0 to 2 months after delivery: breastfeeding for > 2 to 5 months, > 5 to 10 months and > 10 months was associated with HR values of 0.54, 0.50 and 0.43 respectively.

Observational studies can only show association, not causation. This study however controlled for as many confounding variables as possible and the authors' conclusion that breastfeeding has an independent protective effect against progression to type 2 diabetes is plausible.

Both the intensity and duration of breastfeeding were associated with a reduced hazard ratio for developing incident type 2 diabetes after controlling for known confounding factors.

Promoting breastfeeding especially in those who are most at risk of type 2 diabetes does seem to be worthwhile.

DR CHRIS BARCLAY

● **Gunderson EP, Hurston SR, Ning X et al. Lactation and progression to type 2 diabetes mellitus after gestational diabetes mellitus. A prospective cohort study. *Ann Intern Med* 2015;163(12):889-898 doi:10-7326/M15-0807**

Obstetrics and gynaecology

Do significant menopausal symptoms raise the risk of CHD?

A large longitudinal study from Australia has found that women who often experience vasomotor menopausal symptoms such as hot flushes and night sweats appear to be at greater risk of coronary heart disease (CHD).

Women in the Australian Longitudinal Study on Women's Health (ALSWH), born between 1946 and 1951, were followed up at three-year intervals for 14 years. They were sent a series of six questionnaires between 1996 and 2010. In each survey they were asked whether they had had heart disease diagnosed. They were also asked about hot flushes and night sweats. The responses they could select from were: never, rarely, sometimes or often.

After exclusions and non-responses, 11,442 women who provided sufficient data for analysis on both vasomotor menopausal symptoms and CHD were analysed. Of these, 187 reported incident CHD or had died of CHD.

Demographic factors (e.g. high BMI, lower educational achievement, smoking) were associated with the incidence and severity of symptoms. Vasomotor menopausal symptoms were more common and severe among less healthy women.

In an age-adjusted analysis women who had vasomotor menopausal symptoms had a more than two-fold risk of CHD:

- Hot flushes: OR 2.18 (95% CI: 1.49-3.18) P < 0.001 for trend
- Night sweats: OR 2.38 (95% CI: 1.62-3.50) P < 0.001 for trend

After controlling for smoking, alcohol, BMI, diabetes, physical activity and education, the risks were attenuated but remained significant. The risk of CHD was:

- 70% higher in those reporting hot flushes often: OR 1.70 (95% CI: 1.16-2.51 P < 0.01 for trend)
- 84% higher in those reporting night sweats often OR 1.84 (95% CI: 1.24-2.73 P < 0.004 for trend)

To date the evidence suggesting that women who experience significant vasomotor menopausal symptoms have a higher risk of CHD has been mixed.

In this study, there was no way of controlling for individual specific CHD risks such as lipid anomaly or family history of CHD. Ethnicity, which is a significant factor in menopausal studies, was not addressed.

Nevertheless a significant association was demonstrated particularly for night sweats.

The cause of this association is not known though the authors speculate on adverse inflammatory and endothelial factors.

In my own practice I will look at CHD risk a little more closely in women who have a bad climacteric.

DR CHRIS BARCLAY

● **Herber-Gast GMC, Brown WJ, Mishra GD. Hot flushes and night sweats are associated with coronary heart disease risk in midlife: a longitudinal study. *BJOG* 2015;122:1560-67**

Epidemiology

Alcohol sales and drinking related injuries presenting to A&E

Higher volume sales from off-premises and the number of local on-premises alcohol outlets were associated with increased risk of A&E attendance with drinking-related problems, in a study from Australia. The risk was substantially increased when extended hours trading was in place.

The authors used multiple data sources. First, information on emergency department attendance between 2002 and 2010 was obtained from the nine public hospitals in the Perth area, focusing on wholly alcohol-related attendance and presentations with a range of injuries. Attendees were identified by their place of residence using postcode data.

Second, the authors identified the numbers of licensed alcohol outlets in localities, alcohol volume purchased from wholesalers for each outlet (an indirect measure of alcohol sold), and data relating to extended hours trading permits at outlets during the study period.

In analysing the data a framework was adopted to take into account differences in road networks, congestion levels and travel patterns between localities.

It has long been established that alcohol use is associated with increased risk of injury and presentation for emergency treatment.

The authors were surprised to find that counts of off-premises outlets were associated negatively with alcohol-related injury, with a 3.9-4.9% »