



## Editorial

# What if alcohol were harmful, even in moderation?

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**M**ost Canadians drink alcohol. According to Health Canada's most recent statistics, approximately 80% of Canadians consume alcohol:

In 2015, 77% (or 22.7 million) of Canadians reported consuming an alcoholic beverage in the past year, a prevalence unchanged from 2013 (76% or 21.9 million). There was a higher prevalence of males than females reporting past-year alcohol use (81% or 11.8 million males and 73% or 10.9 million females).<sup>1</sup>

Most people who drink alcohol drink in moderation. However, according to a report from Canada's Chief Public Health Officer, at least 3.1 million Canadians drink enough to be at risk of immediate injury and harm, with at least 4.4 million at risk of chronic health effects such as liver cirrhosis and various forms of cancer.<sup>2</sup> Approximately 30 million Canadians were aged 18 or older in 2015, meaning that 10% to 15% of Canadian adults drink too much. This is an alarming statistic.

Evidently, we all know that drinking alcohol in excess negatively affects our health and well-being, but what constitutes moderate consumption? According to current norms, no more than 10 glasses per week or 2 glasses per day for women, and no more than 15 glasses per week or 3 glasses per day for men. Alcohol-free days are also recommended to avoid developing a habit. And what constitutes so-called reasonable consumption? That little glass (or 2) of wine with supper, supposedly "good for the heart"? Those 2 or 3 beers once or twice a week with friends or at home just to "relax"? Or perhaps that glass (or 2) of scotch or cognac to help us "digest"?

Could it be that what we consider moderate consumption is actually harmful? An article recently published in the *BMJ*, entitled "Moderate alcohol consumption as risk factor for adverse brain outcomes and cognitive decline: longitudinal cohort study," raises this question.<sup>3</sup> The study sought to determine whether moderate alcohol consumption had positive or negative effects on the brain. Moderate consumption was defined as less than 14 units of alcohol per week for women (or no more than 5 glasses of 175 mL of 14% wine, or 4 pints of 568 mL of 5.2% beer), and less than 21 units per week for men (or no more than 9 glasses of 175 mL of 14% wine, or 7 pints of 568 mL of 5.2% beer).


The above is a substudy of Whitehall II, a large-scale project initiated in 1985.<sup>4</sup> This longitudinal observational

study randomly selected 550 non-alcohol-dependent men and women from the cohort study to compare the effects of alcohol abstinence with those of light or moderate consumption. The objective was to determine whether there was any association between the degree of alcohol consumption and its effects on the brain. Analyses were based on a multitude of tests and assessments (including magnetic resonance imaging and a range of neuropsychological tests) meant to evaluate structural and functional damage.

The results? Alcohol consumption, even in moderation, was associated with harmful effects on the brain, particularly hippocampal atrophy and diminishing verbal fluency. The results led the authors to support the recent reduction in recommended limits for alcohol consumption in the United Kingdom and encourage the United States to follow suit.

How should we interpret these results? It is hard to say, because the article is quite complex. The sections on methods and statistics, with their multitudes of diagnostic tests and controls with confounding variables, are spread over several pages. In reality, the article is so complicated that it is difficult for mere mortals to make much sense of it.

Nevertheless, the results are quite worrisome. Nobody wants to find themselves with an atrophied hippocampus, with shrivelled gray matter, or incapable of naming a dozen words beginning with a given letter over a period of 60 seconds.<sup>5</sup> If the adverse effects reported by the study are well and truly correct, then we should soon see the United States and Canada following the United Kingdom's lead in recommending that we reduce our alcohol consumption further.

For further emphasis, here is a recent report by the American Institute for Cancer Research<sup>6</sup> establishing that alcohol consumption increases the risk of developing breast cancer (high level of evidence). As it stands, alcohol, even in moderation, certainly is not getting much good press these days. 

### References

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