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EDITOR'S PAGE

# Changing Our Dietary Habits

## Empathizing With Sisyphus

Valentin Fuster, MD, PhD

While I was recently walking through an airport in the Southwestern United States, I became acutely aware of what my fellow travelers were eating—hamburgers, French fries, nachos, butter-laden soft pretzels, and massive-sized sugary soft drinks, not to mention the ice cream and packaged sweets. I was taken aback when I noticed that not 1 person was eating healthy food. This observation launched a personal investigation of the food vendors in that airport terminal, and I came to understand that these travelers did not have any healthy options from which to choose. This experience, along with many others, has led me to realize that our attempts to improve our patients' eating habits, as well as our own, we are not only battling the the pleasurable component of eating unhealthy foods, but also the ubiquity of unhealthy options in society.

Our plight to improve eating habits reminds me of an ancient Greek legend wherein the gods condemned Sisyphus to painstakingly push an immense boulder up a mountain, only to have it roll to the bottom, where he was forced to repeat the task for eternity (**Figure 1**). In the 1940s, French novelist Albert Camus popularized this mythological image as an analogy of the futility of human existence (1). As cardiovascular specialists, we may be able to empathize with this tragic figure when we try to influence and change the dietary and lifestyle behaviors of ourselves, as well as our patients. In this capacity, we are combatting not only the ingrained habits of our individual patients, but also their unique cultural traditions, as well as society's influence. To highlight the importance of the cardiologist to move the needle into preventive care, we publish an annual Cardiovascular Health Promotion each year. In this year's issue, there were 2 outstanding papers—an original investigation (2) and a review paper (3)—that help identify many of the challenges that we endure when we attempt to improve the nutrition of our patients.

As the authors of the original investigation, titled "Effect of Current Dietary Recommendations on Weight Loss and Cardiovascular Risk Factors," point out, major cohort studies suggest that 82% of cardiovascular disease and 91% of diabetes risk may be prevented by changes in diet and lifestyle (4,5). Although many authoritative bodies have produced recommendations on these dietary considerations, the U.S. Dietary Guidelines Advisory committee currently advocates for 3 dietary patterns to prevent chronic disease: the healthy American diet, the Mediterranean diet, and a vegetarian diet (2,6). The basic principles of these diets are a high consumption of fruit, vegetables, whole grain cereals, and fish, as well as a reduced consumption of red meat, processed meat products, and sugar-added foods and drinks. In addition, the American College of Cardiology and the American Heart Association have recommended Dietary Approaches to Stop Hypertension, which also includes a reduction in salt intake and cholesterol-rich foods.

In this *JACC* study, Jenkins et al. (2) assessed the effect of these types of dietary recommendations and/or food provision on body weight and cardiovascular disease risk factors in 209 healthy overweight men and 710 women (mean age 44.7 years, mean body mass index 32.4 kg/m$^2$). The intervention lasted 6 months, and the study participants were followed up for 1 year—a total of 18 months. The subjects were separated into 4 groups: 1) the control group, who only received the Health Canada food guide without further advice; 2) the second group, who were actively advised about proper dietary habits, including about cholesterol-lowering foods (i.e., oats, nuts, and plant protein foods); 3) the third group, who received a weekly food basket for 6 months, reflecting the advice

From the Zena and Michael A. Wiener Cardiovascular Institute, Icahn School of Medicine at Mount Sinai, New York, New York.

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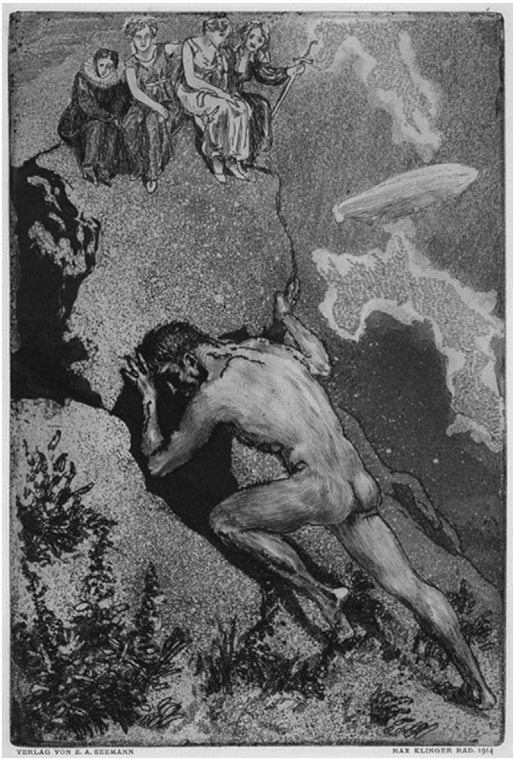
**FIGURE 1 Sisyphus**




