

Chapter 3: Risk and Protective Factors

Introduction

Risk and protective factors are biological factors (eg, blood pressure) or behavioural factors (eg, physical activity) that are causally associated with health outcomes. The relevance of each risk or protective factor to health is summarised at the beginning of each section.

The accurate and objective measurement of biological risk factors is difficult and generally involves physical measurements, which are beyond the scope of this survey (except body weight, height and waist circumference). Similarly, for behavioural factors, observation of behaviour is difficult. Instead, this survey uses a series of questions to determine the prevalence of self-reported risk and protective factors in adults. This approach tends to either underestimate or overestimate the true prevalence of these risk or protective factors, with the direction of the bias related to whether the behaviour is harmful or beneficial to health. In general, when asked about behaviours that are harmful to health (eg, smoking) people tend to underestimate their exposure. In contrast, when asked about behaviours that are beneficial to health (eg, physical activity) people tend to overestimate their participation.

All results are presented by sex and ethnic group. The following ethnic groups are used: European/Other, Māori, Pacific and Asian. Selected results are also presented by sex and 10-year age group, and by sex and NZDep2001 quintile. Additional results are included in datacubes.

Ninety-five percent confidence intervals are presented for all descriptive results, following the estimate in the text or the summary tables at the end of the chapter, or as error bars in graphs. When a difference between population subgroups is referred to as significant, it means the difference is statistically significant at the 95 percent confidence level (ie, the 95 percent confidence intervals do not overlap).

All results presented by sex, ethnicity and NZDep2001 in the body of this report have been age-standardised by the direct method using the WHO World Population as the standard population. This is to allow comparisons between population subgroups without differences in the age distribution of the comparison populations influencing results. However, age-standardised estimates have no meaning by themselves; they are meaningful only when compared with other age-standardised estimates. Therefore, only use these age-standardised estimates to compare one population subgroup with another.

If you want to know the actual burden experienced by the population of interest (eg, the prevalence of obesity in females), use the crude (unadjusted) estimates shown in the summary tables at the end of this chapter or in the datacubes.

Results

Key points

- One in five adults had been told by a doctor they have high blood pressure; of these, two-thirds were taking pills for high blood pressure.
- One in six adults had been told by a doctor they have high cholesterol; of these, four out of 10 were taking pills for high cholesterol.
- Two out of three adults ate the recommended three or more servings of vegetables each day.
- Just over half of adults ate the recommended two or more servings of fruit each day.
- Females were significantly more likely than males to eat the recommended number of servings of vegetables and fruit each day.
- Three out of four adults did at least 2.5 hours of physical activity in the last week.
- Males were significantly more likely than females to be physically active.
- One in eight adults did less than 30 minutes of physical activity in the last week.
- One in three adults was overweight (excludes obese).
- One in five adults was obese.
- Adults living in NZDep2001 quintile 5 (most deprived) were twice as likely as adults living in quintile 1 (least deprived) to be obese.
- Over half of all adults had gained 10 kg or more since age 18 years.
- Eight out of 10 adults had had a drink containing alcohol in the last year.
- One in six adults who had consumed alcohol in the last year had a potentially hazardous drinking pattern.
- Male drinkers were more than twice as likely as female drinkers to have a potentially hazardous drinking pattern.
- About one in four adults was a current smoker.
- Adults living in NZDep2001 quintile 5 (most deprived) were twice as likely as adults living in quintile 1 (least deprived) to be current smokers.
- One in 15 adult non-smokers was exposed to cigarette smoke inside their home.
- One in seven adults had smoked marijuana in the last year and one in 19 adults smoked marijuana regularly (ie, daily, weekly or fortnightly).

High blood pressure

Introduction

High blood pressure (hypertension) is an important risk factor for cardiovascular disease, particularly stroke. Modifiable determinants of blood pressure include diet, body weight and physical activity.

The best way to determine the true prevalence of high blood pressure in the community is to take blood pressure measurements, but this was beyond the scope of this survey. Instead, participants were asked if they had ever been told by a doctor they have high blood pressure (other than during pregnancy) and whether they currently took or had ever taken medication for this condition. This will underestimate the true prevalence of high blood pressure, as not all people with high blood pressure will have been diagnosed.

Prevalence of high blood pressure

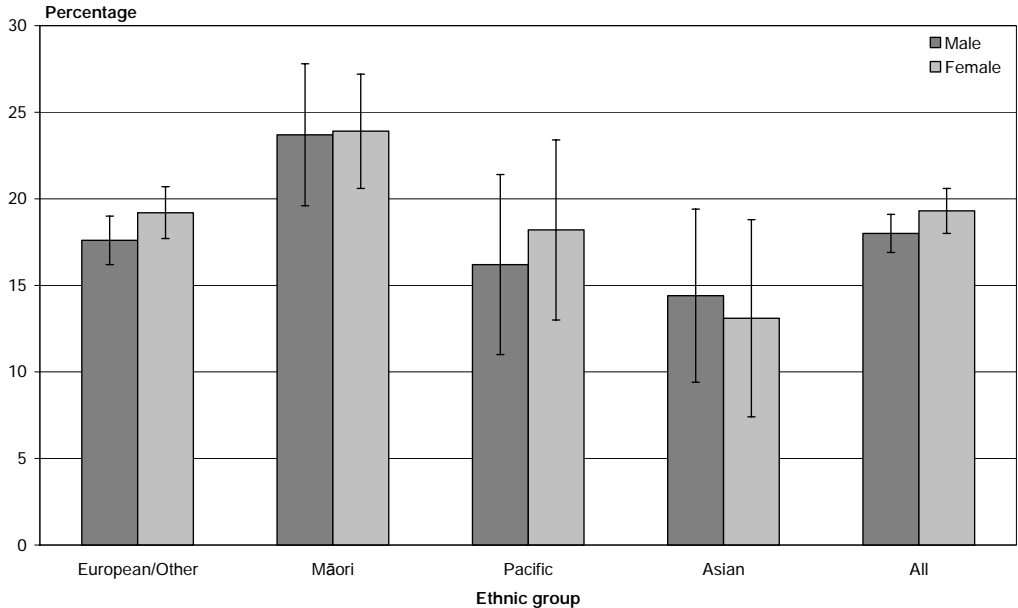
Overall, one in five adults (20.8%; 20.0–21.6) had been told by a doctor they have high blood pressure.

There was no significant difference in the prevalence of identified high blood pressure in males (18.0%; 16.9–19.1) and females (19.3%; 18.0–20.5).

Of adults with identified high blood pressure, two-thirds (65.2%; 62.5–67.8) had ever taken pills regularly for high blood pressure and about six out of 10 (58.5%; 55.7–61.3) currently took pills regularly for high blood pressure.

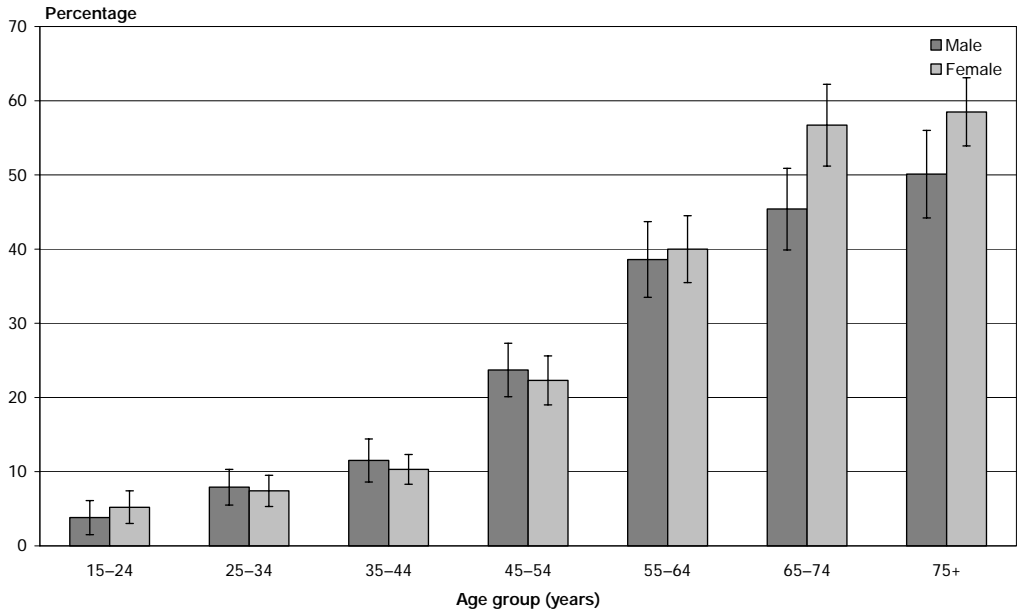
In both males and females, the prevalence of identified high blood pressure was highest in Māori, followed by European/Other, Pacific and Asian ethnic groups, although most ethnic differences were not significant (Figure 34). Note that these ethnic differences may reflect differences in the proportion of adults that have been diagnosed, rather than differences in the true prevalence of high blood pressure.

Figure 34: Identified high blood pressure in adults, by ethnic group and sex (age-standardised)



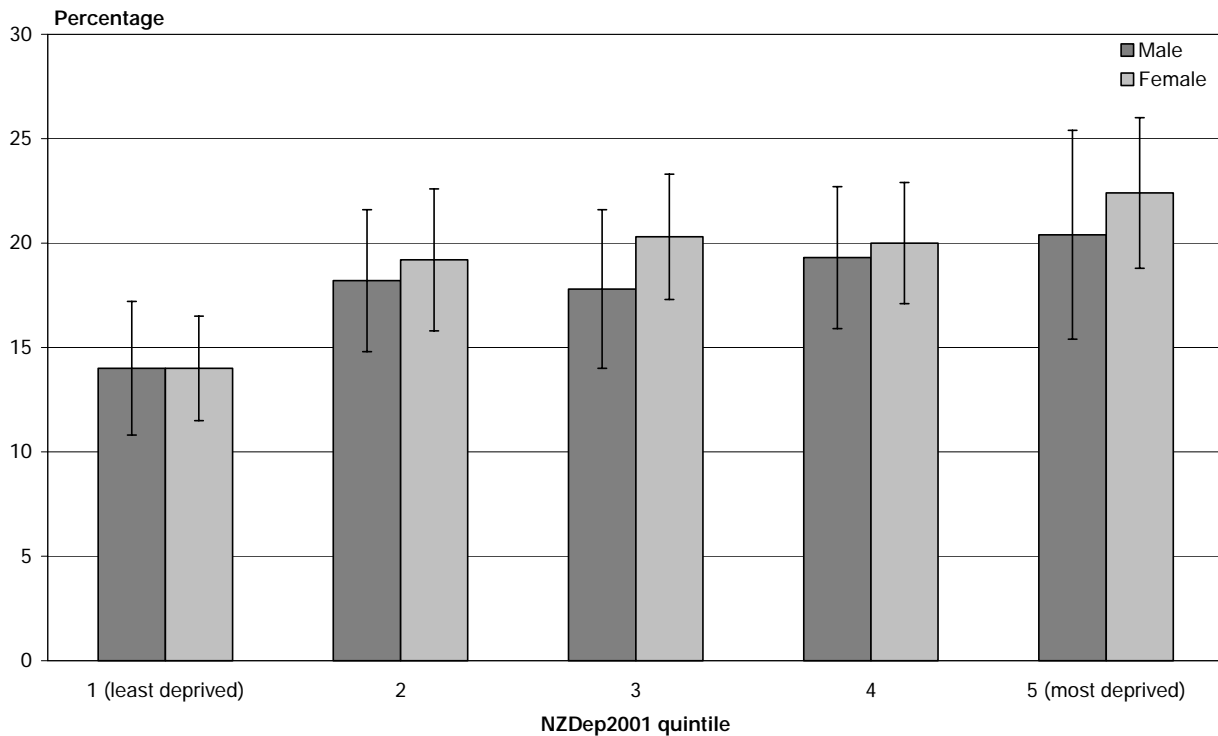
In both males and females, the prevalence of identified high blood pressure increased with age, peaking in the 75+ years age group (Figure 35).

Figure 35: Identified high blood pressure in adults, by age group and sex



In both males and females, the prevalence of identified high blood pressure was lower in NZDep2001 quintile 1 (least deprived) than quintile 5 (most deprived), although this difference was not significant for males (Figure 36).

Figure 36: Identified high blood pressure in adults, by NZDep2001 quintile and sex (age-standardised)



High cholesterol

Introduction

High blood cholesterol is an important risk factor for cardiovascular disease, particularly ischaemic heart disease (IHD). Modifiable determinants of blood cholesterol include diet, body weight and physical activity. Dietary fats are the most important modifiable determinant of blood cholesterol.

The best way to determine the true prevalence of high cholesterol in the community is to take blood samples and measure cholesterol (and other blood lipid and lipoprotein) levels, but this was beyond the scope of this survey. Instead, participants were asked if they had ever been told by a doctor that they have high cholesterol and whether they currently took or had ever taken medication for this condition. This will underestimate the true prevalence of high cholesterol, as not all people with high cholesterol will have been diagnosed.

Prevalence of high cholesterol

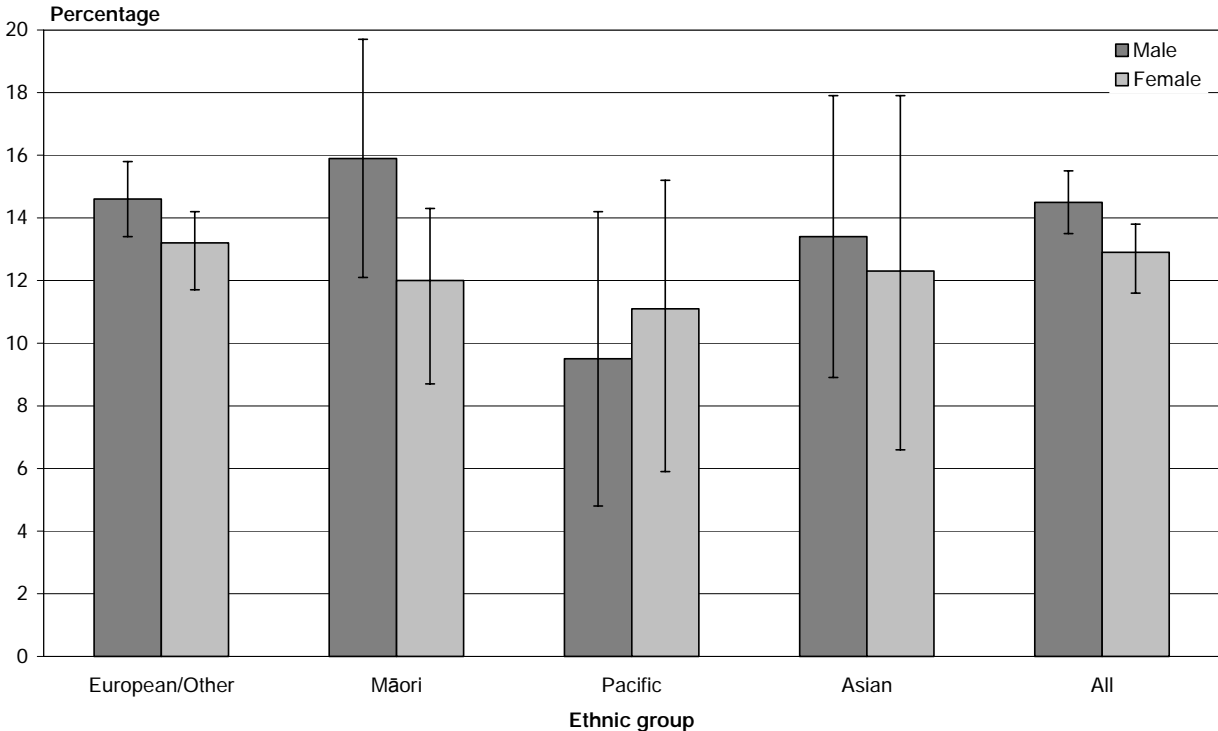
Overall, one in six adults (15.5%; 14.7–16.2) had ever been told by a doctor they have high cholesterol.

There was no significant difference in the prevalence of identified high cholesterol in males (14.5%; 13.4–15.5) and females (12.9%; 12.0–13.8).

Of adults with identified high cholesterol, almost half (46.1%; 43.3–48.8) had ever taken pills regularly for high cholesterol and about four out of 10 (41.2%; 38.2–44.2) currently took pills regularly for high cholesterol.

