

Globe's rising obesity, diabetes rates no surprise to Samoa researcher

April 6 2016

In two new papers in *The Lancet* that report dramatic worldwide increases in body-mass index (BMI) and type 2 diabetes, the U.S. territory of American Samoa and independent Samoa are mentioned for their especially high prevalence of both conditions. As a researcher who has studied these phenomena in Samoans since 1976, Stephen McGarvey contributed extensive data on temporal trends to both reports and helped to write the diabetes paper. He also sees in the global data some of the same patterns he's seen play out in the Samoan islands.

The studies show that between 1975 and 2014, the world made a transition to where obesity is now more common among adults than being underweight. Over about the same timeframe of 1980 to 2014, the global proportion of adults with diabetes more than doubled among men and increased by nearly 60 percent among women.

Rates were already climbing in American Samoa in the mid 1970s, when McGarvey began his research, and they've continued to climb. Now, as the studies note, American Samoa is the locale where women have the highest mean [body-mass index](#) and both genders have the highest prevalence of diabetes at more than 30 percent. Independent Samoa also has high levels of these two conditions.

"The Samoas started early and went to very high levels," he said, "but there are some other nations, or even parts of nations, whose rate of change recently has been very rapid."

Changing foods and lifestyles

Many factors have contributed to the increases in BMI and diabetes in Samoans. Part of McGarvey's research has been to investigate whether genetics play any kind of role. But predominantly the influences have been the same ones that have played out in many other developing parts of the world, said McGarvey who teaches a class at Brown called "Global Health Nutrition."

One is the so-called "Nutrition Transition," a term coined by Barry Popkin of the University of North Carolina. Global food supply chains have given many places access to high-calorie, high-fat processed and prepared foods, McGarvey said. In Samoa, for example, he's seen a proliferation of small family businesses where people cook fried chicken for sale. Feeding that trend has been an increase in the availability of cheap imported cooking oil and frozen chicken parts.

Meanwhile as economies have modernized, cars and buses have replaced walking, and work has often changed from physically demanding subsistence work to relatively sedentary industrial and services jobs, McGarvey said. Household lifestyles are also less likely to be structured around laborious home cooking of traditional cuisine.

In short, as in the Samoas, more places are becoming more like Western countries where food has gone from being self-sourced and self-prepared to more caloric and convenient.

At the same time, the globalization of eating has clearly still left some people behind, with many people still not getting enough food. Even as overeating becomes the predominant health problem, McGarvey said, the lack of food security still requires attention, particularly in central Africa and south Asia. The Lancet BMI study points out that in 2014, 8.8 percent of men and 9.7 percent of women are still underweight, even

as 10.8 percent of men and 14.9 percent of women are obese.

Going the wrong direction

The global trends for BMI and diabetes, especially in the developing world run counter to goals set by the World Health Organization to halt the increases by 2025 at 2010 levels.

But McGarvey, who has helped to study pilot interventions in American Samoa (LINK), said he and his colleagues retain a determined optimism. But it is hard, he acknowledged, to change lifestyle and behavioral factors that have been decades in the making.

"Most people believe that this will be very challenging," McGarvey said. "It may take us as long to get out of it as it took us to get into it."

Provided by Brown University

Citation: Globe's rising obesity, diabetes rates no surprise to Samoa researcher (2016, April 6) retrieved 14 May 2024 from <https://medicalxpress.com/news/2016-04-globe-obesity-diabetes-samoa.html>

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