

Alcohol drinking patterns and risk of liver disease in women



The UK Million Women Study¹ continues to provide rich data and answer important questions. In the study by Rachel F Simpson and colleagues,² published in *The Lancet Public Health*, the drinking patterns of 401 806 women between 2000 and 2003 were examined in relation to subsequent admission to hospital or deaths due to liver disease. Liver cirrhosis was diagnosed on the basis of the WHO International Classification of Diseases tenth revision (ICD-10) codes K70 or K74. Of admissions, accident and emergency attendances, and outpatient appointments at NHS hospitals in England in 2016–17,³ 53 020 K70 and K74 episodes were reported, with a further 22 212 coded I85 (oesophageal varices), K72.1–72.2 (hepatic failure), or K76.6 (portal hypertension); almost all these patients would have had cirrhosis. The absolute risk of cirrhosis might therefore have been underestimated in Simpson's study, but these omissions would have affected all groups equally.

Simpson and colleagues reported that daily drinkers consumed more alcohol (161 g/week) than non-daily drinkers (134 g/week), and after correction for this and other confounding factors, daily drinkers had a higher relative risk of liver cirrhosis (1.61, 95% CI 1.40–1.85) compared with non-daily drinkers. Prospective studies in men have previously linked daily drinking to an increased risk of liver cirrhosis,^{4,5} but Simpson and colleagues' study confirms that irrespective of the quantity of alcohol consumed, the frequency of drinking is an important risk factor. Other messages in the paper are intriguing. Around half of the women reported usually drinking alcohol with meals and their relative risk of cirrhosis was 0.69 (0.62–0.77) compared with the remainder who drank in a varied manner or predominantly not with meals. The women who drank without meals were more likely to be smokers with higher levels of health inequality than those who drank with meals.

In 2017, 3255 women had liver disease in England and Wales compared with 2377 in 2001⁶—an increase of more than one third, and the highest total on record, which is frightening. Liver disease and primary liver cancer (usually the result of chronic liver disease), resulted in 27 000 years of female working life lost (YWLL) in 2017, more than the 14 000 YWLL from ischaemic heart disease and exceeded only by 36 000 YWLL because of breast cancer.⁷ Furthermore, even moderate alcohol

consumption of around one bottle of wine per week increases the risk of breast cancer by around 10%.⁸

The reduced likelihood of developing cirrhosis (risk reduced by half) as a result of drinking alcohol only with meals and on fewer than 7 days per week might appear to be reassuring, but the results cannot be extrapolated to other age groups who exhibit different drinking behaviours. Additionally, the study does not include other manifestations of excess alcohol consumption, such as hypertension, diabetes, metabolic syndrome, and the increase in frequency of some cancers,⁹ but also increased violence. The relative risk of developing cirrhosis does not differ substantially when examined in relation to body-mass index (kg/m²) of less than 25 and more than 25, although some evidence points to synergistic effects of obesity and alcohol in the various disease manifestations.¹⁰

The fifth report of the *Lancet* Standing Commission on Liver Disease in the UK¹¹ paints a sobering picture. In 2016–17, the primary or secondary diagnosis of more than 1.1 million hospital admissions was related to alcohol. The number of alcohol-related deaths continues to rise in the UK, and in 2016, drink-driving accidents in England and Wales increased by 20%. Alongside this increase is the worrying reduction in local authority funding for addiction services in England, which amounted to 18% between 2013 and 2014, and 2017 and 2018. Services currently reach only 18% of the in-need dependent population.

Awareness of drinking guidelines remains low in the UK. In 2016, the Chief Medical Officer of the Department of Health recommended weekly alcohol guidelines of 14 units per week for adults,¹² but 2 years after the release of these guidelines, only 16% of the public were aware of them.¹³ According to these guidelines, no level of drinking is completely safe for women. However, there is great public support for the guidelines to be included in health warnings on alcohol labels, which the drinks industry refused to take on board. Until the government takes the deaths of women from liver disease more seriously, better drinking advice is probably the best help they are likely to get, and the most effective approach shown to date is the Minimum Unit Price policy, which the Scottish government has had the sense to adopt.

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We declare no competing interests.

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- 1 The Million Women Study. Oxford: The University of Oxford. 2018. <http://www.millionwomenstudy.org/> (accessed Nov 15, 2018).
- 2 Simpson RF, Hermon C, Liu B, et al. Alcohol drinking patterns and liver cirrhosis risk: analysis of the prospective UK Million Women Study. *Lancet Public Health* 2018; published online Nov 21. [http://dx.doi.org/10.1016/S2468-2667\(18\)30230-5](http://dx.doi.org/10.1016/S2468-2667(18)30230-5).
- 3 NHS. Hospital Episode Statistics (HES). <https://digital.nhs.uk/data-and-information/data-tools-and-services/data-services/hospital-episode-statistics> (accessed Nov 15, 2018).
- 4 Kamper-Jorgensen M, Gronbaek M, Tolstrup J, Becker U. Alcohol and cirrhosis: dose-response or threshold effect? *J Hepatol* 2004; **41**: 25–30.
- 5 Askgaard G, Gronbaek M, Kjaer MS, Tjonneland A, Tolstrup JS. Alcohol drinking pattern and risk of alcoholic liver cirrhosis: a prospective cohort study. *J Hepatol* 2015; **62**: 1061–67.
- 6 Office for National Statistics. Mortality statistics. 2016. <https://www.nomisweb.co.uk/articles/960.aspx> (accessed Nov 15, 2018).
- 7 Office for National Statistics. Deaths registered in England and Wales (series DR): 2017. 2017. <https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/bulletins/deathsregisteredinenglandandwalesseriesdr/2017> (accessed Nov 15, 2018).
- 8 World Cancer Research Foundation. Food, nutrition, physical activity and the prevention of cancer: a global perspective. 2007. <https://www.wcrf.org/sites/default/files/english.pdf> (accessed Nov 15, 2018).
- 9 Burton R, Henn C, Lavoie D, et al. A rapid evidence review of the effectiveness and cost-effectiveness of alcohol control policies: an English perspective. *Lancet* 2017; **389**: 1558–80.
- 10 Hart CL, Morrison DS, Batty GD, Mitchell RJ, Davey SG. Effect of body mass index and alcohol consumption on liver disease: analysis of data from two prospective cohort studies. *BMJ* 2010; **340**: c1240.
- 11 Williams R, Alexander G, Aspinall R, et al. Gathering momentum for the way ahead: fifth report of the *Lancet* Standing Commission on Liver Disease in the UK. *Lancet* 2018; published online Nov 22. [http://dx.doi.org/10.1016/S0140-6736\(18\)32561-3](http://dx.doi.org/10.1016/S0140-6736(18)32561-3).
- 12 Department of Health. UK Chief Medical Officers' Alcohol Guidelines Review. 2016. <https://www.gov.uk/government/publications/alcohol-consumption-advice-on-low-risk-drinking> (accessed Nov 15, 2018).
- 13 Awareness of drinking guidelines remains low, 2 years after their release. Alcohol Health Alliance UK. 2018. <http://ahauk.org/awareness-drinking-guidelines-remains-low-2-years-release/> (accessed Nov 15, 2018).