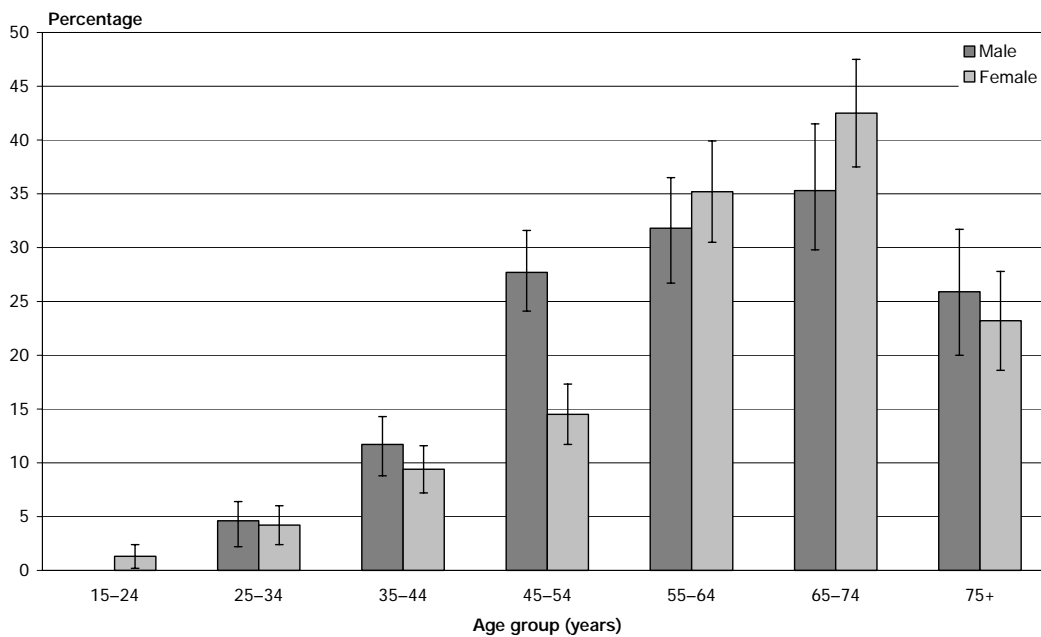
In both males and females, there were no significant differences between ethnic groups in the prevalence of identified high cholesterol (Figure 37). Note that any ethnic differences may reflect differences in the proportion of adults who have been diagnosed, rather than differences in the true prevalence of high cholesterol.

Figure 37: Identified high cholesterol in adults, by ethnic group and sex (age-standardised)



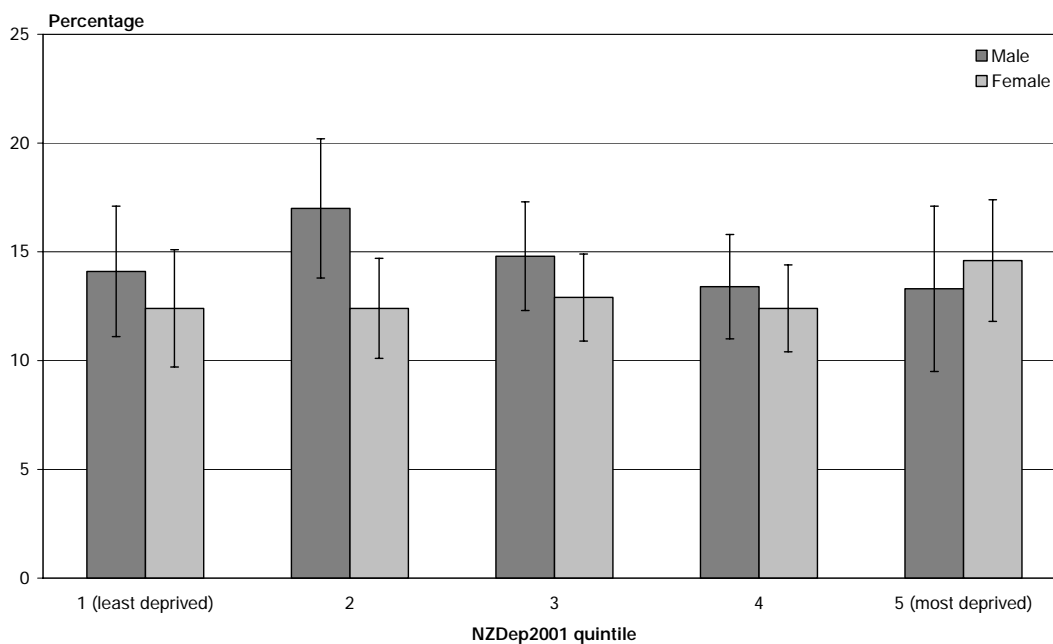
In both males and females, the prevalence of identified high cholesterol increased with age until the 65–74 years age group, and then declined in the 75+ years age group (Figure 38).

Figure 38: Identified high cholesterol in adults, by age group and sex



In both males and females, there was no significant difference in the prevalence of identified high cholesterol between NZDep2001 quintile 1 (least deprived) and quintile 5 (most deprived) (Figure 39).

Figure 39: Identified high cholesterol in adults, by NZDep2001 quintile and sex (age-standardised)



Vegetable and fruit intake

Introduction

Vegetables and fruit are highly nutritious and have been shown to protect against a range of chronic diseases, including heart disease, stroke and many cancers. In New Zealand, it is recommended that adults eat at least three servings of vegetables and at least two servings of fruit each day (Ministry of Health 2003).

In this survey, vegetable and fruit intake was measured by asking participants how many servings of vegetables they eat each day on average and how many servings of fruit they eat each day on average. Participants were provided with information on serving size and the range and type of vegetables and fruit to include (photographs of vegetables and fruit were not included).

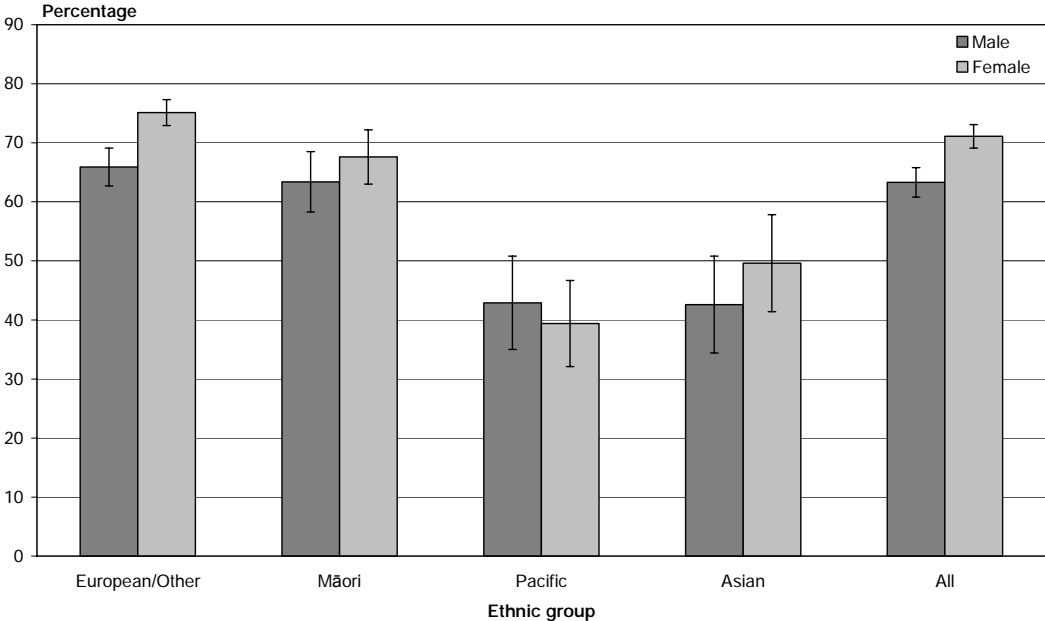
Prevalence of adequate vegetable intake

Overall, two-thirds of adults (68.6%; 67.0–70.1) ate the recommended three or more servings of vegetables each day.

Females (71.1%; 69.1–73.1) were significantly more likely than males (63.3%; 60.8–65.8) to meet the recommendation for vegetable intake.

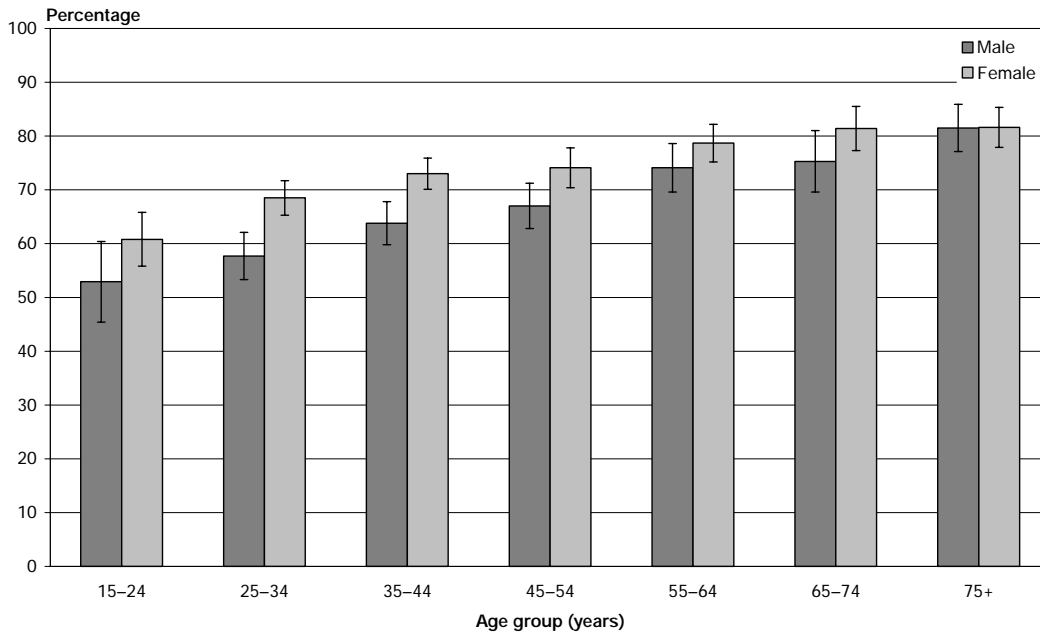
In males, European/Other and Māori ethnic groups were significantly more likely than Pacific and Asian ethnic groups to eat three or more servings of vegetables each day (Figure 40). In females, European/Other were significantly more likely than all other ethnic groups, and Māori were significantly more likely than Pacific and Asian ethnic groups, to eat three or more servings of vegetables each day.

Figure 40: Vegetable intake (three or more servings per day) in adults, by ethnic group and sex (age-standardised)



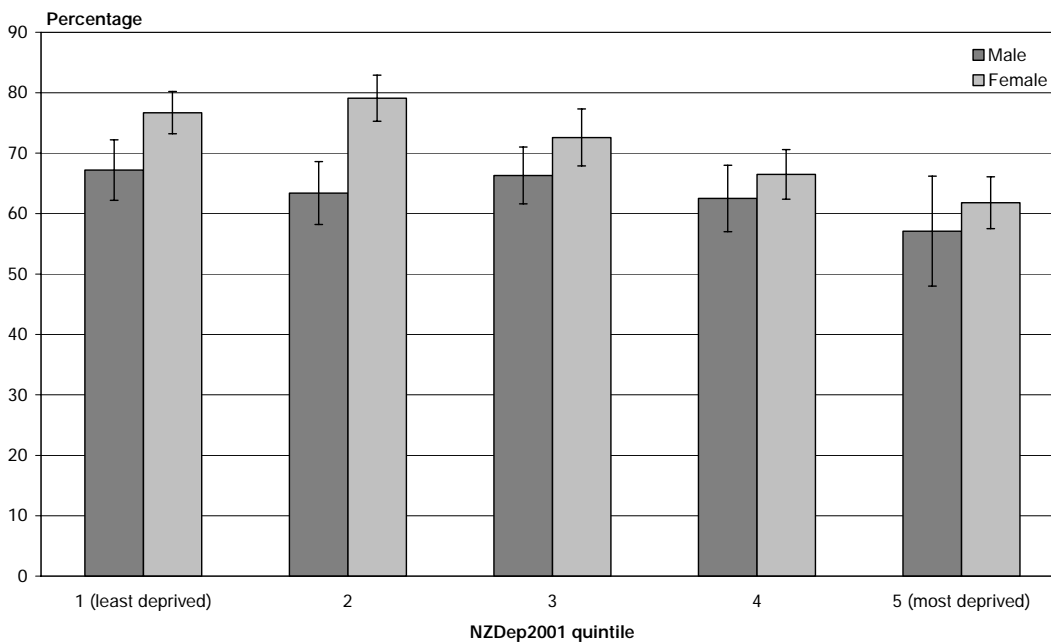
In both males and females, the proportion of adults eating three or more servings of vegetables each day increased with age (Figure 41).

Figure 41: Vegetable intake (three or more servings per day) in adults, by age group and sex



In both males and females, the proportion of adults eating three or more servings of vegetables each day was higher in NZDep2001 quintile 1 (least deprived) than in quintile 5 (most deprived), although the difference was significant only for females (Figure 42).

Figure 42: Vegetable intake (three or more servings per day) in adults, by NZDep2001 quintile and sex (age-standardised)



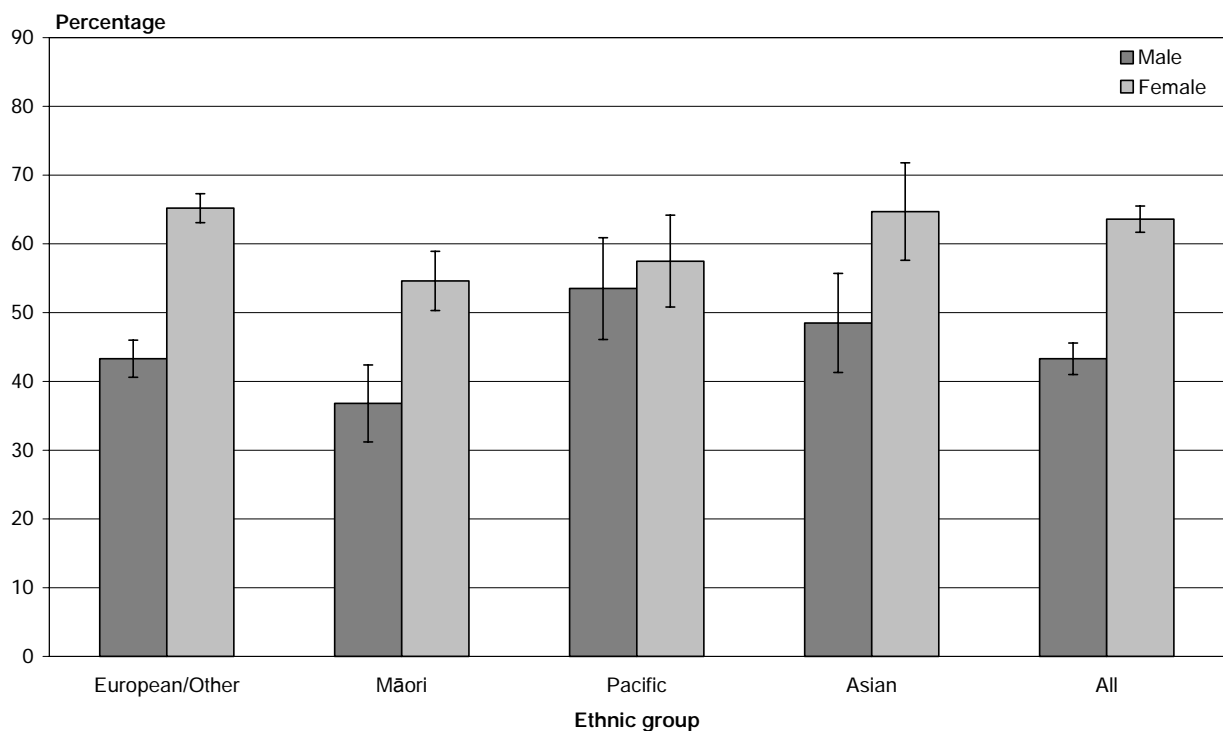
Prevalence of adequate fruit intake

Overall, just over half of adults (54.6%; 53.3–55.9) ate the recommended two or more servings of fruit each day.

Females (63.6%; 61.8–65.5) were significantly more likely than males (43.3%; 41.1–45.6) to meet the recommendation for fruit intake.

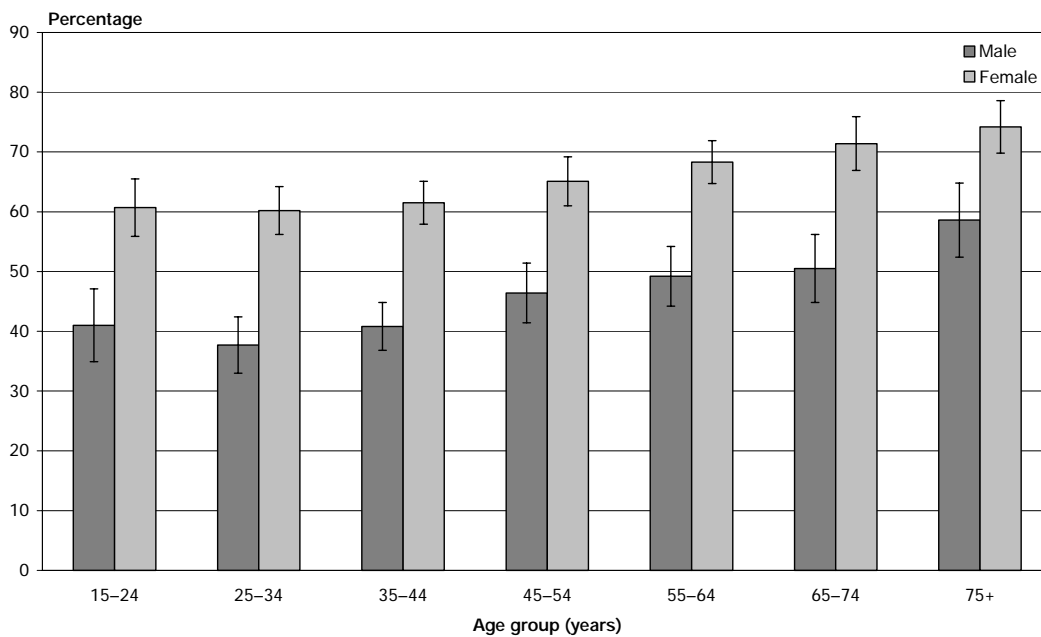
Pacific males were significantly more likely than European/Other and Māori males to eat two or more servings of fruit each day (Figure 43). European/Other females were significantly more likely than Māori females to eat two or more servings of fruit each day.

