Saturated Fats have been linked to increased blood cholesterol levels, particularly LDL or "bad" cholesterol, which is a risk factor for heart disease. And a recent study has revealed another potential negative effect of elevated saturated fat consumption type 2 diabetes.

Researchers reported a positive association between the consumption of saturated fats and the onset of type 2 diabetes in the July 2003 issue of the *American Journal of Clinical Nutrition*. Scientists at the University of Minnesota and the Centers for Disease Control and Prevention concluded that "...the dietary fat profile, particularly that of saturated fat, may contribute to the etiology of diabetes."

The study evaluated the level of various fatty acids in the blood, which indicate the amount of saturated fat present, in 2,909 adults aged 45-64. Over 250 of these people developed type 2 diabetes during a nine-year follow-up. The researchers accounted for numerous factors known to significantly affect the chances of developing type 2 diabetes, including age, sex, cigarette smoking, baseline body mass index, and alcohol intake.

The incidence of type 2 diabetes was positively associated with proportions of palmitic, palmitoleic, and stearic acids, which are different types of saturated fatty acids, and inversely associated with the proportion of linoleic acid, which is an unsaturated fatty acid.

Palmitic, palmitoleic, and stearic acids are found in chocolate, beef fat, and pork fat, among other foods. The consumption of linoleic acid, which negatively correlated with type 2 diabetes, can be found in grains, legumes, and many seeds.

Although the link between diabetes and saturated fat has been suggested in the past, "until now that link has not been confirmed by biological evidence," according to Jennifer Warner of WebMD. Scientists attributed Western nations' elevated diabetes rates to the high level of total fat intake in characteristically Western diets.

Since over 16 million Americans are affected by diabetes, scientists continue to research methods, including medications, to combat this disease. Recently, biochemists at Colorado State University reported in the online edition of the *Journal of Biological Chemistry* that ceramide, a byproduct of saturated fat, is "a potential contributor to the development of type 2 diabetes." The lead researcher believes that understanding the details of ceramide’s relationship to type 2 diabetes could result in a medication that would "lead to breakthroughs in the treatment of type 2 diabetes." However, more research is necessary.

Nutrition experts generally advise that saturated and trans fats (which also tend to raise LDL cholesterol levels) should contribute 10% or less of calories consumed. Consumers can decrease the amount of such fat in their foods by limiting their intake of high-fat meats, dairy products (e.g.
whole milk, ice cream), certain processed foods, and some vegetable oils, including coconut, palm, and palm kernel oils.

The study in the *American Journal of Clinical Nutrition* is the only such study to link saturated fat with type 2 diabetes; thus, additional studies are required to confirm the correlation.

**Responses:**

**August 4, 2003**

In my opinion, there can be all kinds of arguments about diet, but no matter how much you exercise and how much you eat the main goal is to keep your sugar level as low as possible and therefore avoid a high rise of insulin, which promotes fat storage.

Scarlet J. Anderson

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