

BREAKFAST CEREALS AND HEART HEALTH

Breakfast cereals, including ready-to-eat breakfast cereals, muesli and oats, play an important role in delivering the health benefits of grain foods to Australians.

Breakfast cereals provide Australians per capita with:

13% of daily folate,¹ 10.6% of daily fibre,¹ and 40% of daily wholegrain intakes.²

Breakfast cereals provided Australian cereal eaters with 26%/25% (adults/children) of daily folate intakes, as well as 22%/18% (adults/children) of daily fibre intakes.⁶

Regular consumption of breakfast cereal, or whole grain or high fibre breakfast cereal varieties, is associated with:

- **reduced risk of cardiovascular disease (CVD);**
- **improved modifiable risk factors for CVD: serum cholesterol; overweight/obesity; type 2 diabetes; and**
- **reduced risk of premature death from heart disease.**

Reduced risk of CVD

The evidence for the association between breakfast cereal and cardiovascular disease has been examined by several large scientific reviews, including the *Australian Dietary Guidelines*. In summary:

- Regular consumption of whole grain breakfast cereals is associated with a reduced risk of cardiovascular disease (Grade C);³
- Consumption of cereal foods (especially whole grains and those with fibre from oats or barley) is associated with a reduced risk of cardiovascular disease in adults (Grade B);⁴
- Consumption of one to three serves per day of whole grain cereals is associated with reduced risk of cardiovascular disease (Grade B);⁴ and
- Consumption of whole grain cereals may reduce the risk of cardiovascular disease by up to 29%.⁵

Reduced serum cholesterol

The relationship between soluble fibre and reduced cholesterol levels has been well established:

- Regular consumption of oat-, barley- or psyllium-based breakfast cereals (cereals rich in soluble fibre) can help lower total and LDL cholesterol levels (Grade A).³

Lower BMI; reduced risk of overweight and obesity

The totality of evidence suggests that regular breakfast cereal consumption is associated with lower body weights. In summary:

- Regular breakfast cereal consumption is associated with a lower BMI and a reduced risk of being overweight or obese in both adults and children (Grade B);³
- Eating breakfast cereal as a snack or meal replacement can assist in weight loss in adults (Grade B);³
- Consumption of high-fibre breakfast cereals improves satiety and reduces hunger after a meal (Grade C);³ and
- A secondary analysis of the 2011-12 Australian Health Survey (AHS) investigating nutrient intakes by breakfast/breakfast cereal consumption and by type of breakfast cereal found that adults who ate breakfast cereals had slimmer waists and were more likely to be a healthy weight than those who ate other breakfasts.⁶



Reduced risk of type 2 diabetes

Consuming breakfast cereals rich in whole grains or fibre can improve blood glucose levels and may reduce the risk of developing type 2 diabetes:

- Regular consumption of whole grain and high-fibre breakfast cereals is associated with a reduced risk of type 2 diabetes (Grade B);³
- Consumption of high-fibre breakfast cereals, especially those high in soluble fibre, may assist in the management of hyperglycaemia in people with diabetes (Grade C);³
- Consumption of cereal foods (especially three serves a day of whole grains) is associated with reduced risk of type 2 diabetes (Grade B);⁴ and
- Consumption of whole grain cereals may reduce the risk of type 2 diabetes by up to 27%.⁵

Hypertension

The evidence base for breakfast cereal consumption and hypertension is limited to a few studies, however the current evidence indicates:

- Regular consumption of breakfast cereals is not associated with an increased risk of hypertension (Grade C), and regular consumption may even reduce the risk (Grade D);³
- Breakfast cereals contributed very little (around 2%) to the sodium intakes of Australians (per capita) and contributed more potassium than sodium;¹
- A secondary analysis of the 2011-12 AHS found that for those who consumed breakfast cereal, breakfast cereals contributed 5% (adults) and 6% (children) to their daily sodium intakes;⁶ and
- That compared to people who ate other breakfasts, Australians who ate breakfast cereal had lower daily sodium intakes (13% lower for adults and 9% lower for children).⁶

Reduced risk of premature death CVD & all causes

Recent studies concluded:

- People who consumed the greatest amount of cereal fibre had a 18-20% reduced risk of premature death from cardiovascular disease, a 19% reduced risk of premature death from all causes^{7,8} and 15% lower risk of death from cancer;^{7,9}
- Consuming a high fibre diet has been consistently linked with a significant reduction in all-cause mortality;^{8,10}
- Whole grain intake is associated with a reduced risk of coronary heart disease, cardiovascular disease, and total cancer, and mortality from all causes, respiratory diseases, infectious diseases, diabetes, and all non-cardiovascular, non-cancer causes¹¹⁻¹³ and the protective effects of whole grains may be due, at least in the main part, to its cereal fibre component.⁷