Figure 43: Fruit intake (two or more servings per day) in adults, by ethnic group and sex (age-standardised)



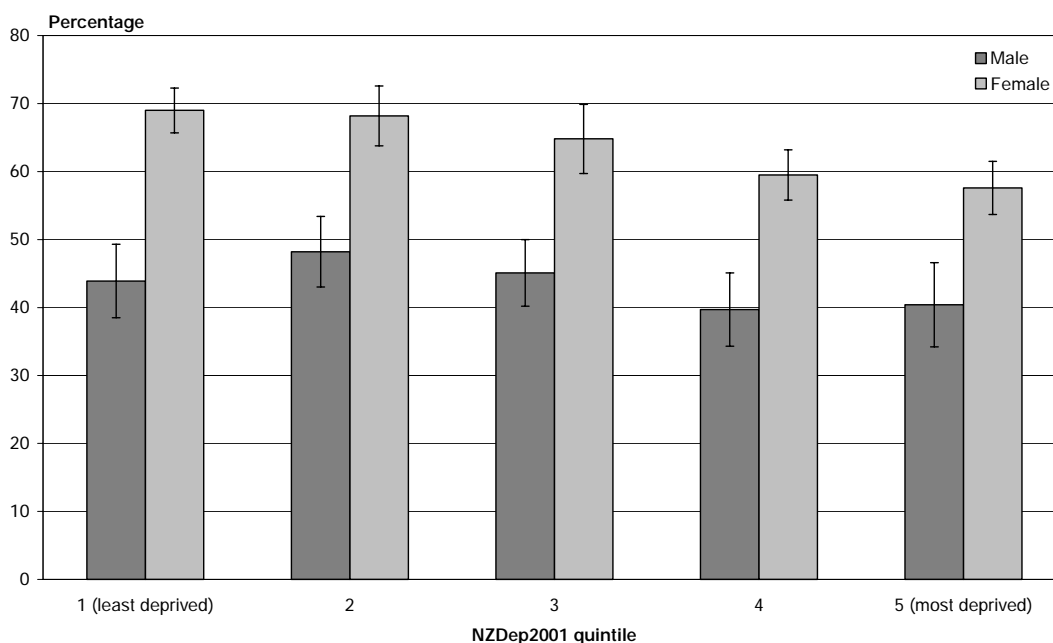
In both males and females, the proportion of adults eating two or more servings of fruit each day was lowest in the 25–34 years age group, and then increased with age (Figure 44).

Figure 44: Fruit intake (two or more servings per day) in adults, by age group and sex



In males, the proportion eating two or more servings of fruit each day was similar in all NZDep2001 quintiles (Figure 45). Females living in NZDep2001 quintile 1 (least deprived) were significantly more likely than females living in quintile 5 (most deprived) to eat two or more servings of fruit each day.

Figure 45: Fruit intake (two or more servings per day) in adults, by NZDep2001 quintile and sex (age-standardised)



Physical activity

Introduction

Physical activity is protective against chronic diseases such as heart disease, stroke, certain cancers and type 2 diabetes. Physical activity also helps lower risk factors for these diseases, such as high blood pressure and high cholesterol.

Physical activity refers to all movement produced by skeletal muscles that increases energy expenditure, whether it is incidental, occupational or recreational. To adequately measure physical activity, information needs to be collected on the intensity, frequency, type, context and duration of activity. Unfortunately, there is no universal or commonly used measure for investigating each of these five dimensions.

In this survey, physical activity was measured by asking participants how much physical activity they had done in the last seven days, with separate questions for brisk walking, moderate activity and vigorous activity. Total physical activity (minutes per week) was calculated as: minutes of brisk walking + minutes of moderate activity + (minutes of vigorous activity x two) (ie, one minute of vigorous activity is equivalent to two minutes of moderate intensity activity). Participants were also asked on how many of the last seven days they were active.

Sport and Recreation New Zealand recommends that adults do at least 30 minutes of moderate intensity physical activity (equivalent to brisk walking) on most (at least five), if not all, days of the week (Hillary Commission 2001). It is also recommended that, when possible, vigorous exercise is added for extra fitness and health benefits.

The following definitions are used:

- Physically active – at least 2.5 hours of physical activity in the last week, with exercise accumulated on one or more days of the week.
- Regularly physically active – at least 2.5 hours of physical activity in the last week, comprising at least 30 minutes of physical activity per day on five or more days of the last week.
- Sedentary – less than 30 minutes of physical activity in the last week.

Prevalence of physical activity

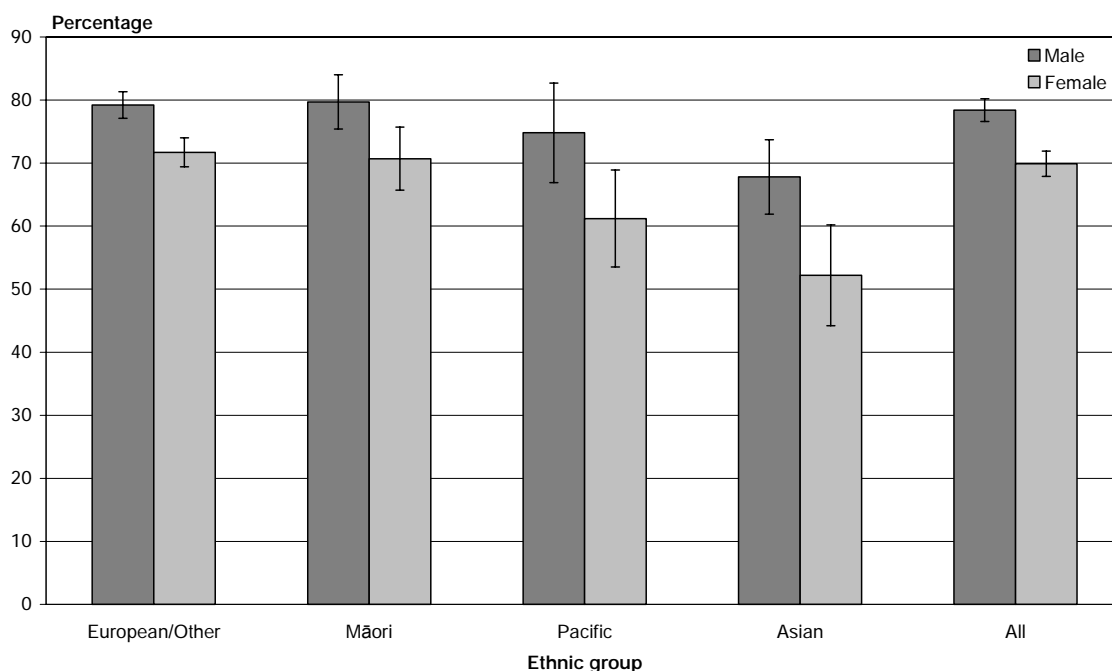
Overall, three out of four adults (73.4%; 72.0–74.8) were physically active.

Males (78.4%; 76.6–80.2) were significantly more likely than females (69.9%; 67.9–71.9) to be physically active.

A smaller proportion of adults (52.1%; 50.7–53.6) were regularly physically active. Males (56.7%; 54.5–58.9) were significantly more likely than females (48.6%; 46.5–50.6) to be regularly physically active.

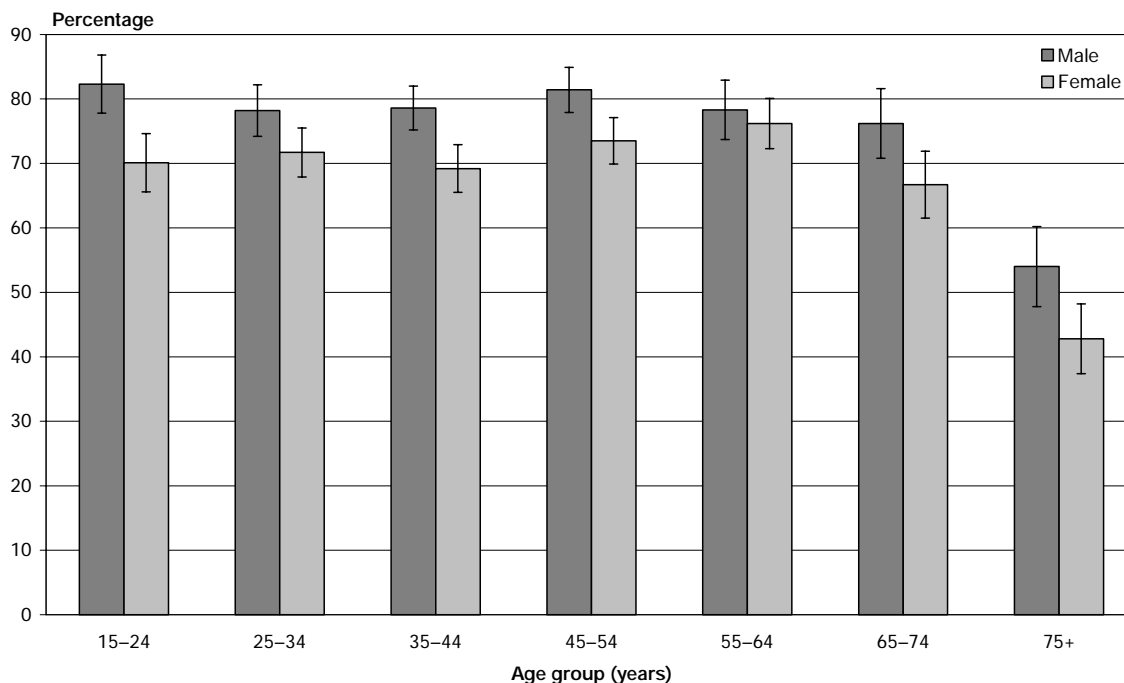
In both males and females, Asian peoples were significantly less likely to be physically active than European/Other and Māori ethnic groups (Figure 46).

Figure 46: Physically active adults, by ethnic group and sex (age-standardised)



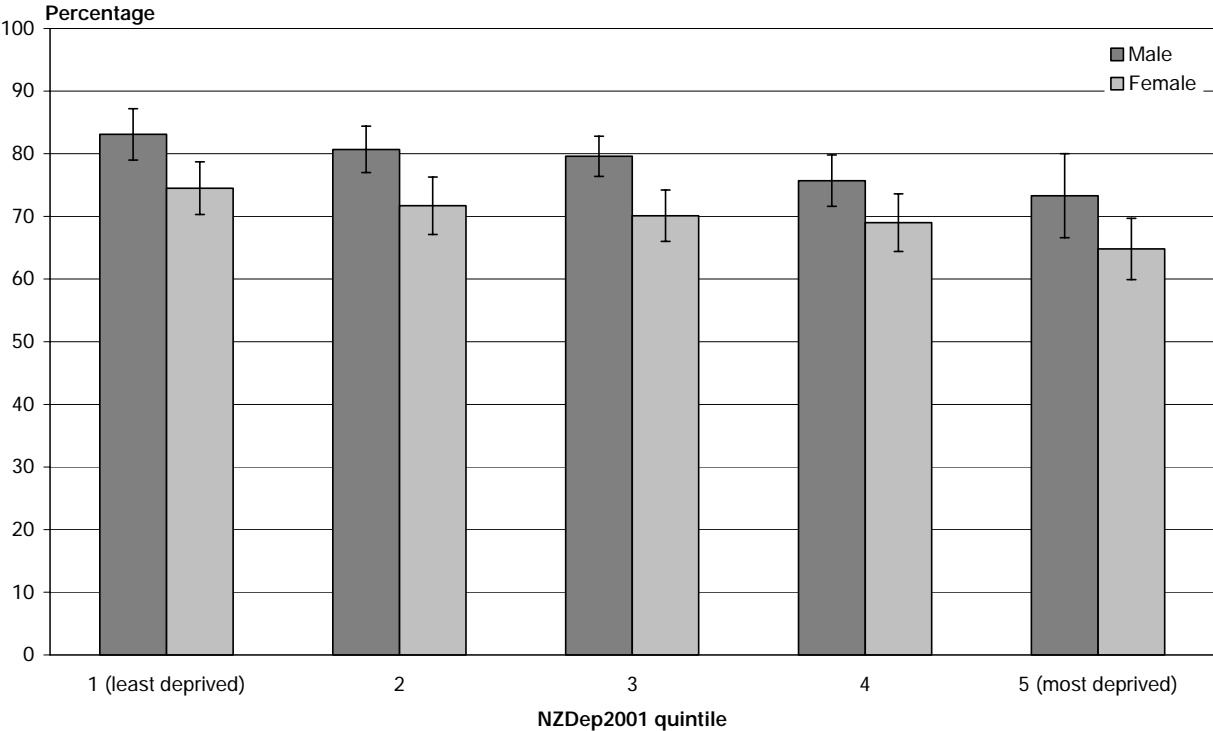
In both males and females, physical activity levels were relatively stable across all age groups from age 15 to 74 years, decreasing significantly in the oldest age group (Figure 47).

Figure 47: Physically active adults, by age group and sex



In both males and females, adults living in NZDep2001 quintile 1 (least deprived) were more likely than adults living in quintile 5 (most deprived) to be physically active, although this difference was not significant for males (Figure 48).

Figure 48: Physically active adults, by NZDep2001 quintile and sex (age-standardised)



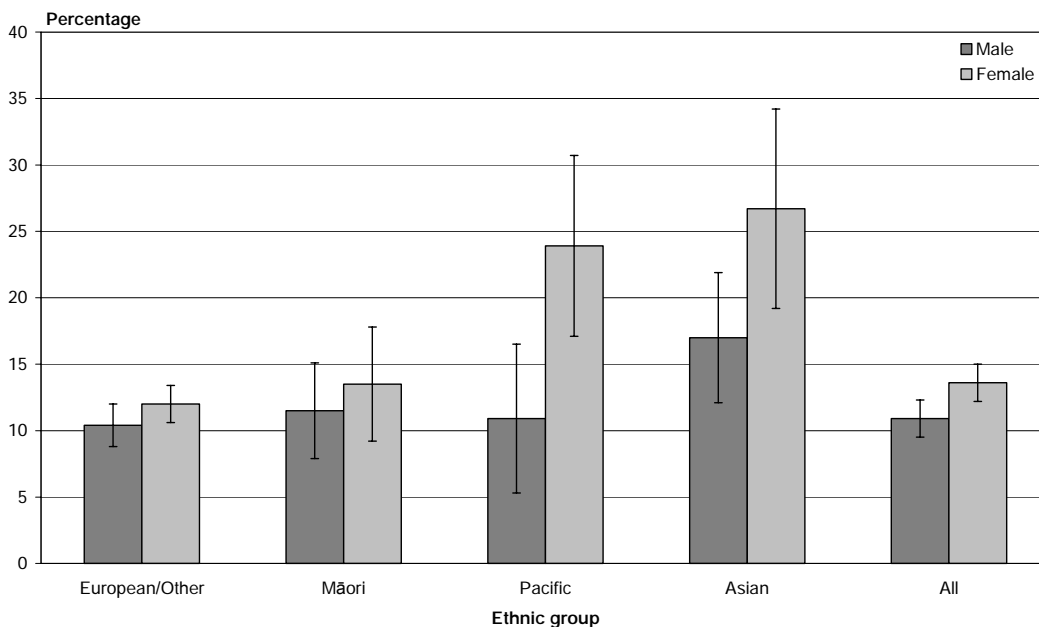
Prevalence of sedentary activity

Overall, one in eight adults (13.1%; 12.1–14.1) was sedentary (defined as less than 30 minutes of physical activity per week).

Females (13.6%; 12.2–15.1) were more likely than males (10.9%; 9.5–12.3) to be sedentary, although this difference was not significant.

