

The Nutrition Reporter™

EXTRA

© Jack Challem August 2012 Vol 23 No 8

The independent newsletter that reports vitamin, mineral, and food therapies

Tackling the Obesity Issue: Should Super-Size Soft Drinks Be Banned?

You don't have to be a nutritionist to realize that overweight and obesity have reached epidemic levels in the United States. The incidence of overweight and obesity – and all of their attendant diseases, such as type 2 diabetes, heart disease, and cancer, are increasing rapidly all over the world, following the introduction of soft drinks, fast foods, and other types of junk foods.

But what can be done to reverse this trend?

New York City Mayor Michael Bloomberg will be loved or hated for recommending that the city ban supersize sugary soft drinks. Was his call to action a sign of government overreach? Or was it a smart step toward the improvement of public health?

Both opinions can certainly be justified, but I favor the latter – and there is precedent for limiting the size of soft drinks. Just think about restrictions on the sale and use of tobacco products (including exposure to secondhand smoke), legal limits on the use of trans fats, and laws requiring us to wear seatbelts. All of these regulations protect the “common good” – a concept described in the U.S. Constitution.

How would a ban on huge soft drinks serve or protect the common good? The cost of treating obesity, type 2 diabetes and related diseases runs into the hundreds of billions of dollars. You and I end up paying the collective bill for overweight, prediabetes, and diabetes, either through higher premiums for private insurance or through taxes that support such government programs as Medicare and Medicaid. As far as I'm concerned, your personal right or responsibility to intentionally abuse your body ends where I end up paying for it, just like your right to smoke ends where my nose and lungs are.

To give credit where credit is due, the Walt Disney Company followed Bloomberg's recommendation with its own change in policy. Disney will soon restrict junk-food commercials directed at children on its television programs.

While sugary soft drinks aren't the only cause of overweight-related diseases, they are a major contributor – even though McDonalds and other companies always manage to deny the link. (Soft drinks and fries are the big money makers for fast-food companies.) My only wish is that the proposed ban be extended to include most fruit juices, which often contain as much if not more sugars than soft drinks.

More On the Obesity Issue

If you look at three generations of Americans standing next to each other – let's say a grandmother, mother, and teenage grandchild – odds are that you will see that members of each younger generation weigh more than their parents. Such a family portrait reflects the increase in the numbers of people who are overweight or obese.

These people might share many of the same genes, but more is at play than just inherited genes or familial eating habits. During the past several decades, the food supply has become junkier – fast food restaurants dominate the landscape, and supermarkets sell mostly highly processed convenience foods and still more junk foods. The cause of overweight and obesity is not just too many soft drinks, but also trans fats, too many refined carbohydrates, a lack of high-fiber vegetables (which stabilize blood sugar and control appetite), a lack of portion control, and a host of other factors.

Some 10 or 15 years ago, I suggested to Abram Hoffer, MD, PhD, a pioneer in nutritional medicine, that upcoming generations will develop diseases at younger ages compared with their parents, mainly because of changes in the food supply and eating habits. Hoffer said my argument would be difficult to prove (at that time), but we discussed a concept called “multigenerational nutrition.” A few scientists had noted that the diets of people, as an example,

Continues on next page

could influence the health of their grandchildren.

Some of the most fascinating experiments on multigenerational nutrition were conducted in the 1930s and 1940s years ago by Frances M. Pottenger, MD, an American physician. Pottenger conducted dietary experiments with multiple generations of cats and a total of more than 900 individual animals. He found that nearly all of the cats eating diets of raw meat and raw milk remained healthy generation after generation, with good bone density, shiny coats of fur, few parasites, and little disease. The raw meat was comparable to what the cats would eat in the wild, and the milk was unprocessed.

