

[One of the authors responds:]

Françoise Bouchard and associates suggest that in our study¹ we should have compared total suicide rates within custody to total suicide rates in the community, rather than comparing strangulation-specific suicide rates. We submit that such a change in comparison groups would not change the message of our paper. By using the strangulation-specific rates, it is likely that we underestimated the suicide rate in prisons, since deaths from poisoning or toxic effects probably included some suicides.

Our observations do not support a decline in rates over the period of observation. We identified several people who committed suicide very soon after the end of a "suicide watch" and others who clearly had a history of suicide attempts for whom no intervention was attempted. The simple fact remains that death by suicide and death by overdose within the incarcerated population is a major health concern. We look forward to observing the impact on prisoners' safety of the recent changes in CSC's suicide-prevention policy, and we would support the adoption of additional policies to address the burden of death by overdose.

Marc Daigle raises some interesting points. It may be difficult to directly compare suicide rates between Ontario and other provinces, because (as we pointed out¹) the Ontario coroner's system may be using a somewhat more restrictive definition of suicide than is used elsewhere. The apparently greater rate of violent death among "non-incarcerated delinquents" than in the general population is interesting, if not entirely surprising. We also endorse Daigle's statement that correctional facilities are not the right place to treat mental illness and would support a wider application of diversion programs for both mentally ill and addicted people.

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Managing hypertriglyceridemia

On reading the article about hypertriglyceridemia by Michelle Fung and Jiri Frohlich,¹ I wondered about the recommendation for a diet containing less than 10% of calories from fat. The report of an expert panel² cited by Fung and Frohlich on this point recommends that 25% to 35% of caloric intake be derived from fat. Clarification of the recommendation for a 10% diet would be appreciated.

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1. Fung MA, Frohlich JJ. Common problems in the management of hypertriglyceridemia [published erratum appears in *CMAJ* 2003;168(1):16]. *CMAJ* 2002;167(11):1261-6.
2. Executive summary of the third report of the National Cholesterol Education Program (NCEP) Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III). *JAMA* 2001; 285:2486-97.

The ratio of high-density lipoprotein cholesterol to triglycerides has been documented as one of the most important cardiovascular risk factors.¹ However, Michelle Fung and Jiri Frohlich² perpetuate the myth that a low-fat diet will be helpful in the management of this problem.

Lichtenstein and Van Horn³ extensively reviewed this approach a few years ago. Examination of their evidence suggests that a low-fat dietary regimen will produce a result opposite to the desired effect: triglyceride levels will actually increase.

This outcome is not surprising if one considers that insulin resistance

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New material

may be one of the driving forces behind elevated triglyceride levels. In fact, insulin resistance may be the culprit in many of the problems observed in high-triglyceride states.^{4,5}

Since only 3 macronutrient components are available for any diet, a low-fat diet automatically entails increases in the protein and carbohydrate fractions. Most people eat a fixed amount of protein, so the majority of the calories would be shifted to carbohydrates. The problem occurs when the person consumes grains with a high glycemic index, rather than vegetables, as an alternative to fat. The grains are rapidly metabolized to simple sugars, which are clearly associated with elevated triglyceride levels.⁶

An alternative therapeutic approach is to radically reduce consumption of all grains and simple sugars. In contrast to the pharmacologic options that are traditionally applied, it is simple and inexpensive to substitute green leafy vegetables, which have a low glycemic index, for grains and sugars, and there are no toxic effects.

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[The authors respond:]

We thank Kristen MacEachern and Joseph Mercola for their

comments. We apologize for the error in our original article¹ suggesting that hypertriglyceridemia be treated with a 10% fat diet (see correction in the Jan. 7, 2003, issue of *CMAJ*). The recommendation of a 10% fat diet was intended for treatment of chylomicronemia.

Mercola makes the valid point that low-fat diets generally lead to increases in fasting serum triglyceride levels. This issue has been extensively reviewed by Anderson and colleagues,² who, using a formula developed by Mensink and Katan,³ calculated that depending on the presence or absence of fibre in a low-fat diet, there may be an increase of between 0.5 and 0.8 mmol/L in fasting serum triglycerides.

However, measured changes in fasting serum triglyceride levels, although small (less than 0.1 mmol/L), were in the opposite direction.⁴⁻⁶ Postprandial triglycerides decline with low-fat diets but increase with lower-carbohydrate, high-protein diets, which are higher in fat content.⁷ Postprandial remnant particles, particularly the triglyceride-rich particles, are the most atherogenic. This finding suggests that despite somewhat higher fasting serum triglyceride levels, the lower-fat diets may be preferable. In addition, if the sources of carbohydrates are foods with a low glycemic index (e.g., whole-wheat breads, cereals, grains and legumes) and if the amount of fibre in the diet is increased, these changes in triglyceride levels appear to have little clinical significance.

Another argument in favour of lower-fat diets is the epidemiologic data on the relation between diets higher in animal fats and risk of coronary artery disease. Lower-fat diets have been associated with a reduction in nonfatal cardiovascular events.⁸ Furthermore, there are indications that higher-fat diets may be associated with insulin resistance.^{9,10}

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Which way is up?

Why would you put a picture that is upside down on the front cover of *CMAJ* (168[2]:1)?

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[Editor's note:]

We usually turn ourselves inside out trying to get things right, but this time we stood on our heads.