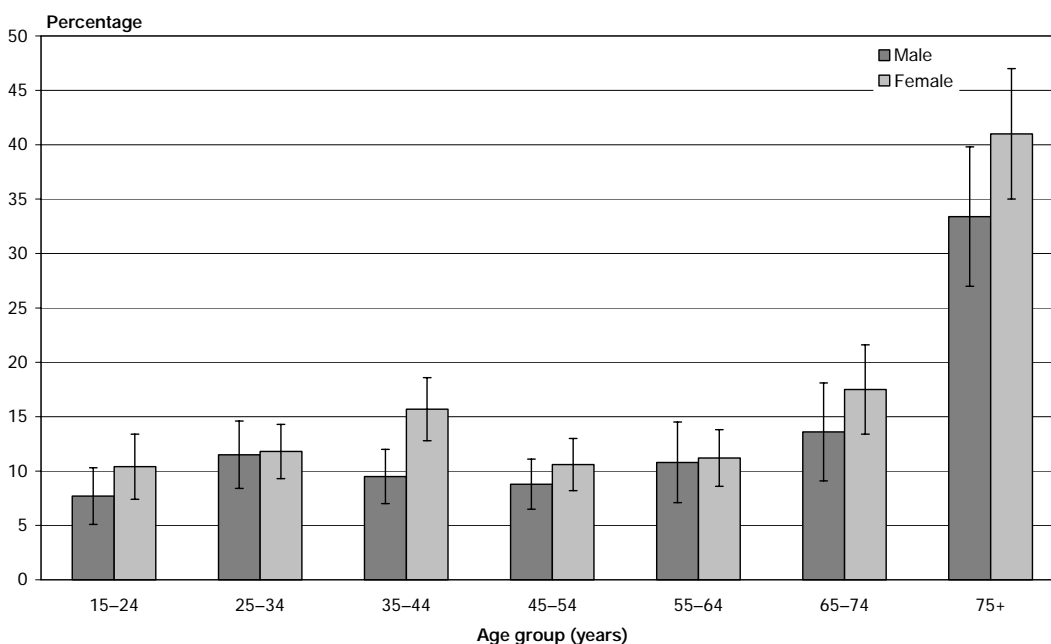
Asian males were significantly more likely to be sedentary than European/Other males (Figure 49). Asian females were significantly more likely to be sedentary than European/Other and Māori females, and Pacific females were significantly more likely to be sedentary than European/Other females.

Figure 49: Sedentary adults, by ethnic group and sex (age-standardised)



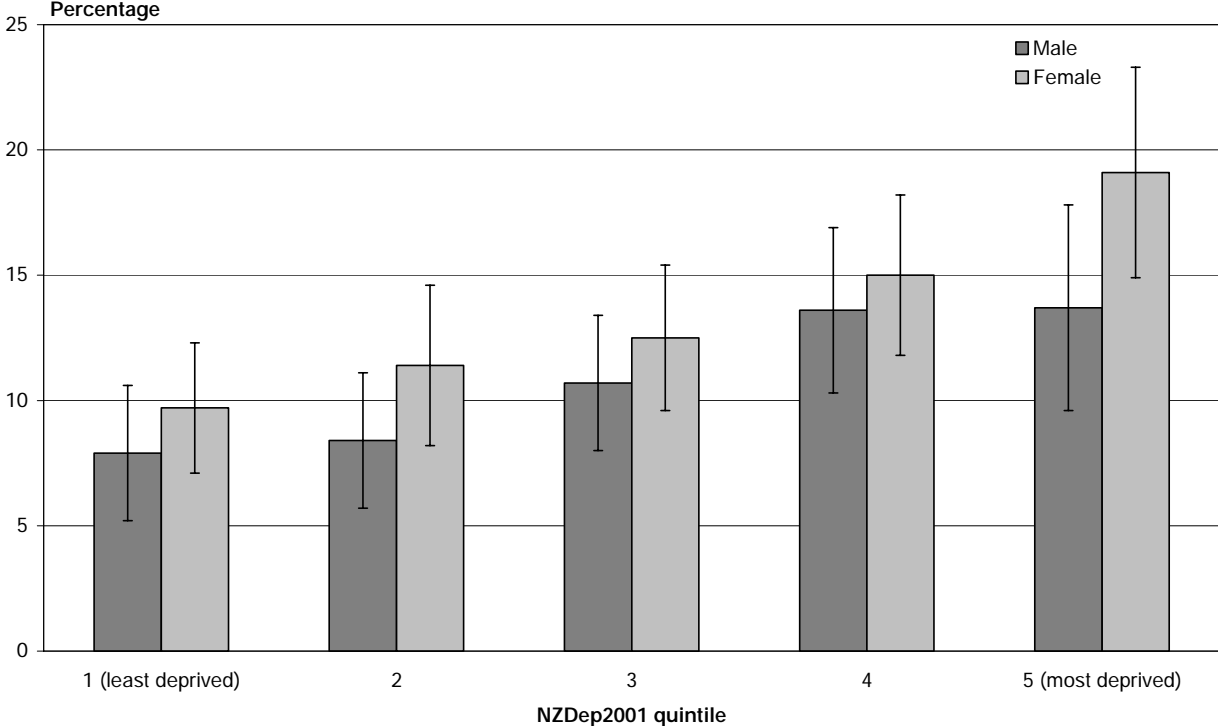
In both males and females, the proportion of adults who were sedentary was similar from age 15 to 74 years, then increased significantly in the 75+ years age group (Figure 50).

Figure 50: Sedentary adults, by age group and sex



In both males and females, the proportion of sedentary adults was about twice as high in NZDep2001 quintile 5 (most deprived) than in quintile 1 (least deprived), although this difference was not significant for males (Figure 51).

Figure 51: Sedentary adults, by NZDep2001 quintile and sex (age-standardised)



Body weight

Introduction

Overweight and obesity are important risk factors for several diseases, including type 2 diabetes, ischaemic heart disease, ischaemic stroke and several common cancers. The impact of overweight and obesity on these diseases operates, at least in part, through its effects on insulin resistance, blood glucose, blood lipids and blood pressure. Independently of overweight and obesity, fluctuations in body weight as a result of dieting and weight gain during adulthood have also been shown to increase the risk of certain diseases.

This section of the survey included measurements of height, weight and waist circumference using standardised equipment and techniques. Participants were also asked whether they had gained more than 10 kg since age 18 years (adult weight gain) and whether they had ever lost more than 10 kg through dieting and then put it on again (weight cycling).

Body mass index (BMI) was calculated by dividing weight in kilograms by height in metres squared (kg/m^2). Adults were classified as overweight or obese according to their BMI (Table 10). Higher BMI cutoffs were used to classify Māori and Pacific peoples as overweight and obese to account for differences in muscle mass (Swinburn 1998).

Table 10: Classifications of overweight and obesity according to BMI (kg/m^2)

Classification	European, Asian and Other	Māori and Pacific
Overweight	25.0–29.9	26.0–31.9
Obese	≥ 30.0	≥ 32.0
Overweight or obese	≥ 25.0	≥ 26.0

Lower BMI cutoffs have been suggested for adults of Asian origin (23 and 25 for overweight and obesity respectively) (WHO 2000). However, these proposed cutoffs have not been widely accepted, so have not been used in this report. As a result, by using the standard BMI cutoffs we may have underestimated the prevalence of overweight and obesity in Asian peoples.

Adults were classified as having abdominal obesity if their waist circumference was 102 cm or more for males and 88 cm or more for females.

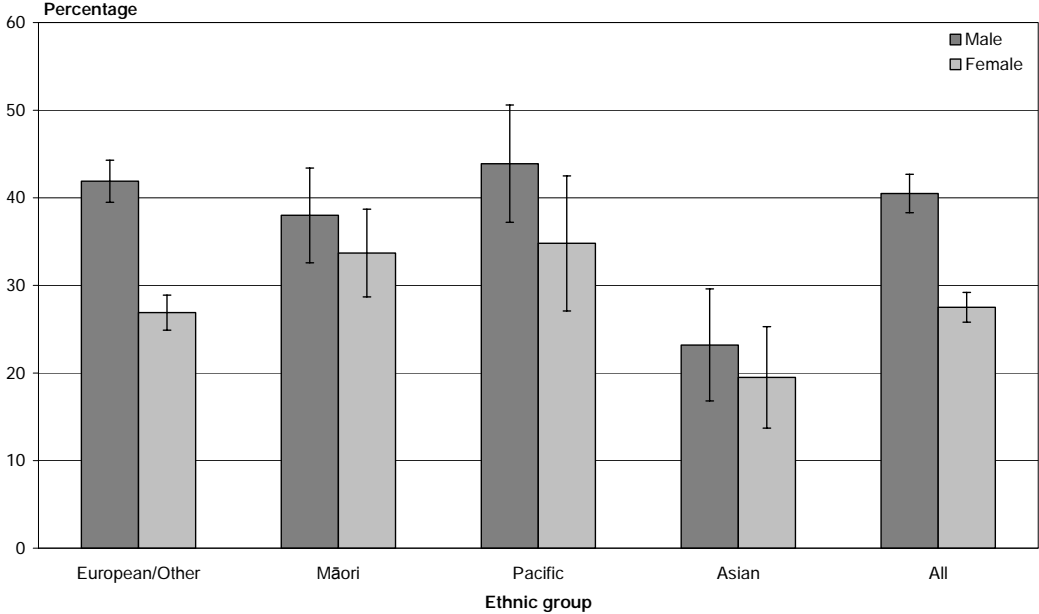
Prevalence of overweight

Overall, one in three adults (35.2%; 34.0–36.4) was overweight (excludes obese).

Males (40.5%; 38.3–42.8) were significantly more likely than females (27.5%; 25.8–29.2) to be overweight.

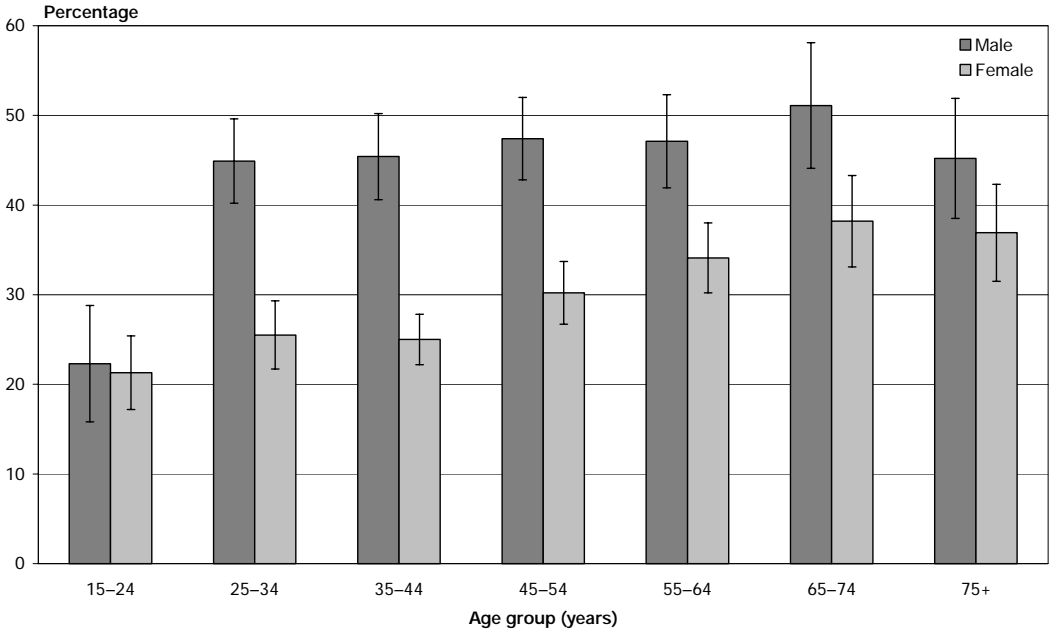
Asian males were significantly less likely to be overweight than European/Other, Māori and Pacific males (Figure 52). Asian females were significantly less likely to be overweight than Māori and Pacific females. Note: the threshold for overweight may have been set too high for the Asian ethnic group, so underestimating the prevalence of overweight in this group.

Figure 52: Overweight in adults, by ethnic group and sex (age-standardised)



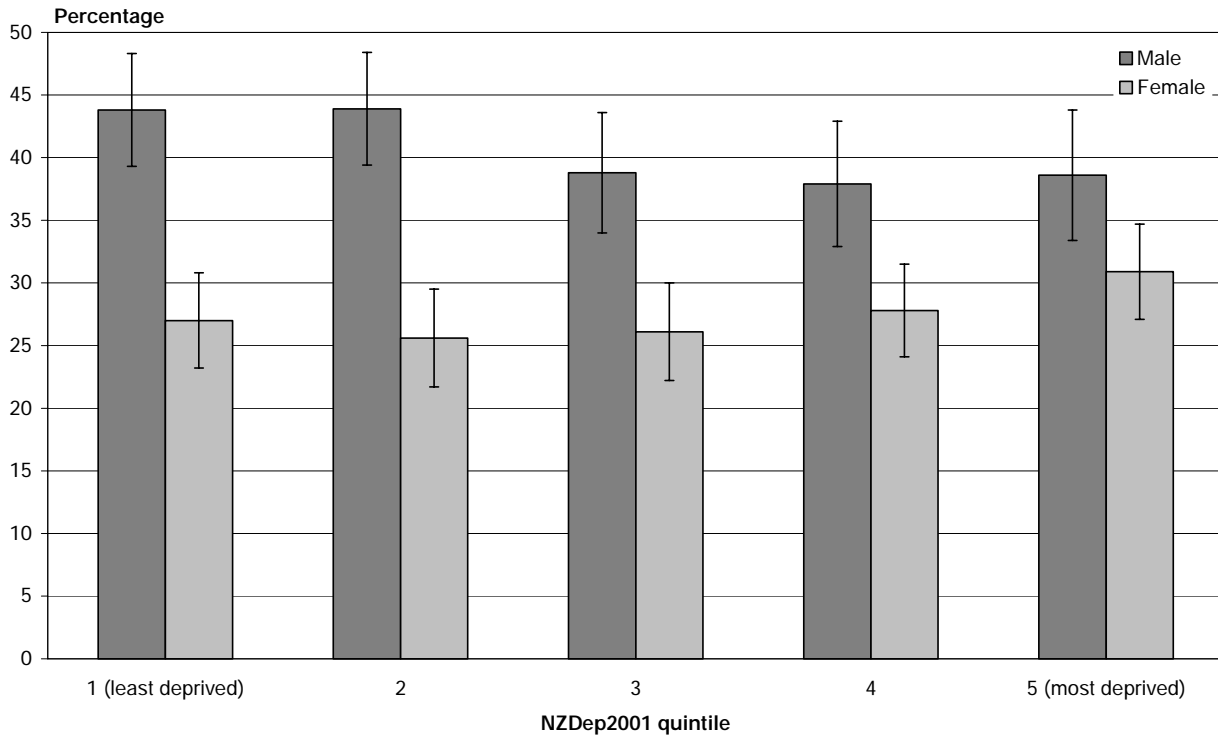
In males, the prevalence of overweight increased significantly from the 15–24 to 25–34 years age group, then remained relatively stable (Figure 53). In females, the prevalence of overweight increased with age until age 65–74 years and then declined slightly in the oldest age group.

Figure 53: Overweight in adults, by age group and sex



In both males and females, there was no significant difference in the prevalence of overweight between NZDep2001 quintile 1 (least deprived) and quintile 5 (most deprived) (Figure 54).

Figure 54: Overweight in adults, by NZDep2001 quintile and sex (age-standardised)



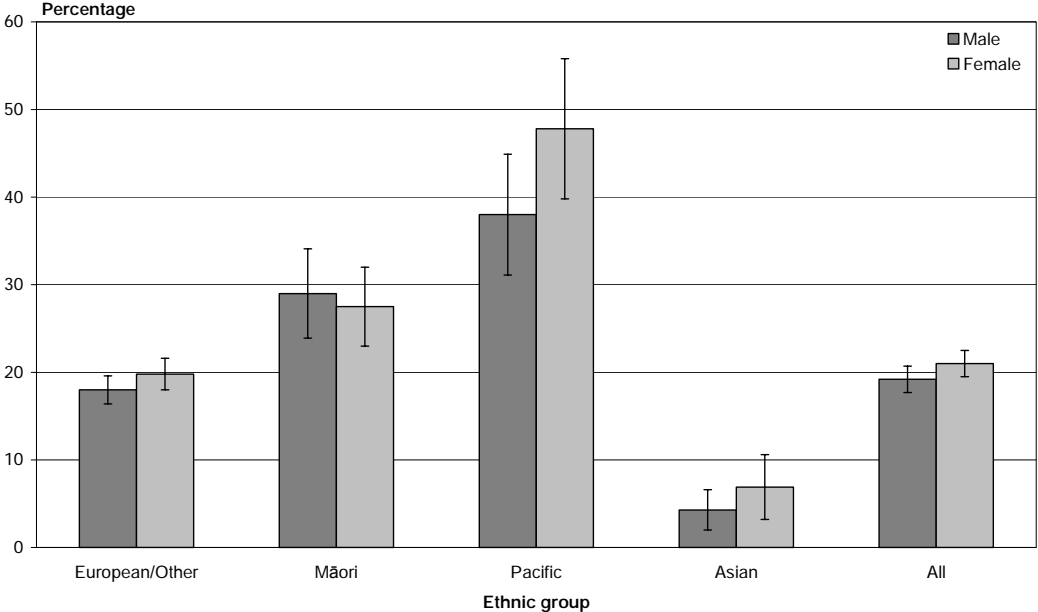
Prevalence of obesity

Overall, one in five adults (20.9%; 19.9–22.0) was obese.

There was no significant difference in the proportion of males (19.2%; 17.7–20.6) and females (21.0%; 19.5–22.5) who were obese.