But when Pottenger fed cats a diet of cooked meat and either evaporated or sweetened milk – processed foods of the time – signs of physical degeneration quickly appeared in the first generation and became more common in subsequent generations. By the third generation, 90 percent of these cats had skin diseases and allergies, compared with only 5 percent of cats eating a healthy diet. Bone density also decreased, and the animals became more antisocial. Also by the third generation, cats started to suffer from degenerative diseases, including heart disease, arthritis, and cancer. By the fourth generation, the cats became sterile and ceased reproducing.

In some respects, Pottenger's studies foretold the decline of American eating habits and health. But as unsettling as these studies might be, there is a positive side to them. Pottenger found that improved nutrition in the second and third generations of cats could reverse the mounting health problems. However, it took at least two generations of healthy eating to regain the health of well-nourished first-generation cats.

But is Pottenger's research relevant to humans? It is. In a remarkable study, published in 2002, Swedish researchers tracked three generations of people, born in 1890, 1905, and 1920, and analyzed the effects of abundant dietary carbohydrates (during times of food surplus) and carbohydrate restriction (during times of famine) on subsequent generations.

The researchers found that if a person's father or paternal grandfather likely ate a lot of carbohydrates before puberty, his children and grandchildren had a higher risk of dying from cardiovascular disease, and they were four times more likely to develop diabetes. However, if a person's father or grandfather consumed fewer carbohydrates, his children and grandchildren were far less likely to develop either diabetes or cardiovascular disease. (Kaati G.

European Journal of Human Genetics, 2002;10:682-688.)

I believe that the explanation for this heightened risk – and the growing incidence of overweight and obesity – will be found in the science of *epigenetics*. Research on how nutrients and toxins affect epigenetics has accelerated over the past 10 years.

To explain: Most of us understand at least a little about genetics and traits we inherit from our parents and other ancestors. These traits are “hardwired” and, as examples, they control our hair and eye color and some of our risk for specific diseases. Epigenetics overlaps our hardwired genes and is sort of like software programming for our genes. I believe epigenetic changes account for the generational deterioration in Pottenger's cats, as well as the differences in inherited risk in the Swedish study.

Here's one way epigenetics works. When you consume the B-vitamin folic acid, the body uses it to make “methyl groups,” which contain three atoms of hydrogen and one atom of carbon. These methyl groups attach to specific places on our hardwired genes, and their typical function is to turn off a specific gene. As one example, these folic acid-dependent methyl groups turn off many of the genes involved in cancer. Other nutrients also have a positive effect on epigenetic programming, whereas toxins tend to have a negative effect.

Granted, the link between epigenetics and overweight is more circumstantial than definitive at this point, but it suggests that the increase in overweight and obesity (leading to sharp increases in type 2 diabetes) is probably the result of negative epigenetic changes caused by eating more and more junk foods, generation after generation. Is it still possible to reverse this alarming trend? I believe that it's possible, but it will take a Herculean effort, far beyond just banning super-size soft drinks.

–Jack Challem

The Nutrition Reporter™ newsletter (ISSN 1079-8609) publishes full monthly issues except for August and December and is distributed only by prepaid subscription. This issue, Vol 23 No 8, © August 2012 by Jack Challem. All rights reserved. Reproduction without written permission is prohibited. Phone: (520) 529.6801. Email: nutritionreporter@gmail.com. The Nutrition Reporter™ is strictly educational and not intended as medical advice. For diagnosis and treatment, consult your physician. Subscriptions are \$30 per year in the U.S.; either \$36 US or \$42 CDN for Canada; and \$44 for all other countries, payable in U.S. funds through a U.S. bank. The Nutrition Reporter™ is a trademark of Jack Challem.

The Nutrition Reporter™

Post Office Box 30246 • Tucson AZ 85751-0246 USA

Editor and Publisher: Jack Challem

Copy Editor: Mary E. Larsen

Medical and Scientific Advisors

Ronald E. Hunninghake, MD Wichita, Kansas • Ralph K. Campbell, MD Polson, Montana

Peter Langsjoen, MD Tyler, Texas • Marcus Laux, ND San Francisco, Calif.

James A. Duke, PhD Fulton, Maryland • Andrew W. Saul, PhD Rochester, New York