

Trans fatty acids (TFA) are unsaturated fatty acids, which have one or more double bonds in the trans configuration. Their main dietary sources are partially hardened fats and food products containing partially hardened fats (margarines, shortenings, bakery products, and fast foods). TFA are thought to increase the risk of coronary heart disease and type 2 diabetes. These fatty acids have adverse effects on blood lipid levels, increasing LDL-cholesterol while decreasing HDL-cholesterol. Consumption of TFA can also impair insulin sensitivity. High intake of TFA is associated with systemic inflammation, activation of immune functions and endothelial dysfunction. Hypotheses also exist that TFA may have adverse effect on the metabolism of essential fatty acids and foetus development. The concentration of TFAs in subcutaneous fat is a very good indicator of dietary exposure of TFA. This concentration reflects long-term dietary intake of these fatty acids. Levels of TFA in human milk are more variable; however, it is quite simple to obtain a sample of human milk.

The purpose of our studies was to determine (a) content of TFA in subcutaneous fat samples from persons with coronary atherosclerosis and from persons with no sign of coronary disease and (b) the content of TFA in early human milk of breast-feeding women from the general population and in milk of Roma women, as an indicator of dietary exposure.