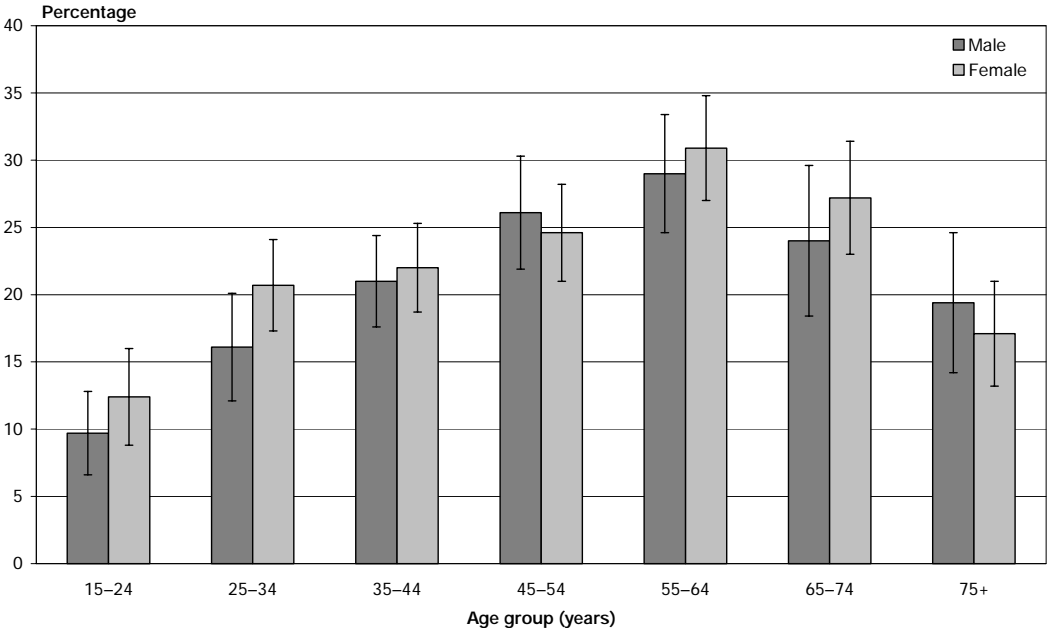
In both males and females, the prevalence of obesity was highest in the Pacific ethnic group, followed by Māori, European/Other and Asian ethnic groups (Figure 55). Differences between ethnic groups in the prevalence of obesity were significant, except between Māori and Pacific males. Note: the threshold for obesity may have been set too high for the Asian ethnic group, so underestimating the prevalence of obesity in this group.

Figure 55: Obesity in adults, by ethnic group and sex (age-standardised)



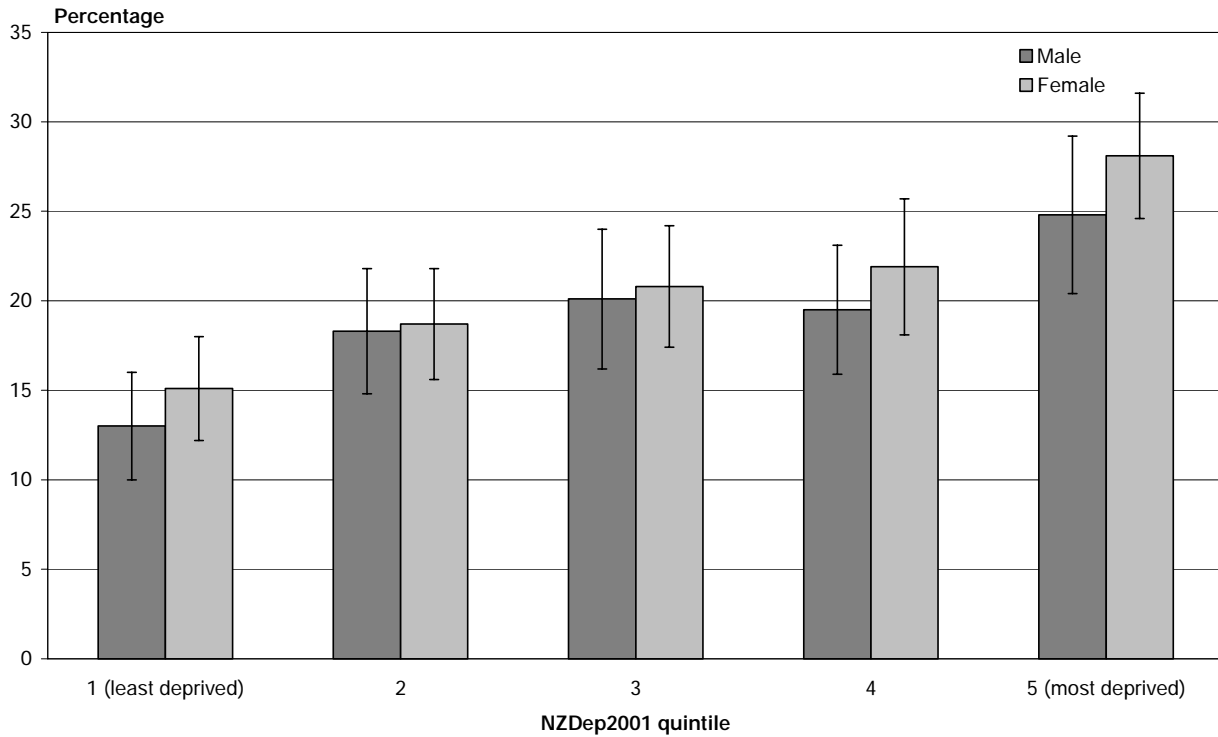
In both males and females, the prevalence of obesity increased with age until age 55–64 years, and then declined slightly in the two oldest age groups (Figure 56).

Figure 56: Obesity in adults, by age group and sex



In both males and females, the prevalence of obesity was significantly higher in NZDep2001 quintile 5 (most deprived) than quintile 1 (least deprived) (Figure 57).

Figure 57: Obesity in adults, by NZDep2001 quintile and sex (age-standardised)



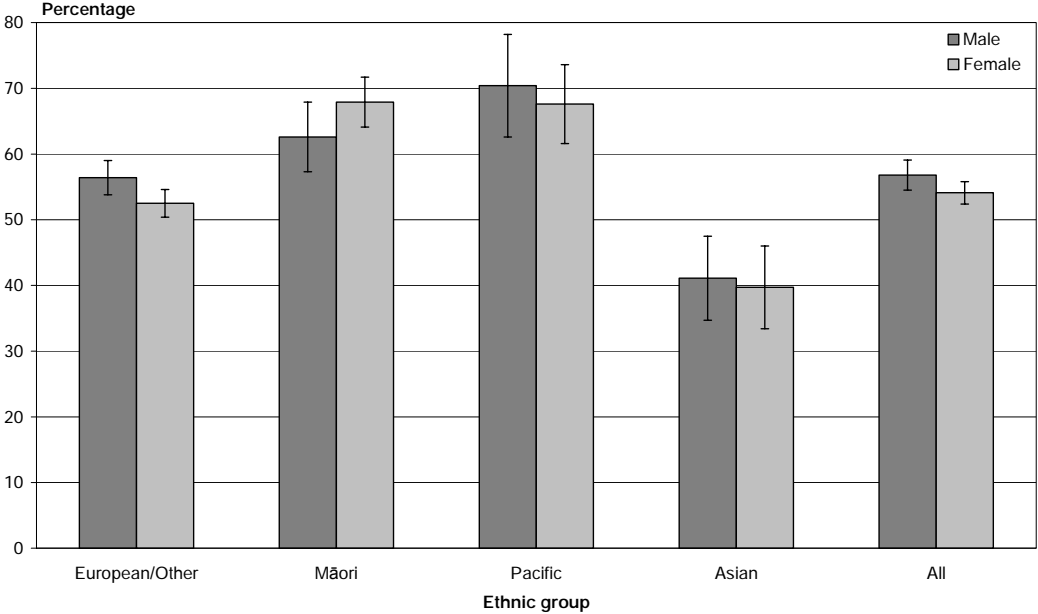
Prevalence of adult weight gain

Overall, just over half of adults (56.9%; 55.6–58.3) had gained 10 kg or more since age 18 years.

There was no significant difference in the prevalence of adult weight gain between males (56.8%; 54.4–59.1) and females (54.1%; 52.4–55.8).

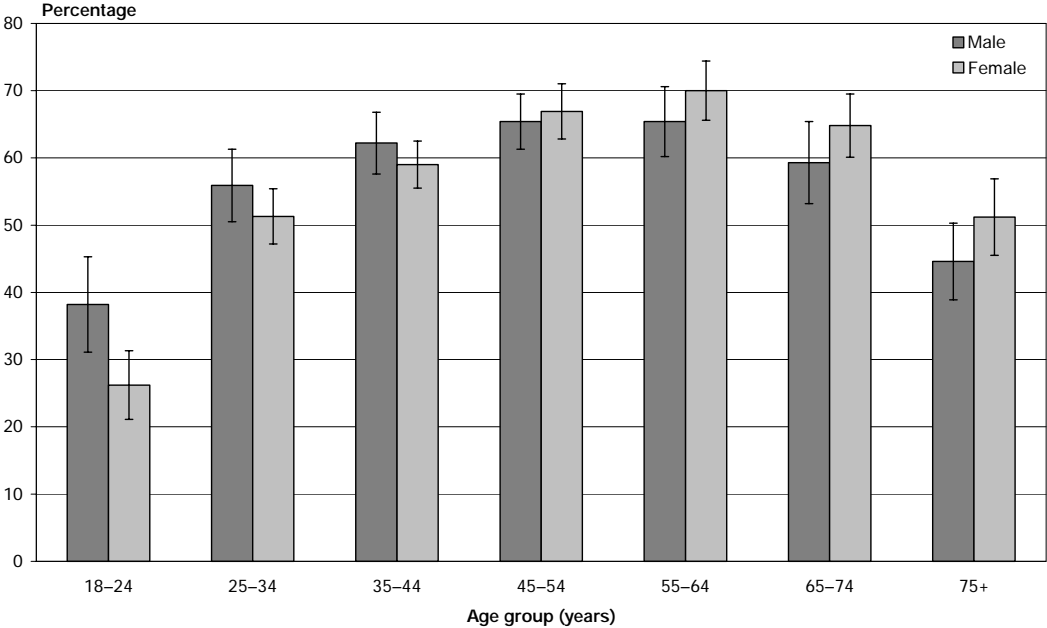
In both males and females, the prevalence of adult weight gain was highest in Pacific and Māori ethnic groups, intermediate in the European/Other ethnic group and lowest in the Asian ethnic group (Figure 58). Differences between ethnic groups were significant, except between the Māori and Pacific ethnic groups and between European/Other and Māori males.

Figure 58: Adult weight gain, by ethnic group and sex (age-standardised)



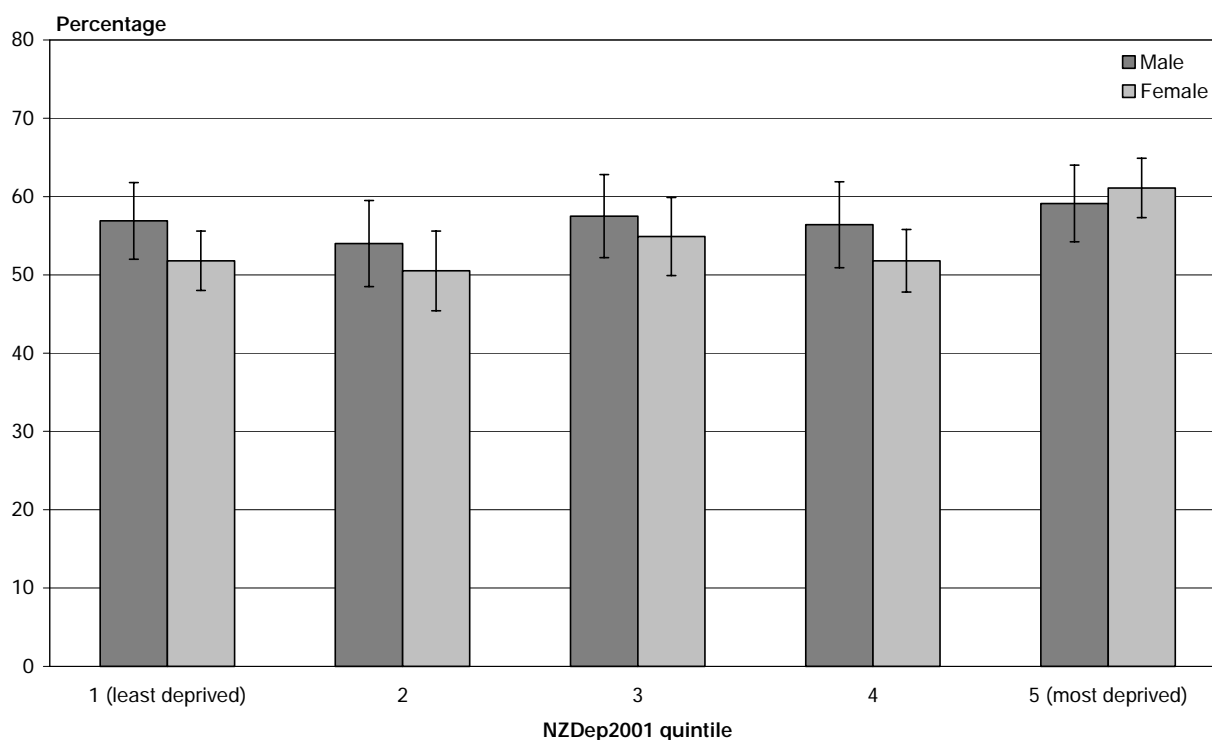
In both males and females, the prevalence of adult weight gain increased with age until the 55–64 years age groups, and then declined in the two oldest age groups (Figure 59).

Figure 59: Adult weight gain, by age group and sex



In males, there was no significant difference in the prevalence of adult weight gain in NZDep2001 quintile 1 (least deprived) and quintile 5 (most deprived) (Figure 60). In females, prevalence of adult weight gain was significantly higher in those living in NZDep2001 quintile 5 (most deprived) than in quintile 1 (least deprived).

Figure 60: Adult weight gain, by NZDep2001 quintile and sex (age-standardised)



Alcohol

Introduction

Alcohol is the most commonly used recreational drug in New Zealand. Alcohol causes a range of adverse effects on health, including cirrhosis of the liver, pancreatitis, endocrine disorders, cardiomyopathy, gastritis, high blood pressure, haemorrhagic stroke, and cancers of the mouth, pharynx, larynx, oesophagus, breast and liver. High levels of alcohol use are also associated with alcohol dependence and abuse, and alcohol during pregnancy can lead to birth defects in infants, including foetal alcohol syndrome. In older people, moderate alcohol consumption can protect against ischaemic heart disease, ischaemic stroke, vascular dementia and type 2 diabetes.

In this survey, participants were asked questions about their alcohol consumption using the Alcohol Use Disorders Identification Test (AUDIT). The AUDIT is a 10-item questionnaire covering alcohol consumption, alcohol-related problems and abnormal drinking behaviour. It was developed by the World Health Organization as a screening tool for health professionals to identify people at risk of developing alcohol problems (Babor et al 1992, Saunders et al 1993). Each question is scored from zero to four, so the questionnaire has a maximum score of 40. Hazardous drinking is defined as an established pattern of drinking that carries a high risk of

future damage to physical or mental health, but has not yet resulted in significant adverse effects. Hazardous drinking is most commonly identified from an AUDIT score of eight or more.

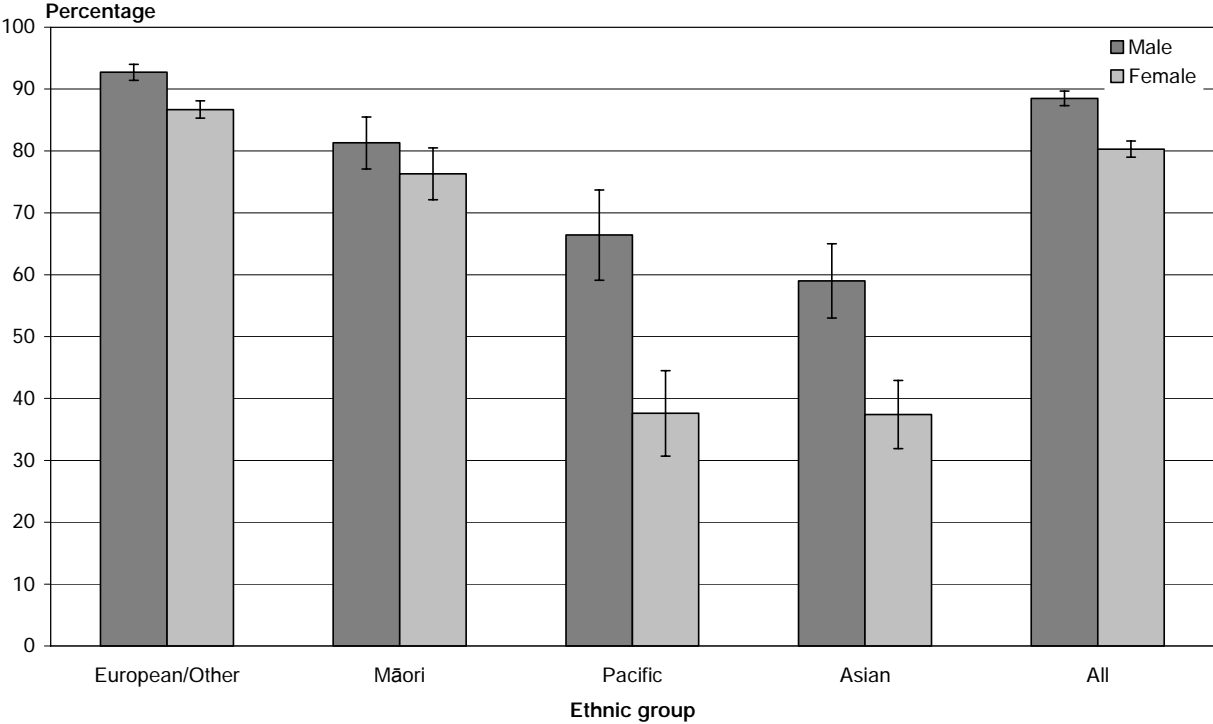
Prevalence of past year alcohol use

Overall, eight out of 10 adults (83.5%; 82.7–84.4) reported having had a drink containing alcohol in the last year.

