

Nutrition Policy Brief

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Scope

Diet, including total energy intake, is a major determinant of body mass, overweight and obesity and hence women's risk of reproductive problems and chronic disease. The *National Women's Health Policy 2010* identified nutrition as a key target for the prevention of chronic diseases. Specifically, it addressed the factors associated with unhealthy eating and the barriers that prevent women from adhering to the current Australian Dietary Guidelines. In the last decade, the Australian Longitudinal Study on Women's Health (ALSWH) has published findings on (i) adherence to Australian Dietary Guidelines by Australian women, (ii) the association between specific foods and diets and health conditions, and (iii) the impact of preconception and antenatal diet on pregnancy outcomes. This policy brief focuses on the first two topics and the third is included in the Policy Brief on Pregnancy and Maternal Health.

Research Findings

Australian women generally fail to meet the guidelines

- Fewer than 2% of women met the guideline recommendation of five daily servings of vegetables, with the majority needing more than two additional servings.¹
- For women in their early-to-mid 30s, less than one-third consumed the recommended 2 serves of fruit (32%) and 2-3 serves of meat and alternatives (28%) per day, while only a small minority did so for dairy (12%; 2.5 daily serves) and cereals (7%; 6 daily serves).¹
- Fifty per cent of pregnant women met guidelines for fruit (2 serves/day), but fewer reached guidelines for dairy (22%; 2.5 serves/day), meat and alternatives (10%; 3 serves/day) and cereals (2.5%; 8.5 serves/day).¹
- For women in their early-to-mid 50s, adherence to guidelines was higher for meat and alternatives (41%; 2-2.5 serves/day), fruit (48%; 2 serves/day) and cereals (45%; 4-6 serves/day), whereas only 1% had the suggested dairy intake of four daily servings.¹

Dietary patterns, specific foods and micronutrients that affect health

- Young women (those in the 1973-78 cohort) were more likely to consume a Mediterranean-style diet than the mid-aged women (born in 1946-51). But mid-aged women had some healthier dietary practices than the younger women, including higher consumption of cooked vegetables, fruit, and reduced fat dairy, and lower consumption of processed meat, and takeaway food.²
- Consumption of a 'Mediterranean-style' or anti-inflammatory type of diet reduced women's risk of depression or depressive symptoms.^{3,4}
- Fruit intake at the recommended level of two pieces/day and eating 5 serves of vegetables per day had a protective effect on depressive symptoms in mid-aged women.⁵
- Dietary zinc intake was associated with lower risk of developing depression.⁶
- A pro-inflammatory diet characterised by low intake of fish, vegetables, fruit, nuts, potatoes, pasta and rice and a high intake of high-fat dairy and was associated with a 24% higher risk of hypertension⁷, but had no association with total cardiovascular disease and its subgroups⁸ when compared to an anti-inflammatory diet.
- Muesli and oat-based cereal consumption (but not porridge) and All-Bran cereal (but not other high fibre cereals) were associated with lower odds of developing diabetes in mid-aged women.^{9,10}
- High dietary zinc intake and zinc:iron ratio was associated with lower risk of type 2 diabetes¹¹ and higher incidence of cardiovascular disease.¹²
- Consumption of a fruit or Mediterranean-style diet in midlife decreased the risk of reporting vasomotor symptoms, whereas consumption of a high-fat and high-sugar diet increased the risk.¹³
- Healthy weight women with the highest diet quality had fewer Medicare claims and lower health care costs.¹⁴

Barriers to healthy eating

- Women starting a family or living with children had high consumption of high-fat and high-sugar foods and cooked vegetables whereas women not living with children were more likely to have a Mediterranean-style diet.¹⁵
- Sociodemographic factors are associated with unhealthy eating, including living in rural and regional areas², lower education levels², and being unemployed.²

Recommendations

- To help women meet the recommended dietary guidelines, changes applicable at every meal could be advocated, e.g. the dietary guidelines for vegetable intake could be achieved for most women by incorporating one extra serving at each of three daily meals.
- Policies and interventions to improve diet should focus on social and economic factors and general health-related behaviour, for all age groups.
- Improving access to healthy foods in rural and regional areas, and for those with low incomes, could improve healthy eating and contribute to better health.
- Pre-pregnancy planning, pregnancy and parenthood provide key opportunities and motivation for women to improve their diet.
- Dietary advice should be part of preventive health care to reduce weight gain, and risk of overweight and obesity, diabetes, cardiovascular disease, and other chronic conditions.

