

## Not all Trans Fatty Acids Bad for You



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According to a study published in the *European Heart Journal*, low levels of trans fatty acids (TFAs) may not be as harmful to human health as previously thought, even if industrially produced. The study claims that TFAs may even be beneficial if they occur naturally in foods such as dairy and meat products.

Artificial TFAs are a result of a process of hydrogenation through which oil becomes more solid. They are commonly found in processed and fried foods. Artificial TFAs have been found to increase cholesterol levels, cause heart problems, stroke and diabetes and are linked to infertility, Alzheimer's disease and some cancers.

Due to the negative health effects of TFAs, efforts have been made to reduce the amount of artificially produced TFAs in food. However, to date there is no specific information as to what is the highest concentration of TFAs that is safe for humans, and whether or not there is any difference between industrially produced TFAs and naturally occurring ones.

During this study, Dr Marcus Kleber, a post-doctoral researcher at the Vth Department of Medicine of the Medical Faculty Mannheim at Heidelberg University and colleagues measured the concentrations of TFAs found in the membranes of red blood cells in participants in the Ludwigshafen Risk and Cardiovascular Health (LURIC) study. A total of 3259 people living in south-western Germany participated in the study after being hospitalised for coronary angiographies to investigate heart disease. During a median follow-up period of just over 10 years, 975 (30%) of these patients died.

The research team identified the total concentrations of TFAs by analysing the blood samples of the study participants. They distinguished between the concentrations of industrially produced and naturally occurring TFAs and linked this with information on deaths, causes of death, medical history, and other factors that could affect results, such as the use of cholesterol-lowering drugs and risk factors such as smoking, lack of physical exercise, BMI, diabetes and high blood pressure.

Dr Kleber said: "We found that higher concentrations of TFAs in the membranes of red blood cells were associated with higher LDL or 'bad' cholesterol, but also with lower BMI, lower fats in the blood (triglycerides) and less insulin resistance and, therefore, a lower risk of diabetes. We were surprised to find that naturally occurring TFAs were associated with a lower rate of deaths from any cause, and this was driven mainly by a lower risk of sudden cardiac death."

Dr. Kleber also points out that the researchers did not find an increase in mortality with an increase in the concentrations of industrially produced TFAs. The findings were in sharp contrast to observations made in the U.S. and this may be because the study participants were German. TFA consumption is much higher in the U.S. as compared to Europe.

Dr. Kleber explains that the results show that low levels of industrially produced TFA did not pose a health risk, and therefore could be regarded as safe. In addition, the researchers also found that naturally occurring TFA found in milk and meat from ruminant animals is associated with better blood glucose levels and fewer deaths from any cause, but especially a lower risk of sudden cardiac death. Dr. Kleber highlights the need to use a new approach to investigate TFAs and to ensure that naturally occurring TFAs are differentiated from industrially produced TFAs.

Source: [European Society of Cardiology](#)

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