The prevalence of past year alcohol use was significantly higher in males (88.5%; 87.3–89.6) than in females (80.3%; 79.0–81.6).

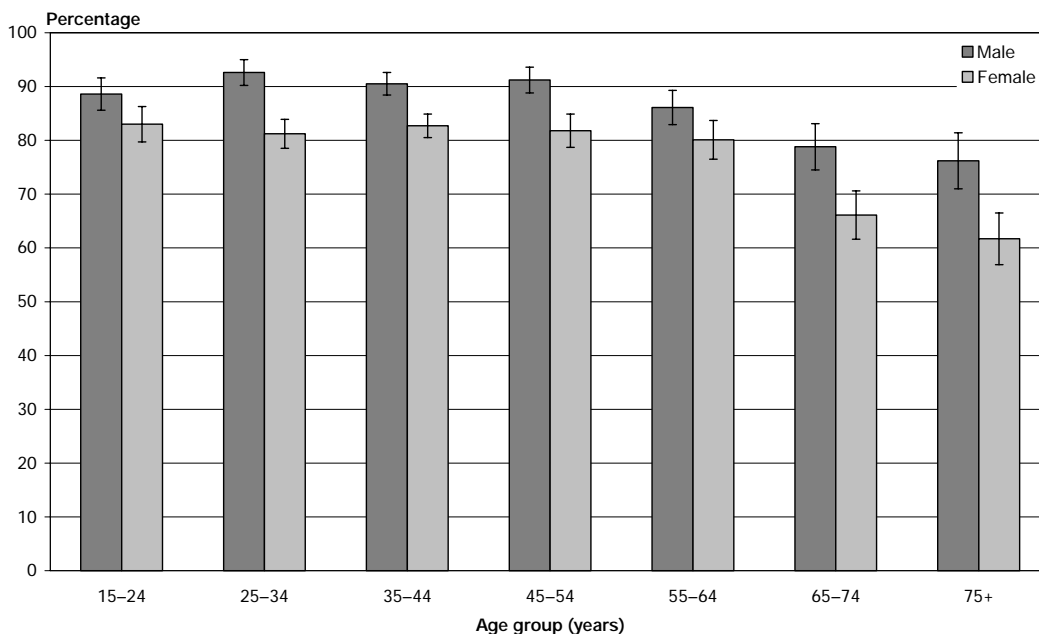
In both males and females, the prevalence of past year alcohol use was highest in the European/Other ethnic group, followed by Māori, Pacific and Asian ethnic groups (Figure 61). Differences between ethnic groups were significant, except between the Pacific and Asian ethnic groups.

Figure 61: Past year alcohol use in adults, by ethnic group and sex (age-standardised)



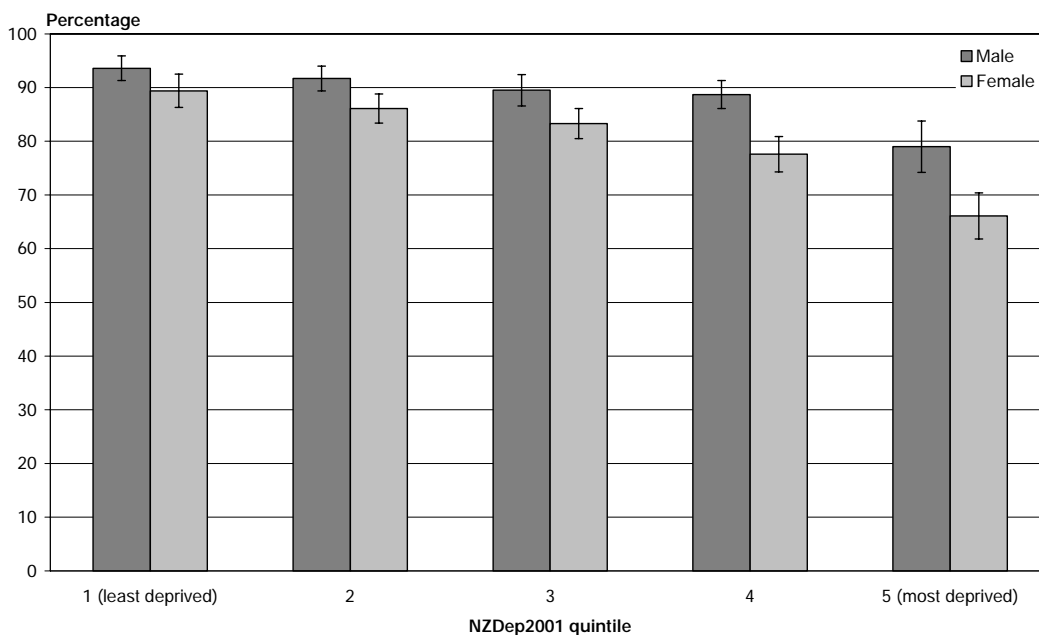
In both males and females, the prevalence of past year alcohol use was relatively stable until age 45–54 years, after which it declined slightly in males and more substantially in females (Figure 62).

Figure 62: Past year alcohol use in adults, by age group and sex



In both males and females, the prevalence of past year alcohol use was significantly higher in NZDep2001 quintile 1 (least deprived) than in quintile 5 (most deprived) (Figure 63).

Figure 63: Past year alcohol use in adults, by NZDep2001 quintile and sex (age-standardised)



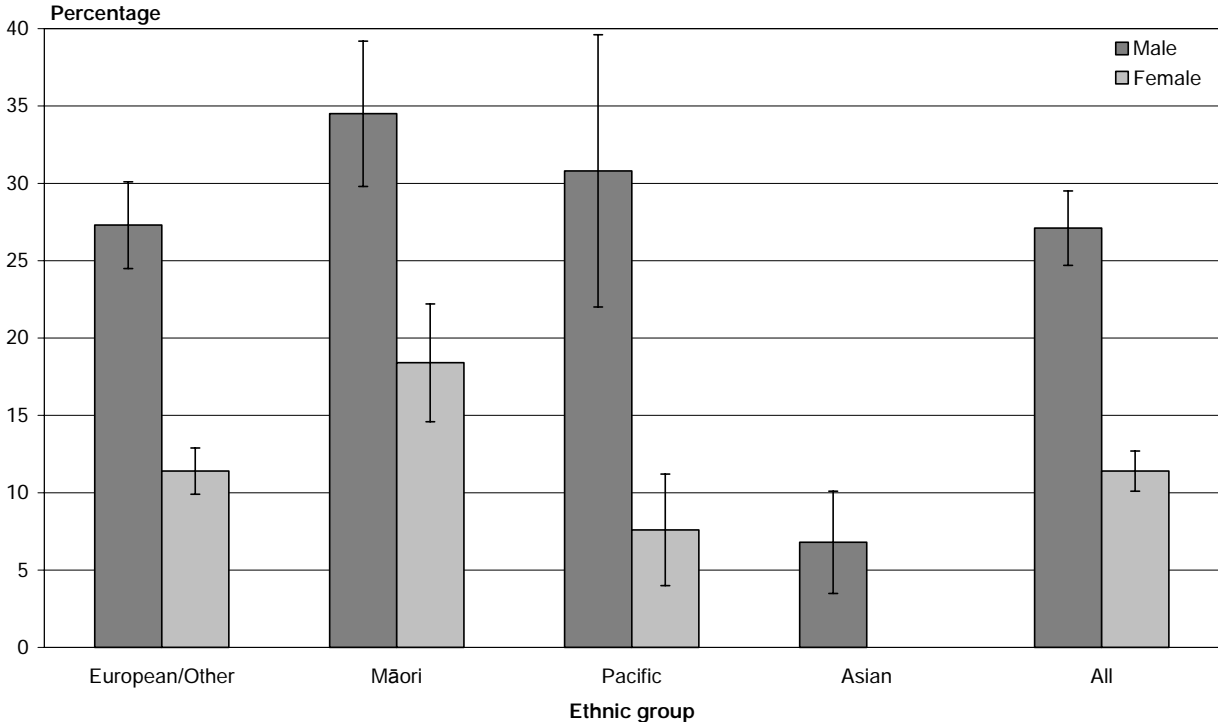
Prevalence of hazardous drinking

One in six adult drinkers (17.2%; 16.1–18.3) had a potentially hazardous drinking pattern, as indicated by an AUDIT score of eight or more.

Male drinkers (27.1%; 24.7–29.5) were significantly more likely than female drinkers (11.4%; 10.1–12.7) to have a potentially hazardous drinking pattern.

Māori, Pacific and European/Other males were significantly more likely to have a potentially hazardous drinking pattern than Asian males (Figure 64). Māori females were significantly more likely to have a potentially hazardous drinking pattern than females from all other ethnic groups.

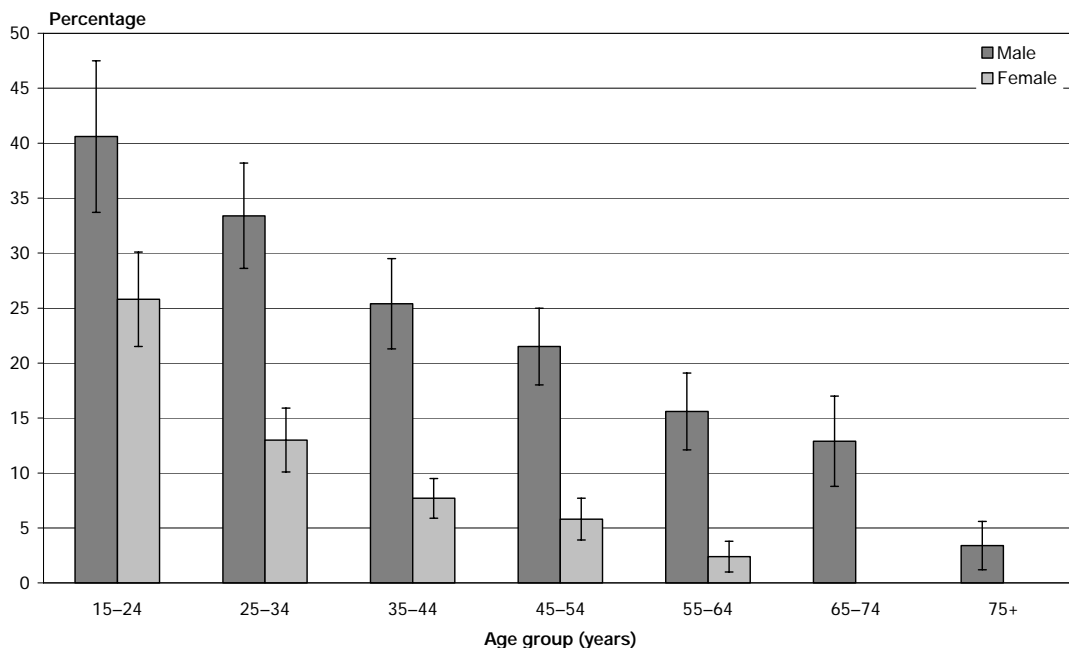
Figure 64: Potentially hazardous drinking pattern in adults, by ethnic group and sex (age-standardised)



Note: Data are not shown for Asian females due to low numbers.

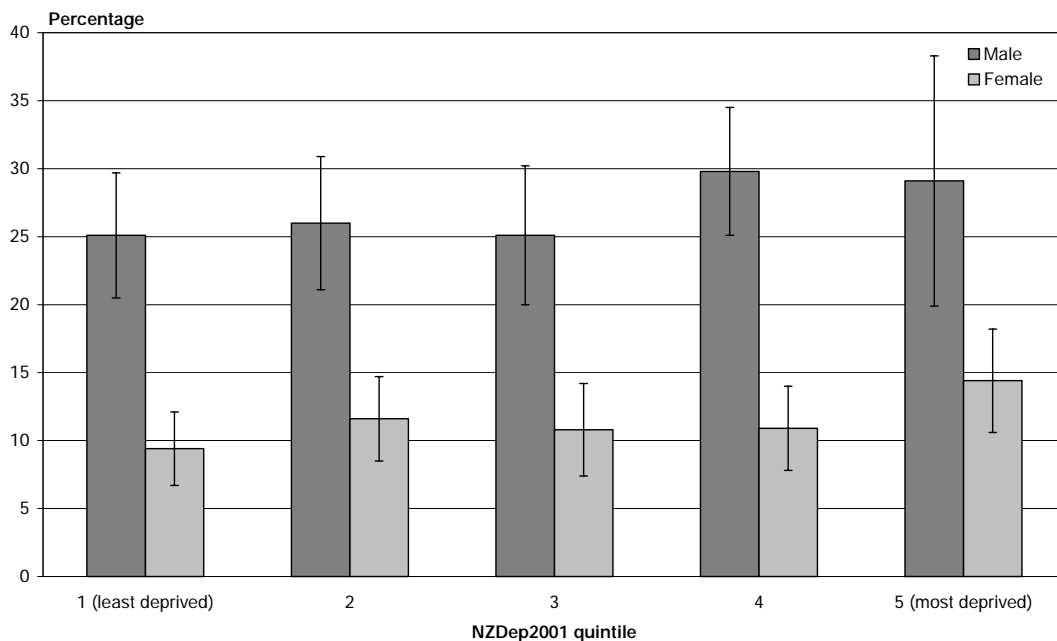
In both males and females, the proportion of adult drinkers with a potentially hazardous drinking pattern was highest in the 15–24 years age group, and then decreased with age (Figure 65).

Figure 65: Potentially hazardous drinking pattern in adults, by age group and sex



In both males and females, the proportion of adult drinkers with a potentially hazardous drinking pattern was slightly higher in NZDep2001 quintile 5 (most deprived) than in quintile 1 (least deprived), although these differences were not significant (Figure 66).

Figure 66: Potentially hazardous drinking pattern in adults, by NZDep2001 quintile and sex (age-standardised)



Tobacco smoking

Introduction

Tobacco smoking has long been known to be a major cause of death and ill health. Smoking is a risk factor for cancers of the lung, mouth, pharynx, oesophagus, larynx, pancreas and kidney. Smoking also increases the risk of heart disease, stroke and chronic respiratory diseases.

In this survey, participants are asked questions about their smoking habits, including the frequency and quantity of tobacco smoking, and whether they were exposed to tobacco smoke in the home.

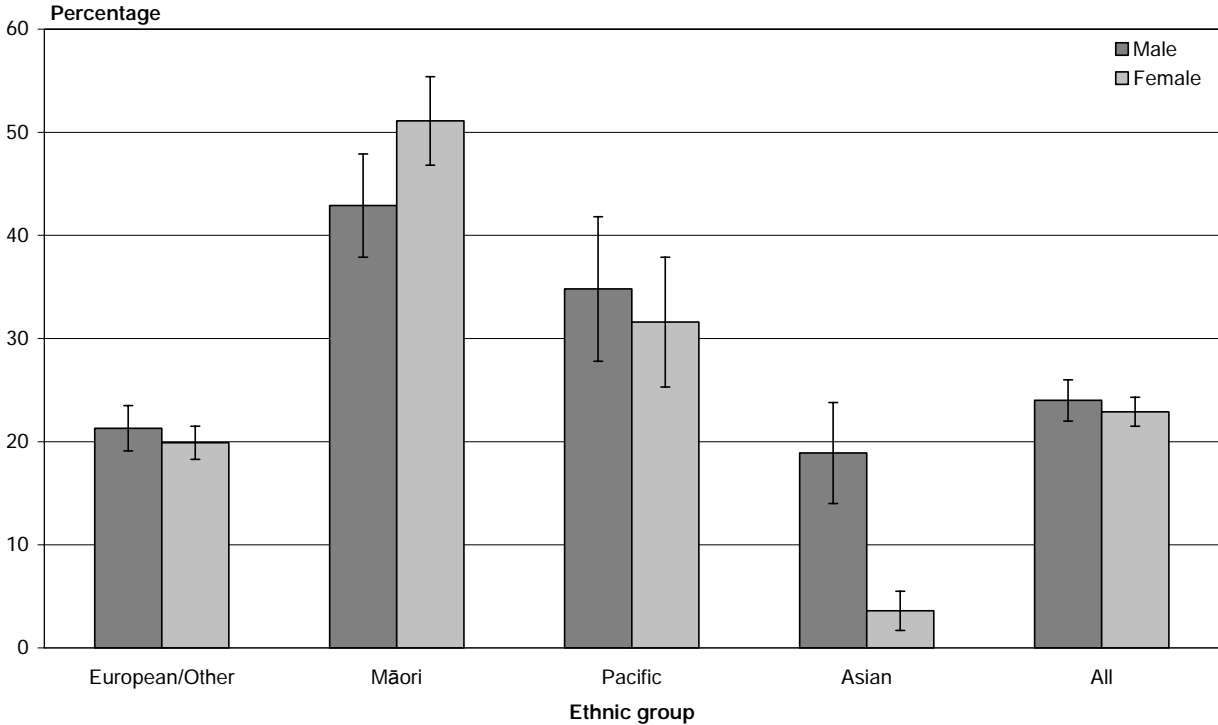
Prevalence of current smoking

Overall, one in four adults (22.9%; 21.8–24.0) reported smoking one or more tobacco cigarettes a day (excludes cigars).

