

Cardiovascular journals

A high intake of Western-style fast food kills and causes diabetes: Clear evidence from 63 257 people



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Despite continued bad press for the Western-style fast food, it thrives and stokes the diabetes pandemic – the current International Diabetes Federation prevalence estimate is more than 371 million cases of diabetes, worldwide (www.diabetesatlas.org). Is there any evidence that

Western-style fast is bad for you specifically, or is the resultant BMI alone the major concern?

In this report from the Singapore Chinese Health Study, Chinese men and woman aged 45–75 years were studied. At baseline, 63 257 people completed a face-to-face interview in which they were asked about diet, tobacco use, physical activity and medical history, and had their height and weight measured. In total, 83% of the cohort (52 322 people) then had a telephone interview approximately 6 years later (my estimate).

The Western-style fast food diet was defined as including hamburgers/cheeseburgers, French fries, pizza, sandwiches, deep-fried chicken, and hot-dogs. The “usual” Singaporean snacks were foods such as dim sum, which comprises foods as diverse as savoury

pastries, dumplings, noodles and smaller meat dishes. The categories of Western-style fast food diet were: no intake; an intake frequency of 1–3 times per month, once per week, and two or more times per week. The highest frequency Western-style fast food diet intake group was associated with a highly significant 27% increased risk of diabetes over a mean 5.7-year follow-up period in comparison with the “no intake” group. Similarly, with respect to CHD mortality, there was a 56% increased risk over a 13.4-year mean follow-up period.

Astonishing, but of real importance when planning food policy, is the finding that the above associations did not differ when adjusted for age, sex, BMI, smoking status, educational attainment or length of follow-up.

What is the putative mechanism? This is not elaborated upon in the report but a Western-style fast food diet may contribute to insulin resistance through being of higher glycaemic index, and carry a greater processed-food burden. Western-style fast food diet may also be a marker of a poor diet and unhealthy lifestyle generally. Red meat and dairy foods are also suggested as an adverse risk factor in Western-style fast food diet, especially with the lack of fresh fruit and vegetables.

For those of us who like Western-style fast food diet, please note that an intake frequency of 1–3 times per month appeared to be as “safe” as no intake. That, at least, is good news.

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CIRCULATION

Western-style fast food intake: T2D risk and coronary heart disease mortality

Readability	✓✓✓✓
Applicability to practice	✓✓✓✓✓
WOW! factor	✓✓✓✓✓

1 The authors investigated the relationship between Western-style fast food intake and both incidence of T2D and coronary heart disease (CHD) mortality in Chinese Singaporeans aged 45–75 years with no history of diabetes.

2 Individuals were selected from the Chinese Health Study; a total of 52 584 people were included in the CHD analysis and 43 176 in the T2D analysis.

3 Intake frequencies of six different Western-style fast food items were obtained from a food frequency questionnaire completed by the study participants. CHD mortality data were collected via registry linkage and incident T2D identified during follow-up interview.

4 A total of 1379 deaths resulting from CHD and 2252 incident cases of T2D were identified.

5 Consuming Western-style food items ≥ 2 times per week was associated with a 27% increased risk of developing T2D (hazard ratio [HR], 1.27; 95% confidence interval [CI], 1.03–1.54) and a 56% increased risk of dying from CHD (HR, 1.56; 95% CI, 1.18–2.06) compared with no intake of Western-style food items.

6 The associations were independent of overall dietary pattern, energy intake and BMI.

7 The authors concluded that in an Eastern population, relatively frequent intake of Western-style fast food was associated with a moderately increased risk of developing T2D and dying from CHD, and that further attention to global epidemiological and nutrition transitions is needed.

Odegaard AO, Koh WP, Yuan JM et al (2012) Western-style fast food intake and cardiometabolic risk in an Eastern country. *Circulation* **126**: 182–8

INTERNATIONAL JOURNAL OF CARDIOLOGY

ACE inhibitors lower the risk of new-onset diabetes

Readability	✓✓✓
Applicability to practice	✓✓✓✓
WOW! factor	✓✓✓

1 The authors investigated the association between angiotensin-converting enzyme inhibitors (ACEIs) and risk of new-onset T2D.

2 Electronic and manual database literature searches identified nine RCTs with 92 404 people (72 128 of whom did not have T2D at baseline), comparing ACEIs with placebo, diuretics, beta-blockers and calcium-channel blockers (CCBs).

3 Trials were performed in people without diabetes who had hypertension, and people with coronary artery disease (CAD), heart failure, impaired glucose tolerance (IGT) or impaired fasting glucose (IFG).

