## Dietary gluten is not linked to heart risk in non-celiacs

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A study of more than 100,000 men and women revealed that dietary gluten is not associated with heart disease risk in people without celiac disease. The findings also suggest that limiting whole grains as part of a
low-gluten diet may increase the risk of heart disease in people who do not have celiac disease.

The study, led by researchers at Columbia University Medical Center and Massachusetts General Hospital/Harvard Medical School, was published online today in the British Medical Journal.
"Gluten is clearly harmful for people with celiac disease," said lead author Benjamin Lebwohl, MD, MS, assistant professor of medicine and epidemiology at CUMC, director of clinical research in the Celiac Disease Center at Columbia University and gastroenterologist at NewYork-Presbyterian/Columbia University Medical Center. "But popular diet books, based on anecdotal and circumstantial evidence, have pushed the notion that a low-gluten diet is healthy for everyone. Our findings show that gluten restriction has no benefit, at least in terms of heart health, for people without celiac disease. In fact, it may cause some harm if they follow a low-gluten diet that is particularly low in whole grains because those grains appear to have a protective effect against heart disease."

Celiac disease is an autoimmune disorder where the ingestion of gluten, a protein found in wheat, rye, and barley, causes inflammation of the small intestine, preventing the absorption of nutrients. Over time, celiac disease can lead to other health issues, including heart disease, anemia, and osteoporosis. Celiac disease can be effectively treated with a glutenfree diet.

Celiac disease is estimated to affect about 1 in 100 Americans. Another segment of the population has a condition called non-celiac gluten sensitivity, in which gluten triggers some symptoms in the absence of celiac disease. However, estimates of the number of Americans with nonceliac gluten sensitivity vary widely. "Despite the relatively low prevalence of celiac disease and non-celiac gluten sensitivity, surveys
suggest that about one-third of Americans are trying to cut down on gluten," says Dr. Lebwohl. "This certainly benefits companies that sell gluten-free products. But does it benefit the public? That is the question we wanted to answer."

To assess the effects of a low-gluten diet on heart health, Dr. Lebwohl and his colleagues analyzed diet and coronary heart disease data on 65,000 women in the Nurses Health Study and 45,000 men in the Health Professionals Follow-up Study, excluding anyone who had been diagnosed with celiac disease. Each participant filled out detailed diet questionnaires every four years, from 1986 to 2010. The participants were divided into five levels of estimated gluten consumption.
"We decided to look at heart disease because it's a leading killer, and because it's generally understood that heart health can be affected by diet," said Dr. Lebwohl.

The researchers found that there was no association between gluten intake and risk of coronary heart disease, defined as fatal or non-fatal heart attacks. "Even those with the lowest amount of gluten consumption experienced the same rate of heart disease as those who were consuming the most gluten," said senior investigator Andrew Chan, MD, MPH, gastroenterologist and Chief of the Clinical and Translational Epidemiology Unit in the Massachusetts General Hospital Division of Gastroenterology and associate professor of medicine, Harvard Medical School. "Based on our data, recommending a low-gluten diet solely for the promotion of hearth health does not appear warranted."

In subsequent studies, the researchers plan to look at the effect of gluten intake on other health outcomes, including cancer and autoimmune disease.

The study is titled, "Long-term Gluten Consumption in Adults without

Celiac Disease and the Risk of Coronary Heart Disease: Prospective Cohort Study."

More information: "Long-term Gluten Consumption in Adults without Celiac Disease and the Risk of Coronary Heart Disease: Prospective Cohort Study" British Medical Journal (2017). DOI: 10.1136/bmj.j1892 , http://www.bmj.com/content/357/bmj.j1892

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