



Physical activity, healthy eating and overweight/obesity

2003

Department of Human Services Barwon-South Western Region

Victorian Population Health Survey

The Victorian Population Health Survey is an annual statewide survey that the Department of Human Services (Health Surveillance and Evaluation Section, Public Health Group) undertakes in the second half of each calendar year to collect a wide range of information on the health of the adult Victorian population and the determinants of that health.

This fact sheet presents major findings from the Victorian Population Health Survey 2003 relating to physical activity, healthy eating and body mass index for persons aged 18 years or over in the department's Barwon-South Western Region.

Barwon-South Western Region

The Barwon-South Western Region covers an area of 29,635 square kilometres and had an estimated population of 347,289 people in 2003. From the region, 828 respondents (or 11.0 per cent of the total sample of 7500 households) completed the Victorian Population Health Survey in 2003.

Levels of sufficient physical activity (time and sessions)

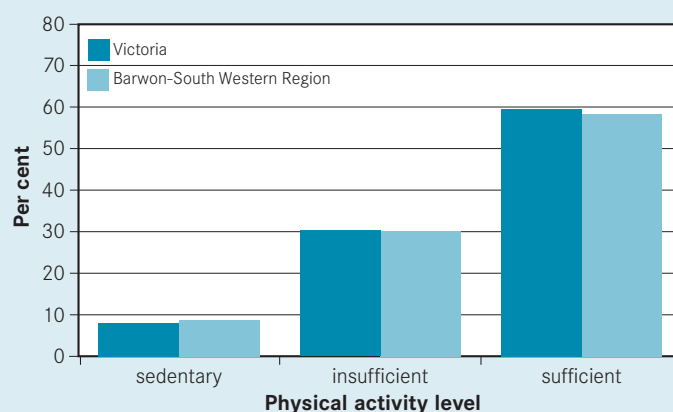
Physical inactivity is a modifiable risk factor for a range of diseases and conditions. Physical activity can provide a range of health benefits, including reducing the risk of coronary heart disease, stroke, hypertension, type 2 diabetes, colon cancer and osteoporosis. Participation in regular physical activity can also improve mental health, help to manage arthritis and prevent injury from falls by improving strength and balance, especially in older people. The *National physical activity guidelines for Australians*¹ recommend that individuals undertake at least 30 minutes of moderate intensity activity on most days of the week.

¹ Australian Department of Health and Aged Care 1999, *National physical activity guidelines for Australians*, Canberra.

Figure 1 presents the proportion of adults from the Barwon-South Western Region who were:

- **sufficiently active** for health benefits (150 minutes or more of at least moderate intensity activity over five or more days per week)
- **insufficiently active** for health benefits – some physical activity but less than sufficient (that is, did less than 150 minutes and/or participated in activity fewer than five times per week)
- **sedentary** (physically inactive).
- Approximately 58.4 per cent of adults in the Barwon-South Western Region undertook sufficient regular physical activity to achieve health benefits (figure 1).
- Approximately 30 per cent of persons aged 18 years or over in the region participated in some physical activity but did less than the level recommended to obtain health benefits.
- Almost 9 per cent (8.7 per cent) of adults in the region were physically inactive or sedentary.
- The proportions of the adult population in the region who were sufficiently active, insufficiently active or sedentary were similar to the proportions for the Victorian population as a whole.

Figure 1: Levels of physical activity





Levels of sufficient physical activity (time and sessions), by sex, age and education

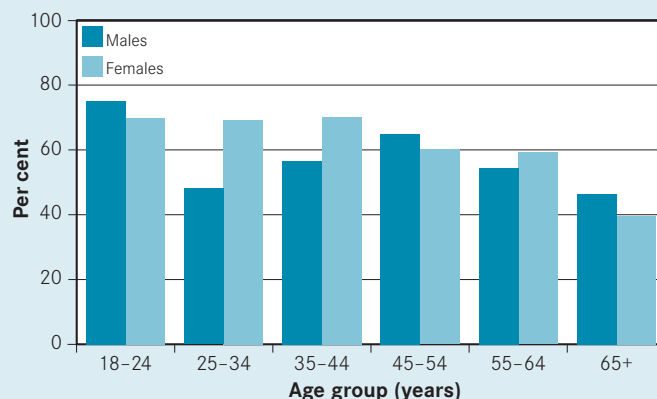
Table 1 presents the proportion of adults in the Barwon-South Western Region who were sufficiently active to achieve health benefits, by selected characteristics.