References

1. Mishra GD, Schoenaker DA, Mhrshahi S & Dobson AJ. (2015). How do women's diets compare with the new Australian dietary guidelines? *Public Health Nutrition*, 18(2): 218-25.
2. Mishra GD, McNaughton SA, Ball K, Brown WJ, Giles GG & Dobson AJ. (2010). Major dietary patterns of young and middle aged women: Results from a prospective Australian cohort study. *European Journal of Clinical Nutrition*, 64(10): 1125-33.

3. Rienks J, Dobson AJ & Mishra GD. (2013). Mediterranean dietary pattern and prevalence and incidence of depressive symptoms in mid-aged women: Results from a large community-based prospective study. *European Journal of Clinical Nutrition*, 67(1): 75-82.
4. Shivappa N, Schoenaker DA, Hebert JR & Mishra GD. (2016). Association between inflammatory potential of diet and risk of depression in middle-aged women: The Australian Longitudinal Study on Women's Health. *British Journal of Nutrition*, 116(6): 1077-86.
5. Mirshahi S, Dobson AJ & Mishra GD. (2015). Fruit and vegetable consumption and prevalence and incidence of depressive symptoms in mid-age women: Results from the Australian longitudinal study on women's health. *European Journal of Clinical Nutrition*, 69(5): 585-91.
6. Vashum KP, McEvoy M, Milton AH, McElduff P, Hure A, Byles J & Attia J. (2014). Dietary zinc is associated with a lower incidence of depression: Findings from two Australian cohorts. *Journal of Affective Disorders*, 166: 249-57.
7. Vissers LET, Waller M, van der Schouw YT, Hebert JR, Shivappa N, Schoenaker D & Mishra GD. (2017). A pro-inflammatory diet is associated with increased risk of developing hypertension among middle-aged women. *Nutrition, Metabolism & Cardiovascular Diseases*, 27(6): 564-70.
8. Vissers LET, Waller M, van der Schouw YT, Hebert JR, Shivappa N, Schoenaker D & Mishra G. (2016). The relationship between the dietary inflammatory index and risk of total cardiovascular disease, ischemic heart disease and cerebrovascular disease: Findings from an Australian population-based prospective cohort study of women. *Atherosclerosis*, 253: 164-70.
9. Quatela A, Callister R, Patterson AJ, McEvoy M & MacDonald-Wicks LK. (2018). The protective effect of muesli consumption on diabetes risk: Results from 12 years of follow-up in the Australian Longitudinal Study on Women's Health. *Nutrition Research*, 51: 12-20.

10. Quatela A, Callister R, Patterson AJ, McEvoy M & MacDonald-Wicks LK. (2017). Breakfast cereal consumption and obesity risk amongst the mid-age cohort of the Australian Longitudinal Study on Women's Health. *Healthcare (Basel)*, 5(3).
11. Vashum KP, McEvoy M, Shi Z, Milton ZH, Islam MR, Sibbritt D, Patterson A, Byles J, Loxton D & Attia J. (2013). Is dietary zinc protective for type 2 diabetes? Results from the Australian longitudinal study on women's health. *BMC Endocrine Disorders*, 13: 40.
12. Milton AH, Vashum KP, McEvoy M, Hussain S, McElduff P, Byles J & Attia J. (2018). Prospective study of dietary zinc intake and risk of cardiovascular disease in women. *Nutrients*, 10(1).
13. Herber-Gast GC & Mishra GD. (2013). Fruit, Mediterranean-style, and high-fat and -sugar diets are associated with the risk of night sweats and hot flushes in midlife: results from a prospective cohort study. *American Journal of Clinical Nutrition*, 97(5): 1092-9.
14. Patterson A, Hure A, Burrows T, Jackson J & Collins C. (2018). Diet quality and 10-year healthcare costs by BMI categories in the mid-age cohort of the Australian Longitudinal Study on Women's Health. *Journal of Human Nutrition and Dietetics*.
15. Elstgeest LE, Mishra GD & Dobson AJ. (2012). Transitions in living arrangements are associated with changes in dietary patterns in young women. *Journal of Nutrition*, 142(8): 1561-7.1.