Dietary Dilemmas, Delusions, and Decisions

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One of the most frequent questions gastroenterologists are asked about is diet, health, and disease; and some of the questions gastroenterologists are least comfortable answering are about diet, health, and disease. This disconnect occurs for several reasons. Although the subject of nutrition is taught in medical school, it usually covers malabsorption of nutrients, vitamins, and minerals that have limited relevance to the concerns of most patients. The modern physician does not see many cases of scurvy or beri beri. Physicians make decisions and recommendations from evidence-based medicine. Unfortunately, there is a dearth of sound data on diet and gastrointestinal diseases, forcing physicians to operate outside their comfort zone.

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It is important to consider the goal of a diet. There are focused diets to address very specific diseases (celiac disease, diabetes), diets to ameliorate more general medical problems (heart disease, obesity), and diets that attempt to reduce symptoms, intestinal or otherwise. Finally, physician recommendations on diet may have a more global and diffuse aim of promoting overall health and well-being as reflected in the US Department of Agriculture food pyramid(s) initially developed in 1992 and subsequently modified in 2005.

In contrast, patients may be concerned about how diet may be causing a specific disease or symptom, or, alternatively, whether a specific diet may cure their disease. In this issue of *Clinical Gastroenterology and Hepatology*, Hou et al[1] do a valiant job with an impossible task, trying to make sense of the popular currents of recommendations about diet in inflammatory bowel disease. In this age of obesity, people are always seeking the newest and most improved advice on diet and weight loss. For many people, the goal of diet that starts with some nutritional foundation may expand to much more global aspirations, serving as a means to achieve a better or more virtuous life.

Patients obtain information from a variety of sources and certainly feel no qualms or hesitation about making decisions based on something other than evidence-based medicine. Anecdotal testimonials and frank hucksterism abound on the internet. The American fixation on diet is reflected by the fact that 40% of the *New York Times* Advice Best Seller List is related to diet. *US News and World Report*, famous for its annual ranking of colleges and universities, now does the same for popular diets.

There is a peculiarly American strain of dietomania that seeks to improve overall well-being, physical, mental, and spiritual, through diet. Its full-blown presentation has been termed *orthorexia nervosa*, combining the "orexia" (appetite) of anorexia and "ortho" (straight, correct from the Greek), by Bratman and Knight.[2] With orthorexia nervosa, a fixation on eating healthy food comes to dominate and control an individual's life. However, we will all encounter individuals with a more modest presentation, but, nevertheless, one in which devotion to the correct diet is associated with feelings of virtue, superiority, and self control. Not surprisingly, it has been linked to obsessive compulsive personality disorders. Another aspect of American dietomania is food Puritanism. Given the importance of the Puritans in American history and psyche it is not difficult to understand how that mind set would translate into attitudes about food, in which self-denial is good, pleasure is suspect, and one might hope to overcome sin by cleansing the body. This may be a modern version of asceticism, in which there is a significant secondary gain from denying the fulfillment of desires.

Orthorexia and food Puritanism have an interesting history that dominated much of the public perceptions about diet in the late 19th and early 20th centuries. Although, in review, these diets may strike one as naive or outlandish, it is not clear how well the popular diets of 2014 would stand a similar test of time. Certain themes developed in these diets have some elements that resonate distinctly as true a century or more later.

American Diet History

Sylvester Graham was perhaps the earliest American proponent of a specific diet to promote health and well-being. Graham bread (crackers) was made from unsifted flour and avoided additives such as alum and chlorine that were beginning to be added routinely in the production of white bread. White bread was becoming more popular at the time because it was something of a middle-class status symbol, purer and more refined than the

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darker country bread. However, Graham believed that chemical additives made bread unwholesome.[3]

Beyond bread, Graham preached a lifestyle that involved vegetarianism, temperance, and sexual abstinence. Graham's diet advocated fresh fruits and vegetables, whole grains, high fiber, and an avoidance of spices. He was influential in the early vegan movement. He focused on the evils of meat and milk, which caused sexual urges (particularly masturbation) and lust. Graham believed that his diet led to a purer mind and body. Graham preached a healthy lifestyle beyond diet with recommendations for frequent bathing, daily toothbrushing, and lots of sleep and fresh air. He certainly had his detractors and was derided as a crackpot by some. His public addresses were sometimes disrupted by unruly crowds and angry butchers and bakers. The attempt to introduce Grahamism at Oberlin College by one of his disciples sparked a student revolt in 1841. One final note on Graham: he would be sorely disappointed to see what has become of his crackers, now mostly made with refined wheat, in the modern-day supermarket.

