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Fatty Acid Composition of Fish and Commonly Consumed Food in a Cree Community in Northern Quebec

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Fish risk and benefit statements in communities suffering from a high prevalence of diabetes and its complications need to consider the broader view of dietary choices and cooking methods and their health implications. The purpose of this study was to evaluate the fatty acid content including *trans* fatty acids, of fish cooked in a variety of ways, and the most commonly consumed fast foods in the community.

Fatty acid content of food items were examined by gas chromatography using a 100 m capillary column. The omega-3 to omega-6 ratio was high for boiled or smoked trout, walleye and whitefish ($\geq 2.3 : 1.0$) and low for fried fish (Pike: 0.7 : 1; Trout 0.8 : 1; and Walleye 0.2 : 1). Cooked fish, whether boiled, baked, smoked or fried had an overall mean *trans* fatty acid content of only 0.06% of total fatty acids, and the saturated fat content of fish ranged from a low of 0.4 g/100 g wet wt for boiled fish, to an average of 1.8 g/100 g wet wt for fried fish. In contrast, high levels of saturated and *trans* fats were found in fast foods. Deep-fried and battered or roasted chicken skin had saturated and *trans* fat content of 8.52 and 1.68 g/100 g wet wt and 15.4 and 0.59 g/100 g wet wt respectively, but the chicken meat with skin removed contained very little saturated and *trans* fat. A high *trans* fat content was found in other fast foods such as French fries, chicken nuggets, poutine (fries with cheese and gravy) and chicken wings, had high levels of *trans* fat, with mean values of 11.8%, 6.2%, 5.6% and 2.6% by weight of total fatty acids, respectively.

The promotion of traditional food, including fatty fish, along with healthy cooking procedures would be an effective means of reducing chronic disease morbidity and mortality in Cree communities.