4 There were significantly fewer new cases of T2D in the ACEIs group compared with the control group (2325/30 228 versus 3933/41 900; odds ratio [OR], 0.80; 95% confidence interval [CI], 0.71–0.90; $P=0.0003$), irrespective of achieved blood pressure.

5 The risk of new-onset T2D was significantly reduced in people taking ACEI therapy compared with placebo [OR, 0.79; 95% CI, 0.64–0.96], diuretics/beta-blockers (OR, 0.78; 95% CI, 0.65–0.93), or CCBs (OR, 0.85; 95% CI, 0.73–0.99).

6 Ramipril treatment did not significantly reduce T2D incidence in people with IGT or IFG (OR 0.91 [0.79, 1.05]), but did significantly increase regression to normoglycaemia in this group.

7 The authors concluded that ACEIs are beneficial in preventing T2D – an additional benefit to people with hypertension, CAD and other cardiovascular diseases (CVD) who are already taking ACEIs.

Geng DF, Jin DM, Wu W et al (2012) Angiotensin converting enzyme inhibitors for prevention of new-onset type 2 diabetes mellitus: A meta-analysis of 72,128 patients. *Int J Cardiol* 16 Jul. [Epub ahead of print]

HEART

Are CVD prevention guidelines followed in clinical practice?

Readability	✓✓✓
Applicability to practice	✓✓✓
WOW! factor	✓✓✓

1 The authors of the ASPIRE (Action on Secondary Prevention through Intervention to Reduce Events)-2-PREVENT study set out to determine to what extent the Joint British Societies' coronary vascular disease (CVD) prevention guidelines (JBS2) are followed in clinical practice in the UK.

2 Across 12 UK regions, the investigators selected consecutive adults with coronary heart disease (CHD) from 19 randomly selected hospitals ($n=1474$), and asymptomatic adults at high risk of CVD from 19 general practices ($n=943$).

3 Medical notes were reviewed and interviews and examinations performed at least 6 months after study recruitment. The proportion of people achieving defined JBS2 guideline lifestyle, risk factor and therapeutic targets was recorded.

4 A large majority of people did not achieve the lifestyle and risk factor targets set out in the JBS2 guideline.

5 People with CHD had better lifestyle and risk factor control compared with those at high risk of CHD. High prevalences of obesity, and poor blood pressure, cholesterol and glucose control were associated with unhealthy lifestyles.

6 Smoking prevalence was similar across the two groups but persistent smoking was significantly more prevalent in asymptomatic people at high risk of CHD.

7 The authors concluded that it is important to motivate healthcare professionals to practice routine high-quality preventative cardiology.

Kotseva K, Jennings CS, Turner EL et al (2012) ASPIRE-2-PREVENT: a survey of lifestyle, risk factor management and cardioprotective medication in patients with coronary heart disease and people at high risk of developing cardiovascular disease in the UK. *Heart* 98: 865–71

AMERICAN HEART JOURNAL

Physical activity levels, health perceptions and CV mortality

Readability	✓✓✓
Applicability to practice	✓✓✓
WOW! factor	✓✓✓

1 The authors determined the effect of physical activity (PA) participation and health beliefs on cardiovascular (CV) mortality, and whether either differed by ethnicity in a cohort of adults (18–65 years).

2 Between 2000 and 2002, PA and health perception data were collected using a detailed questionnaire in 3018 African American (50%; $n=1509$), Hispanic (17%; $n=513$) and white (31%; $n=936$) adults (55% women; $n=1660$). Baseline PA characteristics of participants and non-participants were compared.

3 PA participation was significantly greater amongst white adults compared with African American and Hispanic adults ($P<0.001$ for both comparisons). This was not affected by beliefs about the benefits of PA.

4 Lower rates of PA participation were significantly associated with smoking, and having diabetes, hypertension, and a higher BMI ($P<0.05$ for all comparisons). Higher rates of PA participation were associated with higher levels of education and income ($P<0.001$ for both comparisons).

5 In multivariate adjusted models, PA participation resulted in a lower risk of all-cause mortality (hazard ratio [HR], 0.66; 95% confidence interval [CI], 0.46–0.93) and CV mortality (HR, 0.56; 95% CI, 0.32–0.97).

6 The authors concluded that lower PA participation was reported in ethnic minorities, and that higher CV mortality was associated with lower PA participation.

Mathieu RA 4th, Powell-Wiley TM, Ayers CR et al (2012) Physical activity participation, health perceptions, and cardiovascular disease mortality in a multiethnic population: the Dallas Heart Study. *Am Heart J* 163: 1037–40

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