Table 1: Participation in sufficient physical activity (time and sessions)

	Barwon-South Western Region		Victoria	
	%	95% confidence interval	%	95% confidence interval
Sex				
Male	56.8	50.8–62.6	61.4	59.1–63.7
Female	60.0	55.2–64.6	57.6	55.7–59.6
Age group				
18–24 years	72.5	58.3–83.2	66.9	62.2–71.4
25–34 years	58.8	49.0–68.0	64.8	61.1–68.3
35–44 years	63.5	55.2–71.0	63.0	59.9–66.1
45–54 years	62.4	54.1–70.0	57.6	54.0–61.1
55–64 years	56.9	46.8–66.4	57.6	53.6–61.4
65+ years	42.5	35.1–50.4	46.6	43.2–50.1
Education level				
Primary	33.3	16.0–56.8	40.6	32.9–48.8
Secondary	58.1	53.2–62.8	57.3	55.2–59.3
Tertiary	61.1	54.6–67.2	63.6	61.2–65.9

- There were no significant differences by sex, age or education in the proportion of adults in the Barwon-South Western Region and the proportion of Victorian adults who undertook a sufficient level of regular physical activity (table 1).
- Similar proportions of males and females in the region undertook sufficient regular physical activity.
- There were no significant differences by age group in the proportions of males and females in the region who undertook sufficient moderate intensity physical activity to gain health benefits on all or most days of the week (figure 2).

Figure 2: Sufficient physical activity (time and sessions) – Barwon-South Western Region

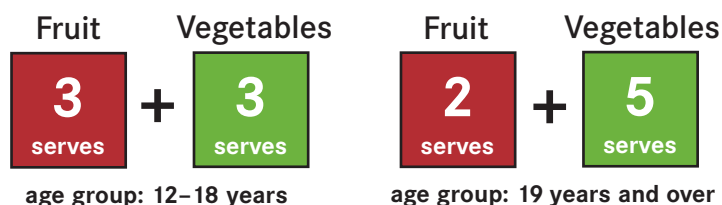


Note: Persons who participate in sufficient regular physical activity are sometimes referred to as undertaking 'adequate' physical activity.

Healthy eating

Adults often need to balance their eating and physical activity to prevent weight gain. The *Dietary guidelines for Australian adults* and those for adolescents and children² highlight the groups of foods and lifestyle patterns that promote good nutrition and health. Adults should include plenty of wholegrain foods, vegetables and fruit, and eat according to their energy needs. The dietary guidelines for vegetables recommend a daily intake of three serves for persons aged 12–18 years and five serves for persons aged 19 years or over. The recommended daily intake of fruit is three serves for persons aged 12–18 years and two serves for persons aged 19 years or over. The recommended number of fruit and vegetable servings is higher for pregnant and breastfeeding women.

Figure 3: National Health and Medical Research Council's recommended daily intake of fruit and vegetables



Note: Excluding pregnant and breastfeeding women.

² National Health and Medical Research Council 2003a, *Dietary guidelines for Australian adults*, Canberra; National Health and Medical Research Council 2003b, *Dietary guidelines for children and adolescents in Australia incorporating the infant feeding guidelines for health workers*, Canberra.





Table 2: Proportion who usually eat recommended serves of fruit each day

	Barwon-South Western Region		Victoria	
	%	95% confidence interval	%	95% confidence interval
Males				
18*-24 years	50.1	32.2-67.9	36.0	29.7-43.0
25-34 years	31.9	19.9-46.8	40.7	34.9-46.7
35-44 years	32.7	21.9-45.7	38.9	33.8-44.3
45-54 years	53.3	40.5-65.6	45.6	40.2-51.1
55-64 years	36.0	22.1-52.6	46.2	40.3-52.2
65+ years	36.2	24.5-49.7	50.7	45.4-56.1
Total	39.6	34.0-45.6	42.8	40.5-45.2
Females				
18*-24 years	18.9	8.1-38.0	49.9	43.0-56.8
25-34 years	53.8	41.8-65.5	50.0	45.5-54.5
35-44 years	57.6	47.4-67.2	56.3	52.3-60.1
45-54 years	59.1	48.3-69.2	58.0	53.4-62.5
55-64 years	56.3	44.7-67.2	67.7	62.6-72.4
65+ years	70.6	61.4-78.3	63.9	59.2-68.3
Total	55.9	50.9-60.7	57.3	55.4-59.3

* Please note: Refer to Figure 3 for recommended intake of fruit for 18 year olds.

- A small proportion (39.6 per cent) of males in the Barwon-South Western Region consumed the recommended amount of fruit each day (table 2). The proportion who met the healthy eating guidelines for fruit consumption ranged from 31.9 per cent of those aged 25-34 years to 53.3 per cent of those aged 45-54 years.
- Excluding those aged 18-24 years, the proportion of females in the region who met the dietary guidelines for fruit intake ranged from 53.8 per cent of those aged 25-34 years to 70.6 per cent of those aged 65 years or over.

