

# 30 days in medicine

## Trans-fat restrictions linked to fall in cardiovascular events

Counties in the state of New York, USA, that have introduced restrictions on trans-fatty acids in restaurants and takeaway outlets have seen significantly fewer admissions for cardiovascular events than counties with no restrictions, according to a study published in *JAMA Cardiology* recently.

Partially hydrogenated oils used in baked goods, yeast breads, fried foods, chips, biscuits and margarines are the main source of trans-fatty acids in the diet. In 2007, New York City restricted trans-fatty acids in all public eating places. However, trans-fatty acids are still found in some packaged foods, and from 2018, the US Food and Drug Administration will prohibit the unrestricted use of partially hydrogenated oils in all food without prior approval.

In the study, researchers compared the number of admissions for myocardial infarction (MI) or stroke in 11 counties that restricted trans-fatty acids with 25 counties with no restrictions from 2002 to 2013. Although these events were already declining throughout New York state before the first restrictions were brought in, after 2006, populations with restrictions experienced significant additional declines in rates of admission for MI or stroke compared with populations with none. The significant decline in MI and strokes came at least 3 years after the restrictions were implemented.

Other public health measures that coincided with the restrictions on trans-fatty acids, such as bans on smoking in parks, beaches and pedestrian walkways, could also have affected rates of cardiovascular events, but the researchers remain convinced that trans-fatty acid restriction is an important factor.

Brandt E, Myerson R, Perrailon M, et al. Hospital admissions for myocardial infarction and stroke before and after the trans-fatty acid restrictions in New York. *JAMA Cardiol* 2017 (epub 12 April). <http://dx.doi.org/10.1001/jamacardio.2017.0491>

## 'Extreme' comorbidity common in patients with chronic heart failure

A primary care study in the UK has found that patients with chronic heart failure (CHF) often have seven or more conditions – 'extreme' comorbidity – and take multiple medicines. This is the first study of heart failure in the community, which is where most patients receive care. The researchers analysed data from the Primary Care Clinical Informatics Unit at the University of Aberdeen on 1 424 378 patients aged >18 years, registered with 314 practices in Scotland. The team identified 17 285 patients (1.2%) with a diagnosis of CHF due to left ventricular systolic dysfunction. The results, reported in the *British Journal of General Practice*, showed that patients with CHF had much higher levels of comorbidity than patients without, after standardising for age, sex and social deprivation.

The most striking difference was in the proportion of patients with seven or more conditions, as the odds of this 'extreme' comorbidity were four times higher in patients with chronic heart failure than in those without (13.9% v. 1.1%; odds ratio (OR) 4.10, 95% confidence interval (CI) 3.90 - 4.32). Patients with chronic heart failure had nearly eight times the odds of coronary heart disease compared with controls (OR 7.98, 95% CI 7.72 - 8.25), in addition to a higher prevalence of atrial fibrillation and chronic kidney disease. They also had considerably higher rates of anxiety and stress-related conditions.

Polypharmacy, defined as taking five or more repeat drugs, was substantially higher in patients with chronic heart failure. However, much of the additional prescribing was accounted for by comorbidity.

Researchers recommended that clinical guidelines and health services should put much greater emphasis on managing this complexity, as this is clearly 'the norm'.

Baron-Franco B, McLean G, Mair FS, et al. Comorbidity and polypharmacy in chronic heart failure: A large cross-sectional study in primary care. *Br J Gen Pract* 2017;67(658):e314-e320. <http://dx.doi.org/10.3399/bjgp17X690533>

## Sugary drinks tax in California cut sales by 10%

Sales of sugar-sweetened drinks in Berkeley, Calif., fell by almost 10% after an excise tax was introduced, according to research published in *PLoS Medicine*. The tax – of one US cent per fluid ounce on drinks with added caloric sweeteners, adding an average of 68 cents to a USD2 bottle of cooldrink and 12 cents to a USD1 can – was introduced in 2014. In the first full year of the tax, the city raised USD1 416 973 (about USD12 per capita), and the money is being used for child nutrition and community health programmes.

One year after the tax was implemented, sales of sugar-sweetened drinks had fallen by 9.6% in Berkeley, while sales of untaxed beverages had risen by 3.5%. Sales of water rose by 15.6%, and sales of untaxed fruit, vegetable and tea drinks by 4.4%. Sales of sugar-sweetened beverages in surrounding areas with no tax rose by 6.9%. The researchers found no evidence of higher grocery bills for consumers or loss of store revenue after the tax.

Berkeley residents are relatively affluent and are low consumers of sugary drinks, consuming 34% of the US average, but buying patterns changed in spite of this, which the authors say is promising.

Silver L, Ng S, Ryan-Ibarra S, et al. Changes in prices, sales, consumer spending, and beverage consumption one year after a tax on sugar-sweetened beverages in Berkeley, California, US: A before-and-after study. *PLoS Med* 2017 (epub 12 April). <http://dx.doi.org/10.1371/journal.pmed.1002283>

## Waist measurement a stronger prediction of death risk than BMI

For some time, researchers have thought that waist measurement is a better predictor of risk of all-cause mortality than body mass index (BMI), and now a large study published in the *Annals of Internal Medicine* backs this up. The study included 42 702 participants from 10 years of the Health Survey for England and the Scottish Health Survey. The participants' mean age was 57.7 years, and 46.8% were men. Of the participants 43.7% were overweight (BMI 25 - <30) and 25% were obese (BMI ≥30).

The overall prevalence of central obesity, defined as a waist-to-hip ratio of ≥0.85 in women and ≥0.90 in men, was 53%. The prevalence of central obesity among normal-weight, overweight and obese participants was 28.7%, 60.2% and 72.7%, respectively. A total of 5 355 people died over 383 542 person-years of follow-up. Compared with the normal-weight participants without central obesity, only normal-weight and obese people with central obesity were at increased risk of all-cause mortality. Compared with normal-weight participants without central obesity, all those with central obesity were at increased risk for death from cardiovascular disease, and there was no difference between men and women.

Hamer M, O'Donovan G, Stensel D, Stamatakis E. Normal weight central obesity and risk for mortality. *Ann Intern Med* 2017 (epub 25 April). <http://dx.doi.org/10.7326/L17-0022>

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