Dietary Guidelines Implicated in Obesity Epidemic

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By stressing the importance of a carbohydrate-based, low-fat diet, current U.S. dietary guidelines may have unexpectedly contributed to the current obesity epidemic, investigators reported.

In accordance with national recommendations, Americans have slightly reduced their fat intake, wrote Dr. Paul Marantz of the Albert Einstein College of Medicine, New York, and his coauthors. But their carbohydrate and total-calorie intakes have increased, along with the rate of national obesity (Am. J. Prev. Med. 2008 Feb. 8 [Epub doi:10.1016/j.amepre.2007.11.017]).

The observation is not enough to establish a causal link, but enough data exist to make at least an inference. "The hypothesis that dietary fat admonitions actually caused the current U.S. obesity epidemic is consistent with the data, logically sound, and plausible on the basis of both behavioral and biological mechanisms," they said.

The recommendation to reduce fat intake, first promulgated in 1980, focused on the association between cardiovascular disease and one risk factor: hypercholesterolemia. But although there was solid evidence that modifying fat intake could reduce cholesterol, there was—and still is—no evidence that governmental guidelines against fat could improve cardiovascular disease outcomes, the investigators said.

Instead, Dr. Marantz and his team argue, data now suggest that these guidelines negatively affected health by contributing to the obesity epidemic and its attendant increase in diabetes. They used statistics from the Centers for Disease Control and Prevention to support that view.

From 1971 to 2001, consistent with national recommendations of a low-fat, carbohydrate-based diet, fat intake decreased by 5% in men and 9% in women. But carbohydrate intake increased by 7% in men and 6% in women, and total daily caloric intake increased by 168 calories in men and 335 calories in women. In fact, even though women decreased their percentage of fat intake, their increase in daily calories translated into an increase in absolute fat intake, from 557 fat calories per day to 616 fat calories per day.

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A corresponding increase in obesity ensued in both genders, the authors noted. In 1971, 55% of American men and 41% of women were overweight or obese; by 2001, those numbers had risen to 70% of men and 62% of women.

The relationship between the guidelines and changing dietary habits is probably multifactorial, they said. Fat may induce satiety—an important inhibitor of excess calorie intake—which would be a biologically plausible rationale for the idea that low-fat diets may lead to higher calorie consumption.

A societal force is probably also at work, they said. Total calorie intake "may have been influenced by the effective marketing of low-fat foods, as well as the food pyramid, which suggested that low-fat foods could be eaten without any concern," and gave an official "seal of approval" for such foods.

The United States has enjoyed a decrease in the rates of cardiovascular mortality since the national low-fat recommendation was first made, the authors noted. "Of course this decline had begun in the 1960s prior to the dietary guidelines, and other clinical interventions (statins, bypass surgery, and angioplasty) also contributed. Moreover, this favorable trend in coronary heart disease was counterbalanced by an alarming increase in obesity and attendant diabetes that coincided with the promulgation of the 1980 dietary guidelines."

The authors maintained that dietary guidelines should include explicit standards of evidence, such as the standards employed by the U.S. Preventive Services Task Force. "This may lead to guidelines that are laden with caveats and disclaimers, but these are preferable to resolute guidelines supported by equivocal evidence," the investigators said. "When the evidence is murky, public health officials may be served best by … making no recommendation at all."

An accompanying editorial by Dr. Steven Woolf and Marion Nestle, Ph.D., strongly challenges these conclusions. Current guidelines are based on dozens of randomized controlled trials linking low-fat diets with decreased disease risk, said Dr. Woolf of Virginia Commonwealth University, Richmond, and Dr. Nestle of New York University, New York. The insinuation that dietary guidelines contributed to increasing obesity also fails to account for other significant factors, like portion sizes, inactivity, and overall caloric intake, they said (Am. J. Prev. Med. 2008 Feb. 8 [Epub doi:10.1016/j.amepre.2007.12.002]).

Despite the improvements in cardiovascular disease mortality, two diseases linked to fat intake—cardiovascular disease and cancer—still account for more than half of U.S. deaths. Obesity and diabetes are expected to increase. Withholding guidelines because of fear of unintended consequences is not the answer to the obesity problems, according to Dr. Woolf and Dr. Nestle.

"Under these circumstances, the public is placed at greater risk by withholding information about dietary causes than by sharing it. Withholding dietary guidance out of fear of unintended consequences elevates the duty for caution above the duty to inform," they wrote in the editorial.

None of the authors of the article and the editorial reported any financial disclosures. ■

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