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US-African Diet Swap Reveals Colon Cancer Risk

by Mike Richman



The globalization of the Western diet — high in sugar, salt, fat, oil and meat — is increasingly bad for people's health and the health of the environment, a study contends.

Doctors have long known that the Western diet, one often high in animal proteins and fat and low in fiber, increases the risk of colon cancer

In the United States, the second-highest number of cancer deaths is from colon cancer, a malignant tumor in the colon or rectum, the lower part of the human digestive system. African-Americans are at especially high risk for the disease, which experts say is diet-related in more than 90 percent of cases.

A team of international researchers studied what would happen if African-Americans and rural South Africans swapped diets for two weeks. Colon cancer rates are much lower in rural South Africa, where people consume a high-fiber, low-fat diet typical of Africans.

Dramatic signs

The diet swap, though brief, showed dramatic effects on the risk of colon cancer in both segments and raised concerns about the Western diet and its impact on the disease.

It produced evidence that the South African participants might someday contract colon cancer if they consumed an American diet. The Americans, in comparison, showed signs of reduced cancer risk over the long term.

Dr. Stephen O'Keefe, one of the study's lead authors and a professor at the University of Pittsburgh School of Medicine, said his team was "extremely surprised" by the magnitude of the findings, namely the vast changes in the biomarkers for cancer risk.

He also said the results are good news in the research of colorectal cancer.

"This shows that you can change your environment very acutely with a dietary change," O'Keefe said, "and it has dramatic effects on the interior milieu of the colon, namely the microbiota, and the way that it metabolizes in the digestive system to produce things that either preserve colonic health or actually produce inflammation and increase risk of neoplastic change."

The study involved 20 people from each country, ages 50 to 65.

The African volunteers were fed a meat-heavy American-style diet that included sausage, hamburgers, french fries, meatloaf and rice. The American group ate high-fiber African meals featuring a lot of beans, fruits and vegetables. The meals were prepared using their typical ingredients and cooking techniques.

After two weeks, researchers compared fecal and colon content samples to those taken from the volunteers before the study began.

Change in prognosis

For the American group, consuming the African diet led to much less inflammation in the colon and reduced signs of cancer risk. For the South Africans, the turnover rate of intestinal cells speeded up, a sign of increased cancer risk.

O'Keefe gained the impetus to pursue the study through his work as a gastroenterologist in rural parts of South Africa, where he performed colonoscopies on patients with diarrhea-related problems.

"We found a lot of parasitic infections, but we never found colonic polyps or colon cancer, or extremely rarely. Then when I moved to the States, a routine screening colonoscopy clinic of the age of patients of subjects that we looked at in the study, namely between the ages of 50 and 65, we find polyps or cancer in about 20 to 30 percent, and the rates are even higher in African-Americans."

He hopes the findings in the study will positively impact the dietary habits of people in the West.

"The key message is change your diet, change your risk of colon cancer," he said. "And clearly we based our findings on biomarkers that are legitimate. Now, we need to move into the public health arena to try to advocate the use of a balanced diet containing efficient quantities or good quantities of fiber-rich foods, including fruits and vegetables and grains."

The study by O'Keefe and his research team was published in the journal *Nature Communications*.

<http://www.voanews.com/content/us-african-diet-swap-reveals-colon-cancer-risk/2744093.html>