Breakfast cereals' contribution to fibre and whole grain intake

- The recommended fibre intake for adults is at least 25-30g of fibre each day.¹⁴ On average a 40g serve of ready-to-eat cereal, muesli or oats contains around 4g of fibre,¹⁵ with some higher fibre options containing an average of around 13g a serve, making breakfast cereals a valuable source of this important nutrient.
- Breakfast cereals are important dietary sources of whole grains with more than 70% (or 308+) breakfast cereals meeting the whole grain content claim criteria set by the Grains & Legumes Nutrition Council.¹⁵
- The 2011-12 AHS showed breakfast cereals (ready-to-eat, muesli and hot porridge styles) provided 10.6% of fibre intakes per capita for Australians two years and over, while they contributed very little towards kilojoules (energy 4.6%), total sugars (3.4%) and sodium (around 2%) intakes.¹
- Breakfast cereals provided, for breakfast cereal consumers, 22% (adults) and 18% (children) of daily fibre intakes and contributed 5% (adults) and 6% (children) to their daily sodium intakes.⁶
- Breakfast cereal consumers had higher total daily intakes of fibre (19% higher for adults, 15% higher for children) and lower total daily intakes of sodium (13% lower for adults, 9% lower for children) than those who ate other breakfasts.⁶

References

- 1 Australian Bureau of Statistics. Australian Health Survey: Nutrition First Results - Foods and Nutrients, 2011-12. Canberra: ABS; 2014.
- 2 Grains and Legumes Nutrition Council (GLNC). 2017 GLNC Consumption and Attitude Study. Unpublished: 2017.
- 3 Williams PG. The Benefits of Breakfast Cereal Consumption: A Systematic Review of the Evidence Base. *Advances in Nutrition* 2014; **5**: 636S-673S. <http://advances.nutrition.org/content/5/5/636S.full.pdf+html>
- 4 National Health and Medical Research Council. Australian Dietary Guidelines. Canberra: NHMRC; 2013.
- 5 Fardelet A, Boirie Y. Associations between food and beverage groups and major diet-related chronic diseases: an exhaustive review of pooled/meta-analyses and systematic reviews. *Nutrition Reviews* 2014; **72**: 741-62.
- 6 Nutrition Research Australia. Breakfast and Breakfast Cereal Consumption Among Australians – A secondary analysis of the 2011-12 National Nutrition and Physical Activity Survey, Sydney, February 2016. <http://bit.ly/BfastCerealDataReport>
- 7 Huang T, Xu M, Lee A, Cho S, Qi L. Consumption of whole grains and cereal fiber and total and cause-specific mortality: prospective analysis of 367,442 individuals. *BMC Medicine* 2015; **13**:59.
- 8 Kim Y, Je Y. Dietary Fiber Intake and Total Mortality: A Meta-Analysis of Prospective Cohort Studies. *American Journal of Epidemiology* 2014; **180**(6): 565-73.
- 9 Hajishafiee, M., P. Saneei, et al. (2016). "Cereal fibre intake and risk of mortality from all causes, CVD, cancer and inflammatory diseases: a systematic review and meta-analysis of prospective cohort studies." *British Journal of Nutrition* **116**(02): 343-52.
- 10 Buil-Cosiales P, Zazpe I, Toledo E et al. Fiber intake and all-cause mortality in the Prevención con Dieta Mediterránea (PREDIMED) study. *American Journal of Clinical Nutrition* 2014; **100**(6):1498-507.
- 11 Aune, D., N. Keum, et al. Whole grain consumption and risk of cardiovascular disease, cancer, and all cause and cause specific mortality: systematic review and dose-response meta-analysis of prospective studies. *BMJ* 2016; **353**:i2716
- 12 Zong, G., A. Gao, et al. (2016). "Whole Grain Intake and Mortality From All Causes, Cardiovascular Disease, and Cancer: A Meta-Analysis of Prospective Cohort Studies." *Circulation* **133**(24): 2370-80.
- 13 Johnsen, N. et al. Whole-grain products and wholegrain types are associated with lower all-cause and cause-specific mortality in the Scandinavian HELGA cohort. *Br J of Nutr* 2015; **114**(4):608-23
- 14 National Health and Medical Research Council and New Zealand Ministry of Health. Nutrient Reference Values. Canberra: NHMRC; 2006.
- 15 Grains & Legumes Nutrition Council. Breakfast Cereal Audit 2018. (Also available from: https://www.glnc.org.au/wp-content/uploads/2018/10/Breakfast-Cereal-Factsheet-2018_WEB-1.pdf, accessed 13 November 2018).

Interpreting evidence grades

According to NHMRC guidance, Grade A evidence is to be trusted to guide clinical practice, Grade B is to be trusted to guide practice in most situations, Grade C provides some support but care should be taken in its application, and Grade D is suggestive, where the body of evidence is weak and therefore the statement should be applied with caution.

About the Australian Breakfast Cereal Manufacturers Forum (ABCMF)

ABCMF is committed to providing the most up-to-date information for both the Australian public and professionals, as well as correcting misinformation about breakfast cereals. The ABCMF is a forum of the Australian Food and Grocery Council.

Updated November 2018

For more information contact ABCMF Director Leigh Reeve AdvAPD lreeve@afgc.org.au

Connect with ABCMF for the latest information on breakfast cereals:

Twitter: @cereal4brekkie Facebook: @lovecereal4brekkie Instagram: @lovecereal4brekkie
www.cereal4brekkie.org.au

AUSTRALIAN BREAKFAST CEREAL MANUFACTURERS FORUM
AUSTRALIAN FOOD AND GROCERY COUNCIL - Locked Bag 1, KINGSTON, ACT, 2604
T: 02 6273 1466 F: 02 62731477 E: breakfastcereal@afgc.org.au W: www.cereal4brekkie.org.au
ABN: 23 068 732 883