



## Study Links Trans Fatty Acids To Breast Cancer

Science Daily — CHAPEL HILL -- Analyzing tiny fat samples from 698 European women's buttocks revealed that those with breast cancer had higher levels of trans fatty acids stored in their bodies than women without breast cancer, according to a new international study.

The study -- the first to show a significant association between such fats and the life-threatening illness -- is important because people can reduce trans fatty acid consumption by changing diets, researchers say. They suspect, but have not proven, that trans fatty acids may contribute to breast cancer development and that by cutting back on them, some women can protect themselves from the disorder.

"We also know that American women have higher levels of stored trans fatty acids on average than the European women studied because American diets contain more of those special fats," said Dr. Lenore Kohlmeier, professor of epidemiology and nutrition at the University of North Carolina at Chapel Hill schools of public health and medicine. "The vast majority of trans fatty acids are naturally occurring in our diets. Most of what we get are from production of oils and fats used in food preparation."

A report on the research appears in the September issue of the journal *Cancer Epidemiology, Biomarkers & Prevention*. Besides Kohlmeier, who is lead author and a member of the UNC Lineberger Comprehensive Cancer Center, authors include Drs. Neal Simonsen, postdoctoral fellow in epidemiology, and Barry Margolin, chairman of biostatistics, both at UNC-CH.

They found about a 40 percent increased risk of breast cancer in the women who had higher levels of trans fatty acids, Kohlmeier said. All subjects, either women newly diagnosed with breast cancer or randomly selected controls, were postmenopausal and between the ages of 50 and 74. Researchers



controlled statistically for smoking, drinking, degree of overweight, age at first childbirth, family history of breast cancer, age at menarche and menopause and other habits and conditions that might bias the outcome.

"Another interesting finding was that among our subjects, women who reported low intakes of polyunsaturated fats while showing the highest levels of trans fatty acids had the greatest risk of breast cancer," she said. "That suggests there might be an interaction between the two types of fat such as competition at the molecular level resulting in polyunsaturated fats having a protective effect."

The increased risk of breast cancer appeared to be three and a half times as great among women with high intakes of trans fatty acids and low intakes of polyunsaturated fats (which come from fish and corn oils) compared to women who consumed significant amounts of polyunsaturated fat.

Examples of foods often high in trans fatty acids are french fries, processed snack foods, bakery products and margarine, Kohlmeier said.

"Since trans fatty acids already have been associated with cardiovascular disease, the preference is, of course, to reduce trans fatty acid intake," she said. "If you do reduce that intake, it would take a year or two to show a reduction of the acids in stored body fat."

Among strengths of the study were that it included a relatively large group of patients and control subjects. Direct measurement of fat avoided errors involved in asking volunteers to try to remember what they had eaten and what brands of food, Kohlmeier said.

"This work, because it is the first to show a significant association between breast cancer and trans fatty acids, needs to be confirmed with other studies," the scientist said. "Still, we think it is important because so many women are at risk of breast cancer, and there are so few factors, especially dietary factors, known to reduce the risk."

The study took place in the United States, the Netherlands, Northern Ireland, Spain, Switzerland, Germany and Finland and was part of the European Community Multicenter Study on Antioxidants, Myocardial Infarction and



Breast Cancer (EURAMIC). It was financed by participating countries as a Concerted Action by the Commission of European Communities.

Co-authors of the new report include Drs. Pieter van't Veer, John J. Strain, Jose M. Martin-Moreno, Jussi K. Huttunen, Joaquin Fernandez-Crehuet Navajas, Blaise C. Martin, Michael Thamm, Alwine F.M. Kardinaal and Frans J. Kok.

Some European companies already have begun trying to eliminate trans fatty acids from margarine they produce, Kohlmeier said. To her knowledge, U.S. firms have not yet begun to do so.

*Note: This story has been adapted from a news release issued by University Of North Carolina At Chapel Hill.*

