated in Yerushalmy and Hilleboe's paper, but it is unfortunately omitted from Walsh's article.

Norman Jolliffe and Morton Archer wrote a paper, *Statistical associations between international coronary heart disease death rates and certain environmental factors*. (*Journal of Chronic Diseases* 9 No 6, 1959) that examined Yerushalmy and Hilleboe's conclusions. Jolliffe and Archer state that Yerushalmy and Hilleboe erred in disregarding the distinction between saturated fat and polyunsaturated fat. This distinction was not known when Keys wrote his original paper.

Jolliffe and Archer state that,

the intake of saturated types of fat was most important in accounting for the

differences in coronary heart disease death rates. Of somewhat lesser importance, the intake of animal protein also accounted for a large proportion of the explained variance in these death rates.

According to Walsh:

Keys highlighted the Greek island of Crete, where almost no cheese or meat was eaten and people lived to an old age with clear arteries. But Keys visited Crete in the years following World War II, when the island was still recovering from German occupation and the diet was artificially lean. Even more confusing, Greeks on the neighboring isle of Corfu ate far less saturated fat than Cretans yet had much higher rates of heart disease.



Corfu and Crete are separated by over 600 km of

ocean and dozens of islands - it is not a neighbouring island.³ Surveys for the *Seven Countries Study* were conducted in Greece in 1960 and 1965. This is clearly not in the years immediately following World War II. It is false to state that the diet was “artificially lean”. It is simply not true that “almost no cheese or meat” was eaten.

Cohort	Meat (g/day)	Fish (g/day)	Eggs (g/day)	Cheese (g/day)	Milk (g/day)
Crete	35	18	25	13	235
Corfu	35	60	5	14	70

Significant differences in Cretan and Corfu diet include egg, fish, alcohol, milk, cereal and potato consumption, which is ignored in Walsh's article. There is also a difference in smoking habits which is also ignored in Walsh's article. ⁴

Walsh claims that people of Corfu ate far less saturated fat than the Cretans. Where did this information come from? Below is a comparison of data from Crete, Corfu and East Finland with 10-year death rates. ⁵

Cohort	Sample Size	All Causes Deaths	All Causes Death Rate	CHD Deaths	CHD Death Rate	Fat %	Saturated Fat %
Crete	686	42	656	1	9	39	8
Corfu	529	43	833	8	144	33	7
East Finland	817	147	1864	78	992	38	22

CHD - Cardiac Heart Disease; Aged Standardised Death Rate per 10,000

The amount of saturated fat consumed was very similar. Cretans ate more fat, in the form of olive oil.

The number of heart disease deaths for both Crete and Corfu were very low.

The focus on any one component of a diet such as saturated fats or sugars is misleading.

Ansel Keys coined the name and introduced the concept of Mediterranean diet In 1975, Ansel Keys and his wife Margaret published the book *How to Eat Well and Stay Well the Mediterranean Way* (New York, NY: Doubleday & Co; 1975) based on the results of his studies. This diet was based on the diets of Greece, southern Italy and the Mediterranean coasts of France and Spain in the 1960s.

According to Keys,

The heart of what we now consider the Mediterranean diet is mainly vegetarian: pasta in many forms, leaves sprinkled with olive oil, all kinds of vegetables in season, and often cheese, all finished off with fruit, and frequently washed down with wine.

Ancel Keys and his wife Margaret lived a village in southern Italy for 28 years. Keys lived to be 100 years old and his wife 97.

A Mediterranean diet or a Whole Food Plant-Based diet as practiced by societies that are longest lived and healthiest is, by its nature, low in fats, saturated fats, animal protein and high in carbohydrate, antioxidants, dietary fibre, vitamins, minerals and the many other micro nutrients that are essential for our well being.

There is a reference in Walsh's article to papers by Patty Siri-Tarino and Rajiv Chowdhury. Walter Willet, Frank Hu, Stewart Truswell and Jeremiah Stamler have raised serious concerns regarding the conclusions of these papers. In some cases, Siri-Tarino and Chowdhury have managed to draw the opposite conclusions to the facts presented in the original papers that they reference.

Unfortunately, these papers are now referenced by popular commentators to encourage people to continue eating unhealthy diets.

Much of this poorly researched article is based on popular books and does not stand up to scrutiny. Many popular books confuse the *Seven Countries Study* with the earlier 1953 paper.

A number of "experts" quoted in the article are supporters of the Atkins Foundation, promoters of a high fat, low carbohydrate diet that has been shown to be a considerable health risk. Stephen Phinney, Jeff Volek and Eric Westman are authors of *The New Atkins for a New You*, written on behalf of Atkins Nutritionals, an organisation committed to "groundbreaking work in the area of low-carb living."

Robert Atkins died at the age of 72, obese and with a history of cardiac problems.

According to a review in 2003 review in the *Journal of the American College of Nutrition*,

When properly evaluated, the theories and arguments of popular low-carbohydrate diet books ... rely on poorly controlled, non-peer-reviewed studies, anecdotes and non-science rhetoric. . . . A closer look at the science behind the claims made for these books reveals nothing more than a modern twist on an

antique food fad.

Journal of the American College of Nutrition

Bryan Walsh has performed a great disservice to TIME magazine readers by presenting popular views that have now become “facts”.

Related articles

[Ancel Keys and the High-Fat Diet “Experts”](#)
[Ancel Keys did not manipulate his data](#)
[Robert Lustig and the Men Who Made Us Fat](#)
[The Big Fat Surprise](#)
[TIME Magazine Article - Eat Butter - Part 2](#)
[Heart of the Matter - ABC Catalyst](#)
[The Pioppi Diet](#)

Footnotes

1. Walsh, B. (2014) *Don't Blame Fat*. TIME Magazine - 23 June 2014
2. Blackburn, H. W. (1995) On the Trail of Heart Attacks in Seven Countries. Mine: University of Minnesota. [online]. Available from: [Seven Countries Study](#) (Accessed 3 June 2016)
3. “Greece location map” by Lencer - own work, using United States National Imagery and Mapping Agency data. Licensed under CC BY-SA 3.0 via Wikimedia Commons - commons.wikimedia.org/wiki/File:Greece_location_map.svg#/media/File:Greece_location_map.svg
4. Kromhout, A. Keys, M. Pekkarinen, and C. Aravanis, Food consumption patterns in seven countries *American Journal of Clinical Nutrition* 1988.
5. Keys, C. Aravanis, H. Blackburn, R. Buzina, B. S. Djordjevic, and A. S. Dontas, “*Seven Countries - A Multivariate Analysis of Death and Coronary Heart Disease.*” Harvard University Press Cambridge, Massachusetts and London, England 1980 pp10, 65-67, 136, 252-253