Artificial trans fatty acids do not belong in our food

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A few months ago, the US Food and Drug Administration (FDA) made a preliminary determination that partially hydrogenated oils, the major source of trans fatty acids in processed foods, are not considered safe for American consumption. If this determination becomes final, the expected result is the elimination of all industrially produced trans fatty acids in the United States, which could save an estimated 3000–7000 lives per year.[1] This is great news for Americans, and is being promoted as good news for Canadians, who may benefit from spillover effects. But why should we be content with spillover? Why can't Canadian consumers be afforded the same level of protection?

Trans fatty acids serve our bodies no nutritional purpose. The National Research Council recommends that consumption levels of trans fatty acids be as low as possible.[2] In addition to being nonessential, trans fatty acids are harmful to human health. On a per-calorie basis, trans fatty acids have been shown to increase the risk of coronary heart disease more than any other macronutrient, including saturated fats.[3–5] The FDA's proposed ban applies only to partially hydrogenated oils, a major, but not the only, source of trans fatty acids. Low levels of naturally occurring trans fatty acids, known as ruminant trans fatty acids, are found in dairy products and meats. The evidence regarding the health effects associated with the consumption of ruminant trans fatty acids is limited and inconclusive. Some argue that these trans fatty acids pose less of a health risk, whereas others argue that they pose the same risk as other trans fatty acids, but are less of a concern because consumer intake is generally limited.

Partially hydrogenated oils, in contrast with ruminant trans fatty acids, are entirely artificial and would not be in our food supply if they weren't economically attractive to the food industry. Once marketed as a more healthful alternative to saturated fats, partially hydrogenated oils were used to replace butter, lard, palm oil and coconut oil in many popular processed foods, including baked goods and frozen foods. Because the risks associated with the consumption of partially hydrogenated oils are now well-known, one can only assume that they owe their staying power to the fact that they are cheap, semisolid at room temperature and have a long shelf-life.

One way governments can protect their citizens from toxic substances is to ban them. A decade ago, Denmark banned trans fatty acids. Danish rules impose a maximum of 2% trans fatty acid in oils and fats (except those of animal origin) destined for human consumption.[6] Another strategy is to impose voluntary restrictions and rely on labelling, as the Canadian government has done. It suggests that trans fatty acids be limited to 2% of total fat content in vegetable oils and margarine and to 5% in other foods. Labelling laws put the burden on consumers by requiring them to check the labels on every item in their grocery carts, which most consumers likely don't do. Product labelling may be least effective among the most vulnerable, who may not understand the dangers of trans fats, and who lack the freedom to choose more healthful, and perhaps more costly, alternatives. But even the most label-conscious consumers are relatively helpless when it comes to meals and snacks purchased in restaurants.

Like tobacco, trans fatty acids are not beneficial at any dose.[2] In Canada, tobacco is regulated and is not sold to minors. Minors, however, may be the biggest consumers of trans fatty acids. The federal Trans Fat Monitoring Program measured the levels of trans fatty acids in a variety of foods from restaurants, fast-food chains, cafeterias in institutions, and prepackaged foods.[7] Children's hospitals, high schools and colleges were all found to have offerings that were not the least bit compliant with the government's voluntary restrictions. In 2008, trans fatty acids made up an estimated 1.52%–1.57% of the total energy intake of a Canadian child, compared with 1.4% for those among the general Canadian population.[8] The World Health Organization's recommended limit of trans fatty acid intake is less than 1%.[9]

A ban on partially hydrogenated oils is not only evidence-based, but is also publicly supported and economically sound. Data indicate that 84% of Canadians support regulations that ban trans fatty acids in restaurants and schools.[10] The Canadian Agricultural Innovation Research Network estimates that a ban on trans fatty acids would save Canadians more than $19 billion in health care expenses and cost food producers less than $1 billion.[11]

The Canadian government has recognized the dangers associated with the consumption of partially hydrogenated oils, and thanks to voluntary restrictions and labelling laws, the food we eat today is lower in trans fatty acids than the food we ate in previous decades. But why stop here? Why not ban trans fatty acids altogether? Partially hydrogenated oils are not safe for American consumption, and they are not safe for Canadian consumption either.

For references, see Appendix 1, available at www.cmaj.ca/lookup/suppl/doi:10.1503/cmaj.140393/-/DC1

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