Practically unknown today, Horace Fletcher was a prominent, well-known, and wealthy author and speaker on nutrition and health. He was called the "Great Masticator" because of his theory, which recommended that all foods needed to be deliberately chewed up to 80 times and not swallowed until they had been thoroughly liquefied. He also recommended that liquids be chewed. The purported benefits included reduced food intake, better systemic and dental health, and improved financial savings.[3]

Dr John Harvey Kellogg, the chief physician at the Battle Creek Sanitarium, rose to popularity several generations after Graham. He believed that almost all illnesses originated in the gastrointestinal tract, and, if not the gastrointestinal tract, then probably from sexual intercourse. He advised daily yogurt enemas to cleanse the intestines. His patients ate only whole grains, fruits, nuts, legumes, and other healthy food. Beyond the diet and enemas, his theories spilled over into some odd practices designed to curb sexual desire and intercourse. He lectured on the advantages of celibacy, and proudly claimed that he and his wife (they were married more than 40 years) had never had sex. He also sponsored "Race Betterment Conferences" in support of eugenics programs, and advocated racial segregation for "preservation of the human race."[3]

Similar to many of today's diet gurus, Kellogg was a best-selling author of health books. He argued that indigestion was the major cause of Americans' death and that specific elements of the diet (coffee, spices) were particularly toxic. Vinegar was "a poison, not a food."[3] As part of his diet therapy, Kellogg and his brothers developed new "foods" from grains. A production accident led to overcooked wheat that was put through rollers and formed flakes. This baking accident changed the breakfast habits of generations of Americans who know or care little about Kellogg's dietary theories.

The History of Low-Carbohydrate Diets

The "Physiology of Taste" by Jean Anthelme Brillat-Savarin,[4] published in 1825, may have been the first book for foodies. Brillat-Savarin considered obesity to have 2 major causes: genetics and carbohydrates. Predating Atkins by more than 150 years, he wrote "a more or less rigid abstinence from anything that is starchy or floury will lead to the lessening of weight."[4] The concept that obesity was not so much caused by overeating but to the body's propensity to use carbohydrates for making fat had many proponents over the next 2 centuries.

William Banting, at 5'5" and 202 pounds, was too obese to tie his shoelaces. His physician, a Dr Harvey, prescribed a diet that limited starch, sugar, beer, and potatoes. Only meat, fish, vegetables, and wine were permitted. Banting lost a remarkable amount of weight and went on to write the first low-carbohydrate diet book.[3,5,6]

Dr Alfred Pennington, addressing the problem of overweight executives at E.I. Dupont in the post–World War II era, put them on a high-protein, high-fat, low-carbohydrate, unrestricted-calorie diet that led to significant weight loss. What became known as the DuPont Diet was published in *Holiday Magazine* in June 1950. Pennington was followed by a succession of others who promoted the idea of a low-carbohydrate diet, including Richard Mackarness ("Eat Fat and Grow Slim"), Herman Taller ("Calories Don't Count"), Robert Atkins ("New Diet Revolution"), Barry Sears ("Into the Zone"), and Michael and Mary Eades ("Protein Power"). Although our understanding of insulin and intermediate metabolism certainly has increased since 1825, the initial observations of Brillat-Savarin still continue to dominate many modern diet programs today. The fractious debate between proponents of low-fat vs low-carbohydrate diets continues to rage on,[7] but it is curious to realize that the low-carbohydrate diets clearly predated the low-fat diets by more than 100 years.

Popular Present-Day American Diets

A brief internet search will yield a plethora of popular modern-day diets that claim significant health benefits from adherence to a strict diet of inclusions and exclusions. Most diets are aimed at improving generalized health, but some have more focused goals. The evidence for most of these is slim and slanted. However, given their reasonably widespread currency in popular culture, it is worthwhile for physicians to have some knowledge of what is out there. Space limitations obviously prevent a complete discussion of these diets.

The Anti-Candida Diet's web site asks, "Do you regularly experience headaches, fatigue, yeast infection or brain fog? If so, you might be suffering from Candida."[8] The Anti-Candida diet is a low-sugar diet, without fruit or added sugars, that is designed to deprive Candida of