Your gut bacteria may predict your obesity risk

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Studies also found that high-fiber, low-fat diet can change bacteria makeup for the better.

(HealthDay)—Bacteria in people's digestive systems—gut germs—seem to affect whether they become overweight or obese, and new research sheds more light on why that might be.

The findings, from an international team of scientists, also suggest that a diet heavy in fiber could change the makeup of these germs, possibly making it easier for people to shed pounds.

"We know gut bacteria affect health and obesity, but we don't know exactly how," said Dusko Ehrlich, a co-author of the two new studies and coordinator of the International Human Microbiome Standards project.

The research finds that "people who put on the most weight lack certain

bacterial species or have them at very low levels. This opens ways to develop bacterial therapies to fight weight gain," he said.

Experts believe the gut, where the body processes food, is crucial to weight gain and weight loss.

"It is now well known that bacteria in our gut play an important role in our health and well-being, possibly as important as our own immune response and proper nutrition," said Jeffrey Cirillo, a professor at Texas A&M Health Science Center's department of microbial pathogenesis and immunology. "This means that disruption of the bacteria in our gut by use of antibiotics or eating foods that help only particular bacteria grow can have effects upon our entire bodies."

A study released last March in the journal *Science Translational Medicine* suggested that gastric bypass surgery led to weight loss—in mice—because it changed the makeup of the bacteria in their intestines.

In one of the new studies, which are both published in the Aug. 29 issue of the journal *Nature*, researchers analyzed the gut bacteria of 169 obese Danish people and 123 Danish people who were not obese.

The gut germs in the obese people were less diverse than in the others, and had more abnormalities in terms of metabolism. Also, obese people with a less diverse supply of germs gained more weight.

It's not clear how the bacteria and obesity are related. But the research suggests that the metabolisms of the germs themselves are connected to the overall metabolism in the humans where they live, Cirillo said.

The finding could also have a practical application, the researchers said.

"The study lays ground for a simple test, which should tell people what

their risk for developing obesity-linked diseases is," study co-author Ehrlich said. If they are, he said, diet changes may be necessary.

In a second study, researchers monitored gut bacteria as 49 overweight and obese people tried to lose weight with diets that were low-fat and low-calorie but high in protein plus fiber-rich foods like vegetables and fruits. The diet appeared to actually change the bacterial makeup in the guts of the participants.

"Although these are relatively early and small studies on the topic, they suggest that management of our own diets can improve the richness of the flora within our guts and decrease our chances of becoming obese," said Cirillo. "This does not mean that changes in diet will be effective for all people or that they can prevent obesity no matter how much someone eats, but that they can help the situation."

More information: For more on obesity, try the U.S. National Library of Medicine.