There was no significant difference in the proportion of males (24.0%; 22.0–26.0) and females (22.9%; 21.5–24.3) who were current smokers.

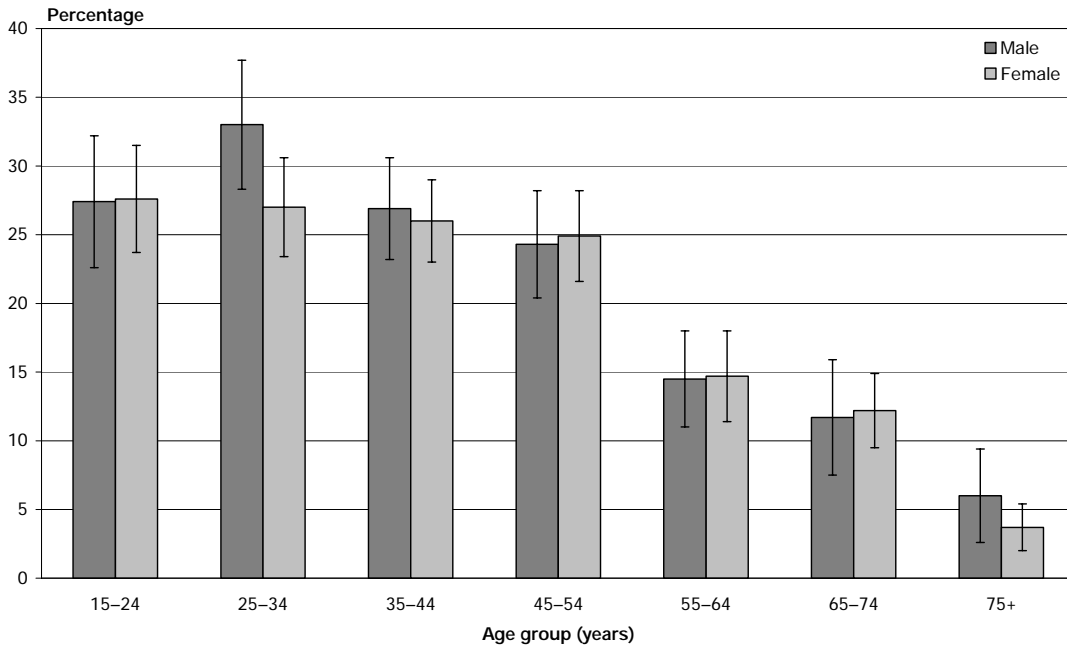
In both males and females, Māori were most likely to be current smokers, followed by Pacific, European/Other and Asian ethnic groups (Figure 67). Differences between ethnic groups were significant, except between European/Other and Asian males, and between Māori and Pacific males.

Figure 67: Current smoking, by ethnic group and sex (age-standardised)



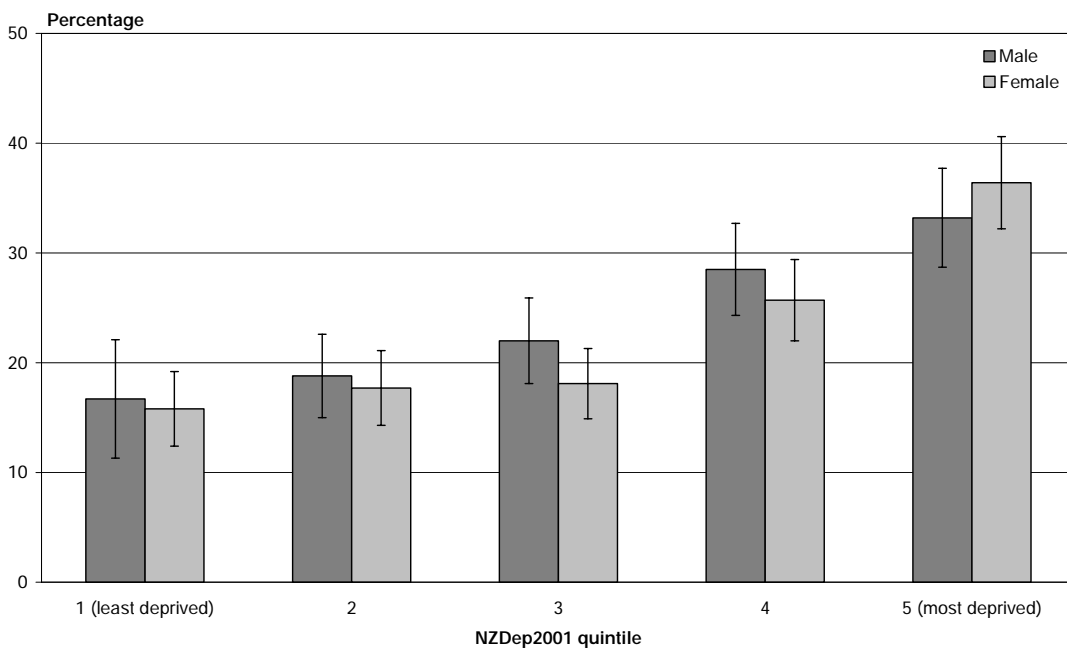
In males, the prevalence of current smoking peaked in the 25–34 years age group, and then declined with age (Figure 68). In females, the prevalence of current smoking was similar from age 15 to 54 years, and then declined in the three oldest age groups.

Figure 68: Current smoking, by age group and sex



In both males and females, the prevalence of smoking was significantly higher in NZDep2001 quintile 5 (most deprived) than in quintile 1 (least deprived) (Figure 69).

Figure 69: Current smoking, by NZDep2001 quintile and sex (age-standardised)



Prevalence of passive smoking

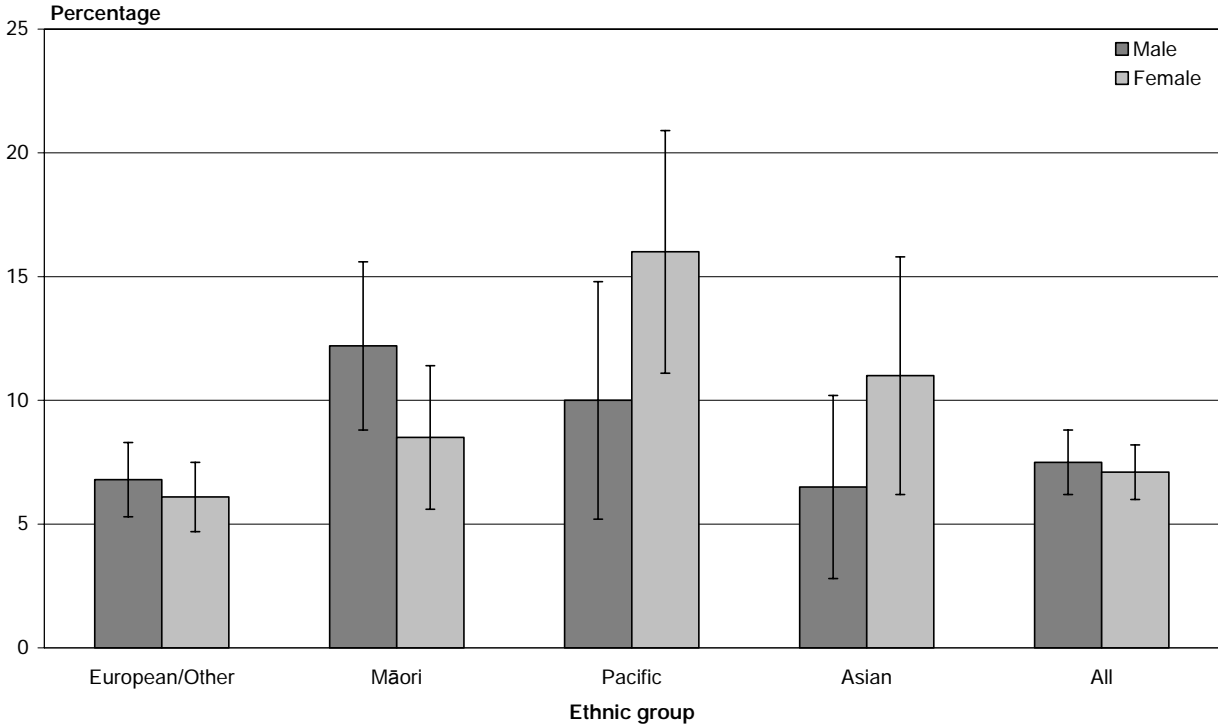
Passive smoking refers to the exposure of non-smokers (includes ex-smokers) to cigarette smoke in the home, car, workplace, and recreational or other settings. Here we consider only the home environment.

Overall, one in 15 adult non-smokers (6.7%; 6.1–7.4) was exposed to cigarette smoke inside their home.

There was no significant difference in the proportion of male non-smokers (7.5%; 6.2–8.7) and female non-smokers (7.1%; 6.0–8.2) who were exposed to cigarette smoke inside their home.

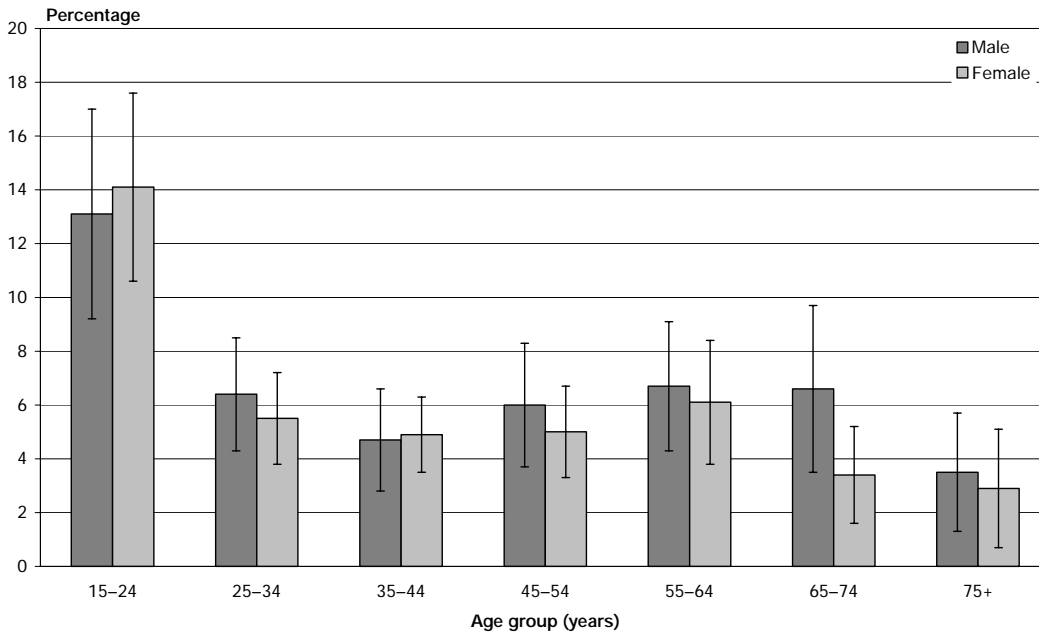
In males, Māori non-smokers were significantly more likely than European/Other non-smokers to be exposed to cigarette smoke inside their home (Figure 70). In females, Pacific non-smokers were significantly more likely to be exposed to cigarette smoke inside their home than European/Other non-smokers.

Figure 70: Passive smoking in adult non-smokers, by ethnic group and sex (age-standardised)



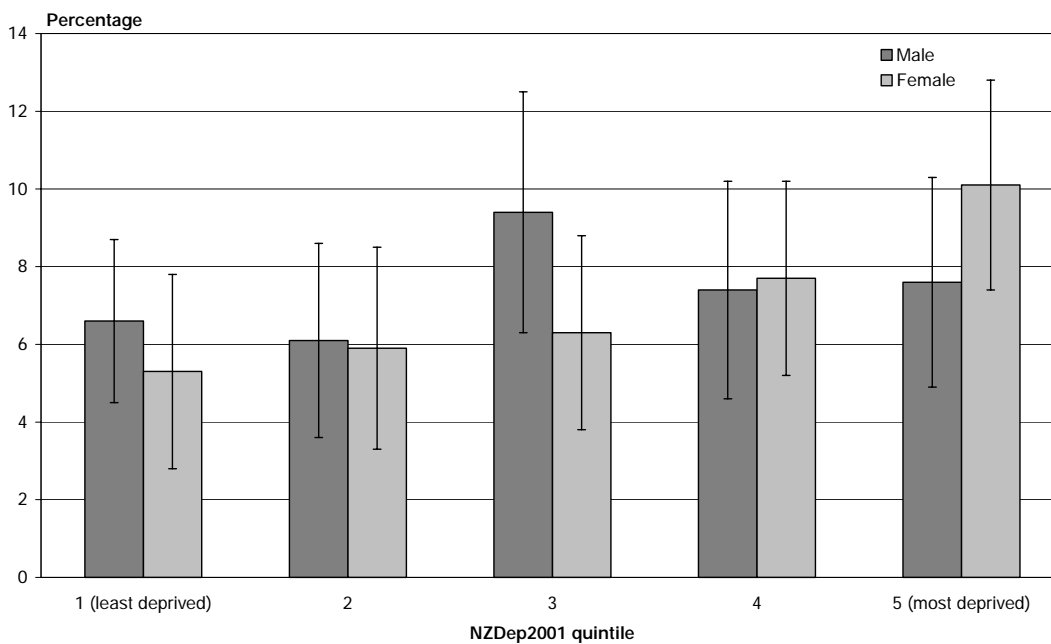
In both males and females, non-smokers aged 15–24 years were significantly more likely to be exposed to cigarette smoke inside the home than older adults (Figure 71).

Figure 71: Passive smoking in adult non-smokers, by age group and sex



In both males and females, non-smokers living in NZDep2001 quintile 5 (most deprived) were more likely to be exposed to cigarette smoke inside their home than non-smokers living in NZDep2001 quintile 1 (least deprived), although these differences were not significant (Figure 72).

Figure 72: Passive smoking in adult non-smokers, by NZDep2001 quintile and sex (age-standardised)



Marijuana smoking

Introduction

Marijuana use has adverse effects on the respiratory and cardiovascular systems and increases the risk of major psychological problems. Marijuana use is also associated with increased use of other substances.

In this survey, participants were asked whether they had ever smoked marijuana and if they had, how often they smoked marijuana.

Prevalence of marijuana smoking

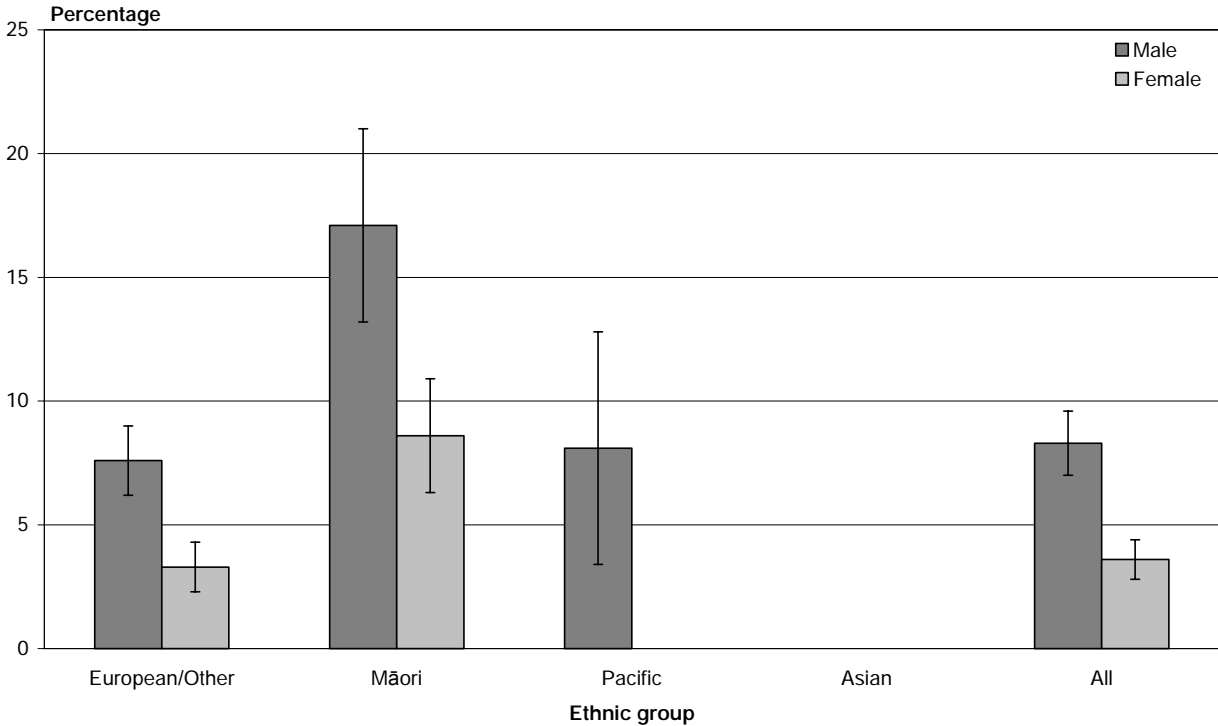
Overall, one in seven adults (14.2%; 13.2–15.1) had smoked marijuana in the last year and one in 19 adults (5.3%; 4.6–5.9) smoked marijuana regularly (ie, daily, weekly or fortnightly).