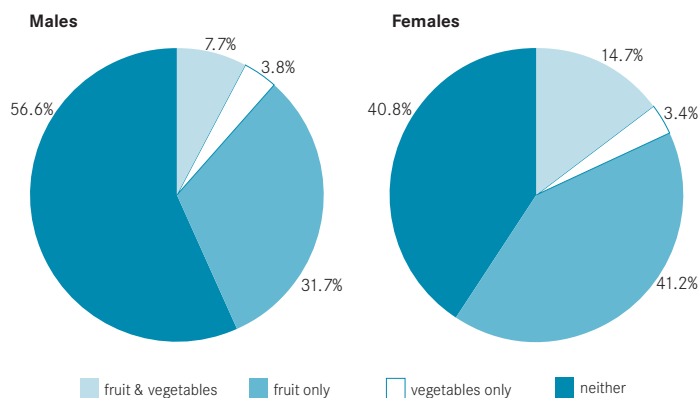
Table 3: Proportion who usually eat recommended serves of vegetables each day

	Barwon-South Western Region		Victoria	
	%	95% confidence interval	%	95% confidence interval
Males				
18*-24 years	14.0	5.2-32.6	10.4	7.1-15.0
25-34 years	4.4	1.1-16.2	10.2	7.0-14.6
35-44 years	7.6	3.2-17.0	7.5	5.1-10.9
45-54 years	18.0	9.7-31.0	8.7	6.3-11.9
55-64 years	24.8	12.8-42.6	12.6	9.3-16.8
65+ years	4.7	1.4-14.2	11.6	8.5-15.5
Total	11.5	8.2-16.1	9.9	8.6-11.4
Females				
18*-24 years	0.0	-	9.2	6.0-13.8
25-34 years	13.8	7.5-24.2	10.7	8.1-13.9
35-44 years	19.7	12.6-29.5	14.0	11.4-17.1
45-54 years	17.3	10.8-26.6	14.9	12.0-18.2
55-64 years	24.0	15.3-35.6	21.3	17.3-25.8
65+ years	25.6	18.4-34.6	14.6	11.8-17.9
Total	18.1	14.8-21.9	13.9	12.6-15.3

* Please note: Refer to Figure 3 for recommended intake of vegetables for 18 year olds.

- The proportion of females aged 18-24 years who included the recommended minimum amount of fruit in their diet was significantly lower in the region than for all Victorian females in this age group (18.9 per cent compared with 49.9 per cent).
- The proportion of females in the region who satisfied the dietary guidelines for vegetables ranged from a reported nil intake for those aged 18-24 years to 25.6 per cent of those aged 65 years or over years.
- The proportion of females aged 65 years or over who ate five or more serves of vegetables per day was significantly higher in the region than for Victoria as a whole (25.6 per cent compared with 14.6 per cent).
- The proportion of males in the region who ate the recommended minimum quantities of vegetables per day varied from 4.4 per cent of those aged 25-34 years to 24.8 per cent of those aged 55-64 years.
- For both the Barwon-South Western Region and the whole of Victoria, the proportion of adults who ate the recommended minimum number of serves of vegetables each day was lower than that for fruit for each age group, for both males and females.

Figure 4: Adherence to dietary guidelines for fruit and vegetable consumption – Barwon-South Western Region





- In the Barwon–South Western Region, a significantly greater proportion of males than females (56.6 per cent compared with 40.8 per cent) met neither the fruit nor the vegetable guidelines for healthy eating (figure 4).
- The proportion who met the dietary guidelines for fruit and vegetable intake was significantly lower for males than females (7.7 per cent compared with 14.7 per cent).

Overweight and obesity

- The health risks of being overweight or obese include an increased risk of developing type 2 diabetes, cardiovascular disease, high blood pressure, certain cancers, sleep apnoea and osteoarthritis. Physical activity, along with a healthy diet, plays an important role in the prevention of overweight and obesity. To maintain a current healthy weight, the amount of kilojoules/calories used should equal the amount of kilojoules/calories consumed. Individuals who eat more (that is, consume more kilojoules/calories) than they expend gain weight; individuals who eat less than they expend lose weight.

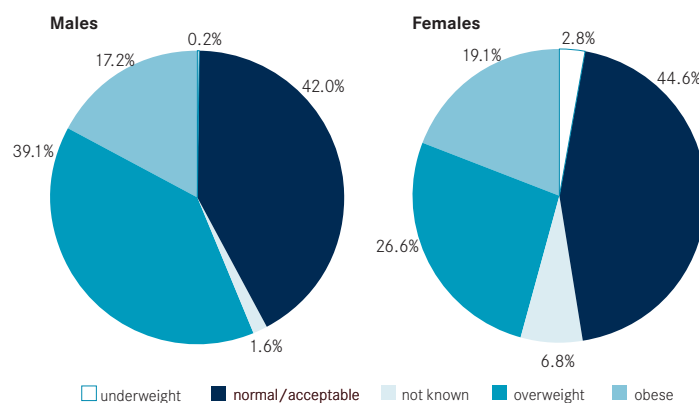
The most common population-level measure of weight status is the body mass index (BMI). Self-reported height and weight data were used to determine the BMI for each survey respondent (weight in kilograms divided by height in metres squared). Being overweight refers to increased body weight in relation to height, compared with a standard of acceptable or desirable weight. BMI data were classified into the following categories using the standard cut-offs recommended by the World Health Organisation³:

- less than 18.5 (underweight)
- 18.5 to less than 25.0 (normal)
- 25.0 to less than 30.0 (overweight)
- greater than 30.0 (obese).