Demonstration of Sisyphus pushing the boulder uphill. (Courtesy Wikimedia Commons. Available at https://commons.wikimedia.org/wiki/File:Bloemaert_-_Sisyphus.jpg.)

given to the second treatment group, but did not receive dietary advice; and 4) the fourth group, who received the weekly basket and the dietary advice for 6 months. All members of the families involved were expected to follow the same treatment patterns. Exercise trends were recorded, but no additional intervention was administered.

The results of the study may be quite surprising, or may not. Despite the monastery-like conditions, participant retention at 6 and 18 months was 91% and 81%, respectively, after food provision compared with 67% and 57% when no food was provided (1). Most importantly, there were only very small reductions in body weight (approximately −1 kg) compared with the test and control groups, as well as small reductions in waist circumference (approximately −1.5 cm) and blood pressure (approximately −1 mm Hg) at 6 months and Framingham coronary heart disease risk score at 18 months (approximately −0.3%). Outcomes did not differ among the test and control groups. Importantly, current dietary recommendations showed small overall benefits in terms of the risk factor profile and weight reduction. Overall, dietary changes are difficult in relatively healthy individuals, meaning that community-based strategies might be necessary to implement and sustain change effectively. Of course, these results are somewhat frustrating for cardiovascular caregivers.

In the accompanying editorial to this study (7), Drs. Estruch and Ros review 3 large-scale analyses (2 in the United States and 1 in Europe) that all demonstrate the difficulties of changing lifestyle or therapeutic risk factor targets in a world of consumption (8–10). Although a slight trend in smoking cessation as well as a lowering of high blood pressure and cholesterol was seen in these studies, the editorialists also note an increase of hyperglycemia and obesity. In EUROASPIRE (European Action on Secondary and Primary Prevention by Intervention to Reduce Events) specifically, the adherence to a reasonable exercise regimen was particularly low.

This additional evidence may cause some of you reading this Editor's Page to feel depressed. However, Estruch and Ros (7) also indicate some areas for hope about the Jenkins et al. study (2): 1) even small changes in risk factors can be associated with clinically meaningful reductions in cardiovascular disease events; 2) the diets recommended were calorie-unrestricted, yet small beneficial changes in body weight and waist circumference were still observed at 18 months; and 3) the short length of this trial may have resulted in the "legacy effect," wherein benefits of the intervention on cardiovascular disease risk factors extend beyond the finite period of active treatment. To improve outcomes, Estruch and Ros (7) recommend 6 strategies: 1) sustained focused media and educational campaigns; 2) labeling and consumer information; 3) lower prices of healthy foods through reduced taxes or other economic incentives; 4) campaigns in schools and workplaces; 5) local environmental changes to increase availability of healthy foods; and 6) restrictions on advertising and marketing of unhealthy foods.

In my experience with health promotion trials, my fellow researchers and I have found it tremendously beneficial to start the educational process about healthy nutritional habits in the preschool system, because by the time people reach adulthood, their habits are firmly ingrained and even harder to rectify. In addition to starting education at a very early age, the community at large needs to support these efforts—both authoritatively and personally. Authoritatively means that local and federal governments need to support the efforts for improved eating habits, demonstrated in such successful efforts as the European Commission's partnerships with the food industry (11). Personally means that communities and

families need to band together to support each other when they attempt to improve their eating habits. None of us can win this battle alone, or we will be faced with the challenge of Sisyphus. However, if we band together, we can more easily push that enormous boulder up the mountain.

**ADDRESS FOR CORRESPONDENCE:** Dr. Valentin Fuster, Zena and Michael A. Wiener Cardiovascular Institute, Icahn School of Medicine at Mount Sinai, One Gustave L. Levy Place, New York, New York 10029. E-mail: valentin.fuster@mountsinai.org.

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