

Nutritional Recommendations—We Must Get Them Right at Last

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Abstract

Obesity is a serious health concern and a burden on the healthcare system. Efforts by the Dietary Guidelines Advisory Committee have accomplished little in reducing the obesity epidemic. Recommendations based on observational studies have serious flaws. Randomized controlled studies are needed but human nutrition research is very difficult to do well. The time has come to call it what it is and tell patients that they weigh too much because they consume too many calories.

Keywords

Obesity, dietary fat, cholesterol, high fructose corn syrup, daily caloric consumption, Hurricane Allen, observational studies, randomized controlled studies

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Almost four decades ago, the American medical establishment was bamboozled into believing that consumption of dietary fat and cholesterol were critical factors in cardiovascular disease. Many trace the confusion to Ancel Keys, who strongly believed that dietary fat and cholesterol were closely related to the development of heart disease. In 1970, Keys published the Seven Countries Study (which included Italy, Greece, Yugoslavia, Finland, the Netherlands, Japan, and the US), which showed that dietary saturated fat intake increased total cholesterol, and this was associated with an increase coronary mortality.¹ However, data were actually available for 22, rather than seven, countries and, in the analysis of all the data, a poor relationship between total fat intake and heart disease can be seen. So why did Keys omit countries where the consumption of total and saturated fat were higher, yet the risk of heart disease was low? Many critics conclude that the study was biased in favor of his hypothesis.

As a result of Keys' study, in February 1977, sweeping changes to nutritional guidance were recommended in the first edition of *The Dietary Goals for the United States*.² People were encouraged to increase their carbohydrate consumption to 55–65% of their total calories, reduce their overall fat consumption from 40% to 30%, reduce saturated fat to around 10% and to reduce their cholesterol, sugar, and salt consumption. The Honorable Senator George McGovern, in a statement, said, "Too much fat, too much sugar or salt, can be and are linked directly to heart disease, cancer, obesity, and stroke, among other killer diseases" and, in 1980, the Dietary Guidelines Advisory Committee (DGAC) endorsed these recommendations.³

There is no denying the world is facing an obesity epidemic and, despite growing recognition of the problem, the epidemic continues. In 1960, the National Health Examination Survey (NHANES) began tracking obesity. The percentage of the population who were obese in 1960 was 13.4%, and this modestly increased to 14.5% in 1970 and 15% in 1980. By the mid-1980s, however, the percentage had climbed to 23.3% and continued to increase at an alarming rate to 35.7% in 2010. It is rather ironic that the obesity epidemic began shortly after the 1980 guidelines were implemented. Because fat contains more than twice the calories per gram as carbohydrates or protein, it was reasoned that low-fat diets would help curb obesity. However, while Americans were consuming less fat, there was a staggering increase in total caloric consumption of 425 kcal/day, beginning in the early 1980s.⁴

So, what was the catalyst for the dramatic increase in caloric consumption after 1980? It was Earl Butz, Secretary of Agriculture (1971–1976) under Presidents Richard Nixon and Gerald Ford.⁵ In 1971, Butz abolished a program that paid corn farmers not to plant all their land; his mantra was "get big or get out." Corn became the engine for the massive surge in quantities of cheaper food being supplied to Americans; cattle were fattened, burgers became bigger, and fries were fried in corn oil. By the mid-1970s, there was a surplus of corn. Butz visited Japan to learn about a scientific innovation that would change everything: the mass development of high fructose corn syrup (HFCS). Although HFCS was introduced into the US in 1975 it only represented about 3–5% of the total per capita sugar consumption, lagging way behind sucrose at 75% and corn syrup at 15%. By 1980, however, HFCS climbed to about 15% of

the per capita sugar consumption and soared to almost 40%, matching sucrose, in 1985. Why the sudden demand for HFCS? In short, Hurricane Allen, which struck from July 31 to August 11, 1980.⁶ It was a Category 5 hurricane over most of the Caribbean that destroyed almost all the sugar cane product. Many companies were left scrambling in the early 1980s to find an alternative to sugar cane and HFCS came to the rescue. HFCS costs a fraction of sugar cane and it was soon pumped into every conceivable food. It provided that “just baked” sheen on bread and cakes, made everything sweeter, and extended shelf life from days to years. Supersizing became the norm. The Big Gulp was born in 1980. Therefore, it should come as no surprise that we have a serious obesity epidemic that is only going to get worse unless Americans reduce their daily caloric consumption.

In February 2015, the DGAC generated a lot of attention by eliminating dietary cholesterol as a “nutrient of concern.”⁷ This is concordant with more recent scientific evidence reporting no appreciable relationship between dietary cholesterol and serum cholesterol and clinical cardiovascular events in general populations. A less noticeable, but more important change was the absence of an upper limit on total fat consumption. The DGAC report neither listed total fat as a nutrient of concern nor proposed restricting its consumption.⁸ On January 7, 2016, the US Department of Health and Human Services and the Department of Agriculture released the Dietary Guidelines for Americans 2015–2020.⁹ Incredibly, in the final 2015 report, the statement on cholesterol in the February 2015 DGAC was removed, instead suggesting that “individuals should eat as little dietary cholesterol

as possible.” This begs the question, how can the same committee arrive at diametrically opposite conclusions?

Most nutrition studies rely on observational methods, which can often be inherently flawed. The overwhelming majority of observational studies fail to be replicated by randomized controlled trials. The unfortunate fact is that human nutrition research is very difficult to do well. Therefore, it is incumbent upon health professionals, the media, and others who utilize nutritional research to be aware of the shortcomings of different study designs in nutrition research, to read studies carefully, and to temper hyperbolic headlines based on weak or preliminary data.¹⁰

In the meantime, obesity remains a serious health concern and a burden on the healthcare system. Four decades of dietary guidelines that purported to help stem the tide of obesity, type 2 diabetes mellitus, and heart disease, have only made matters worse. Mother Nature also got in the way. The time has come to call it what it is and to tell patients that they weigh too much because they consume too many calories. Health and weight are the individual's responsibility. The focus should be placed on healthy food-based diet patterns that include more vegetables, fruits, whole grains, seafood, legumes, and dairy products and include less meat, fewer sugar-sweetened foods and drinks, and refined grains. There is no “best diet.” All diets that lower calories will work equally well. The better the patient can adhere to the diet, the better they will do and the more weight they will lose. In the end, the bathroom scales are the final arbiter: unbiased, totally objective, cold, calculating, and sometimes even cruel! ■

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