Being overweight may be due to increases in body fat or increases in lean tissue. Individuals who are overweight due to lean tissue mass are not necessarily overweight, regardless of BMI.

Figure 5 presents the prevalence of each BMI category for males and females aged 18 years or over in the Barwon–South Western Region.

Figure 5: BMI categories – Barwon–South Western Region



- The proportion of adults in the Barwon–South Western Region who were overweight was 39.1 per cent for males and 26.6 per cent for females (figure 5). A further 17.2 per cent of males and 19.1 per cent of females were classified as obese.
- The ‘not known’ category includes persons who did not provide weight and/or height data. A higher percentage of females than males (6.8 per cent compared with 1.6 per cent) were classified as not known.
- A similar proportion of males and females were of normal or acceptable weight for their height (42.0 per cent and 44.6 per cent respectively).

³ World Health Organisation 2001, *Obesity: preventing and managing the global epidemic*, WHO Technical Series no. 894, Geneva.





Table 4: Prevalence of overweight/obesity

	Barwon-South Western Region		Victoria	
	%	95% confidence interval	%	95% confidence interval
Males				
18–24 years	26.6	13.2–46.3	30.0	24.1–36.6
25–34 years	55.6	40.3–69.9	50.6	44.7–56.6
35–44 years	63.9	50.6–75.3	59.0	53.7–64.1
45–54 years	69.3	56.6–79.7	65.2	59.9–70.2
55–64 years	59.1	42.1–74.1	65.4	59.6–70.8
65+ years	52.1	38.8–65.1	51.8	46.5–57.1
Total	56.3	50.2–62.1	54.3	52.0–56.7
Females				
18–24 years	45.3	25.7–66.4	19.7	14.8–25.6
25–34 years	42.3	30.9–54.6	36.1	31.9–40.6
35–44 years	44.5	34.8–54.7	37.0	33.2–40.9
45–54 years	46.9	36.5–57.6	44.7	40.2–49.3
55–64 years	48.7	37.5–60.1	50.8	45.5–56.0
65+ years	47.0	37.9–56.2	38.5	34.2–43.1
Total	45.7	40.9–50.6	38.0	36.1–39.9

- The proportion of males aged 18–24 years who were not overweight or obese was less than 50 per cent in both the Barwon-South Western Region and for Victoria as a whole (table 4).
- The proportion of males in the region who were overweight or obese reached 69.3 per cent for those aged 45–54 years.
- The proportion of females aged 18–24 years who were overweight or obese was greater in the region than for Victoria as a whole (45.3 per cent compared with 19.7 per cent). Except for this age group, the proportion of females in the region who were overweight or obese was not significantly different from that for Victoria in all other age groups.

⁴ Department of Infrastructure 2001, *Population projections 2001*, Government of Victoria, Melbourne.

Rates

The 2001 Victorian population⁴ has been used when specifying population weights to ensure that the adjusted sample distribution is representative of the population by age group, gender and region. Differences between regions in the age and sex distribution of their populations may account, in part, for differences in overall region-specific rates.

Confidence intervals

The rates reported in this publication are based on information collected from a sample of adults, selected at random by household telephone number. As a result, they are subject to sampling variability. This means that the rates are estimates and may differ from those that would result if all adults in Victoria had been included in the survey.

One measure of the amount of variation associated with an estimate is the confidence interval. Estimates with wider confidence intervals reflect a higher degree of unreliability in the estimate and should be used with caution. Confidence intervals that do not overlap are interpreted as representing significant differences.

Additional information

The method of the Victorian Population Health Survey 2003 and other results may be found in the report *Victorian Population Health Survey 2003: selected findings*. This report and other useful resources may be viewed or downloaded from the website www.health.vic.gov.au/healthstatus

VicHealth provided support for the Victorian Population Health Survey data analysis. Information about VicHealth initiatives to increase levels of physical activity and promote the health of Victorians is available at the website www.vichealth.vic.gov.au



Source:

Victorian Population Health Survey 2003
Public Health Group
Rural and Regional Health and Aged Care Services Division
Department of Human Services Victoria