Males (8.3%; 6.9–9.6) were significantly more likely than females (3.6%; 2.8–4.4) to smoke marijuana regularly.

The following results are for regular marijuana smoking.

In both males and females, Māori were significantly more likely than other ethnic groups to smoke marijuana regularly (Figure 73).

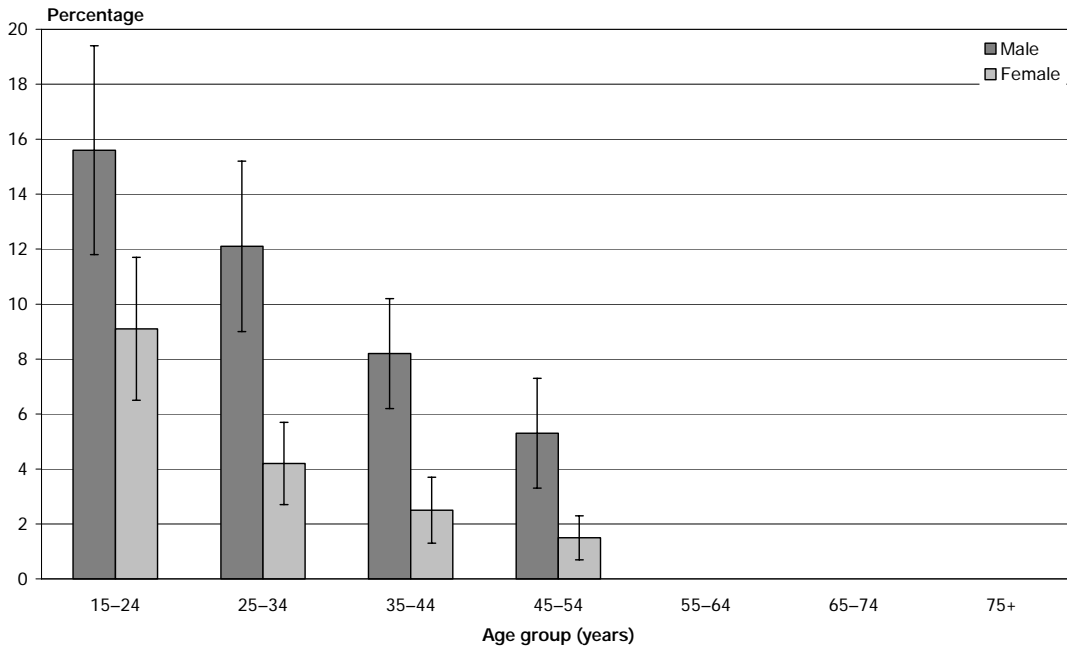
Figure 73: Regular marijuana smoking in adults, by ethnic group and sex (age-standardised)



Note: Data are not shown for Pacific females and Asian males and females due to low numbers.

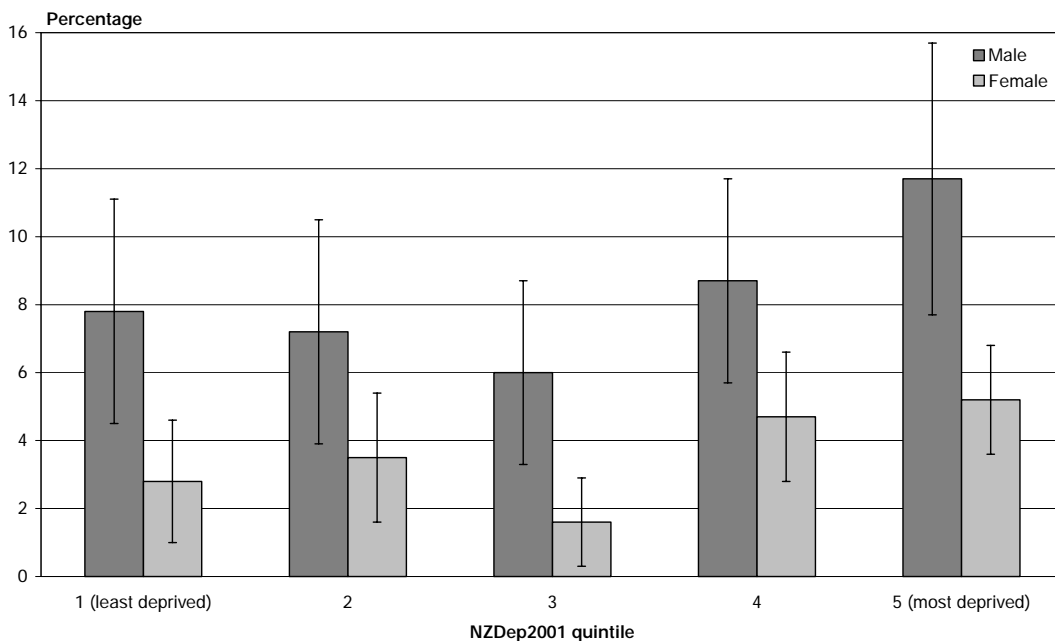
In both males and females, adults aged 15–24 years were most likely to smoke marijuana regularly (Figure 74).

Figure 74: Regular marijuana smoking in adults, by age group and sex



In both males and females, there was no significant difference in the proportion of adults who regularly smoke marijuana between NZDep2001 quintile 1 (least deprived) and quintile 5 (most deprived) (Figure 75).

Figure 75: Regular marijuana smoking in adults, by NZDep2001 quintile and sex (age-standardised)



Summary tables

Table 11 (male) and Table 12 (female) summarise the crude prevalence of selected risk and protective factors by ethnic group. Use these crude estimates if you want to know the actual burden experienced by the population of interest, but do not use them to compare one population subgroup (sex or ethnicity) with another.

Table 11: Prevalence (percent) of risk and protective factors, by ethnic group, males (crude)

	European/ Other	Māori	Pacific	Asian	All
Identified high blood pressure	20.9 (19.4–22.4)	20.2 (16.4–24.0)	11.6 (6.9–16.2)	11.1 (7.3–14.8)	19.9 (18.7–21.0)
Identified high cholesterol	17.6 (16.2–19.0)	12.9 (9.5–16.2)	7.7 (4.1–11.4)	11.7 (7.7–15.8)	16.3 (15.2–17.5)
Adequate vegetable intake	67.8 (65.2–70.5)	61.6 (56.4–66.7)	42.0 (33.2–50.9)	41.1 (33.5–48.8)	64.5 (62.4–66.7)
Adequate fruit intake	44.4 (42.1–46.8)	36.1 (30.7–41.5)	52.3 (44.4–60.2)	48.6 (42.6–54.6)	44.1 (42.1–46.2)
Physically active	78.3 (76.4–80.3)	80.5 (76.1–84.8)	76.9 (69.9–84.0)	68.7 (63.0–74.3)	77.9 (76.3–79.6)
Regularly physically active	56.5 (54.1–58.9)	61.2 (56.3–66.1)	53.9 (45.3–62.5)	44.0 (37.0–51.0)	56.2 (54.3–58.2)
Sedentary	11.2 (9.6–12.8)	11.4 (7.8–15.0)	9.4 (4.8–13.9)	15.5 (11.3–19.8)	11.4 (10.0–12.7)
Overweight	44.1 (42.0–46.2)	36.9 (31.8–41.9)	44.0 (36.8–51.2)	23.0 (16.8–29.3)	42.1 (40.1–44.1)
Obese	19.4 (17.9–21.0)	27.2 (22.3–32.1)	35.8 (28.8–42.9)	4.5 (2.0–7.0)	20.1 (18.7–21.5)
Overweight or obese	63.5 (61.4–65.7)	64.1 (59.2–69.0)	79.8 (73.0–86.6)	27.5 (21.0–34.1)	62.2 (60.3–64.1)
Abdominal obesity	27.7 (25.6–29.9)	35.6 (30.7–40.5)	45.7 (37.5–53.9)	5.8 (3.3–8.4)	28.1 (26.3–29.8)
Adult weight gain	57.7 (55.3–60.1)	61.6 (56.2–67.0)	69.9 (61.9–77.9)	41.4 (34.9–47.8)	57.7 (55.5–59.9)
Weight cycling	8.1 (6.8–9.3)	15.8 (11.4–20.2)	18.9 (13.2–24.5)	5.9 (2.3–9.4)	9.2 (8.1–10.3)
Hazardous drinking pattern in drinkers	24.6 (22.3–26.9)	38.0 (32.7–43.2)	32.5 (23.9–41.1)	7.5 (3.7–11.3)	25.4 (23.4–27.4)
Current smoker	20.2 (18.2–22.1)	46.1 (40.6–51.5)	38.5 (31.8–45.2)	20.2 (15.2–25.2)	23.7 (21.9–25.5)
Passive smoking	6.2 (4.9–7.4)	12.2 (8.6–15.7)	10.1 (5.4–14.8)	7.1 (3.4–10.7)	7.0 (5.9–8.2)
Marijuana use last 12 months	16.8 (15.2–18.3)	37.7 (32.6–42.8)	16.1 (9.1–23.1)	5.2 (2.0–8.3)	18.3 (16.8–19.7)
Regular marijuana use	6.3 (5.2–7.5)	19.9 (15.2–24.5)	9.7 (4.0–15.4)	–	7.7 (6.5–8.8)

Notes

1. When ethnic groups were not represented in adequate numbers for reliable estimates results are suppressed and a dash (–) is shown in the table.

2. See main results for definitions of each risk and protective factor.

Table 12: Prevalence (percent) of risk and protective factors, by ethnic group, females (crude)

	European/ Other	Māori	Pacific	Asian	All
Identified high blood pressure	23.7 (22.3–25.1)	18.5 (15.7–21.3)	14.1 (10.1–18.0)	8.7 (5.1–12.3)	21.8 (20.5–23.0)
Identified high cholesterol	16.3 (15.2–17.5)	8.8 (7.1–10.4)	8.4 (5.4–11.3)	8.9 (4.9–12.9)	14.7 (13.7–15.7)
Adequate vegetable intake	76.8 (75.0–78.7)	66.6 (62.1–71.1)	39.3 (32.2–46.4)	49.1 (41.6–56.6)	72.3 (70.6–74.0)
Adequate fruit intake	66.1 (64.3–68.0)	54.4 (50.2–58.6)	56.7 (50.3–63.2)	64.1 (57.8–70.4)	64.3 (62.6–66.0)
Physically active	70.6 (68.5–72.8)	72.0 (67.0–77.0)	62.9 (55.6–70.2)	50.9 (44.1–57.8)	69.2 (67.3–71.1)
Regularly physically active	49.1 (47.0–51.2)	53.0 (48.5–57.6)	45.7 (37.5–53.9)	32.4 (26.1–38.7)	48.4 (46.4–50.4)
Sedentary	13.5 (12.1–14.9)	12.9 (8.6–17.3)	22.5 (15.8–29.1)	26.9 (20.4–33.4)	14.7 (13.3–16.1)
Overweight	28.5 (26.6–30.4)	31.7 (27.0–36.3)	36.2 (28.2–44.2)	17.5 (12.9–22.1)	28.4 (26.9–30.0)
Obese	21.0 (19.3–22.7)	26.8 (22.5–31.1)	47.2 (39.1–55.2)	5.7 (3.0–8.4)	21.7 (20.3–23.2)
Overweight or obese	49.5 (47.5–51.6)	58.5 (54.0–63.0)	83.4 (78.1–88.6)	23.2 (18.0–28.4)	50.2 (48.4–51.9)
Abdominal obesity	34.1 (32.3–35.9)	52.3 (47.8–56.8)	76.0 (68.3–83.6)	16.0 (11.3–20.8)	36.6 (34.9–38.3)
Adult weight gain	55.6 (53.6–57.6)	66.7 (62.8–70.5)	66.6 (60.6–72.7)	38.9 (33.4–44.5)	56.3 (54.7–57.9)
Weight cycling	18.2 (16.8–19.7)	25.1 (21.9–28.2)	29.1 (23.1–35.1)	5.5 (3.0–8.0)	18.7 (17.5–19.9)
Hazardous drinking pattern in drinkers	8.8 (7.7–9.9)	20.6 (16.3–24.8)	8.7 (4.6–12.8)	–	9.7 (8.6–10.7)
Current smoker	18.6 (17.2–20.0)	53.2 (48.5–57.8)	32.6 (26.4–38.9)	3.9 (1.8–6.0)	22.2 (20.9–23.4)
Passive smoking	5.2 (4.2–6.2)	8.4 (5.7–11.2)	16.3 (11.6–21.1)	11.3 (6.7–15.9)	6.4 (5.6–7.3)
Marijuana use last 12 months	9.2 (8.0–10.5)	25.8 (21.6–30.0)	6.3 (3.1–9.4)	–	10.4 (9.3–11.5)
Regular marijuana use	2.4 (1.7–3.1)	10.0 (7.3–12.7)	–	–	3.1 (2.5–3.7)

Notes

1. When ethnic groups were not represented in adequate numbers for reliable estimates results are suppressed and a dash (–) is shown in the table.
2. See main results for definitions of each risk and protective factor.

Table 13 (male) and Table 14 (female) summarise the age-standardised prevalence of selected risk and protective factors by ethnic group. Note that age-standardised estimates have no meaning by themselves; they are meaningful only when compared with other age-standardised estimates. Therefore, only use these age-standardised estimates to compare one population subgroup (sex or ethnicity) with another.

Table 13: Prevalence (percent) of risk and protective factors in adult males, by ethnic group (age-standardised)

	European/ Other	Māori	Pacific	Asian	All
Identified high blood pressure	17.6 (16.2–19.0)	23.7 (19.6–27.8)	16.2 (11.0–21.4)	14.4 (9.5–19.4)	18.0 (16.9–19.1)
Identified high cholesterol	14.6 (13.4–15.8)	15.9 (12.0–19.7)	9.5 (4.8–14.1)	13.4 (9.0–17.9)	14.5 (13.4–15.5)
Adequate vegetable intake	65.9 (62.7–69.0)	63.4 (58.3–68.5)	42.9 (35.0–50.8)	42.6 (34.4–50.8)	63.3 (60.8–65.8)
Adequate fruit intake	43.3 (40.6–45.9)	36.8 (31.2–42.5)	53.5 (46.1–61.0)	48.5 (41.3–55.7)	43.3 (41.1–45.6)
Physically active	79.2 (77.1–81.3)	79.7 (75.4–84.0)	74.8 (66.9–82.7)	67.8 (61.9–73.7)	78.4 (76.6–80.2)
Regularly physically active	57.5 (54.7–60.2)	59.7 (54.7–64.8)	51.7 (43.6–59.8)	44.3 (37.8–50.9)	56.7 (54.5–58.9)
Sedentary	10.4 (8.8–12.0)	11.5 (7.9–15.0)	10.9 (5.4–16.5)	17.0 (12.1–21.9)	10.9 (9.5–12.3)
Overweight	41.9 (39.5–44.4)	38.0 (32.7–43.4)	43.9 (37.2–50.6)	23.2 (16.8–29.6)	40.5 (38.3–42.8)
Obese	18.0 (16.3–19.6)	29.0 (23.9–34.1)	38.0 (31.1–44.8)	4.3 (2.0–6.6)	19.2 (17.7–20.6)
Overweight or obese	59.9 (57.4–62.4)	67.0 (62.3–71.7)	81.8 (75.8–87.8)	27.5 (20.9–34.2)	59.7 (57.5–61.9)
Abdominal obesity	24.6 (22.7–26.6)	38.6 (33.6–43.7)	52.2 (44.8–59.6)	6.4 (3.5–9.4)	26.2 (24.5–27.9)
Adult weight gain	56.4 (53.7–59.0)	62.6 (57.3–68.0)	70.4 (62.6–78.2)	41.1 (34.8–47.5)	56.8 (54.4–59.1)
Weight cycling	7.8 (6.5–9.1)	17.0 (12.5–21.5)	22.2 (15.3–29.1)	6.5 (2.4–10.6)	9.3 (8.1–10.4)
Hazardous drinking pattern	27.3 (24.5–30.2)	34.5 (29.8–39.2)	30.8 (22.1–39.6)	6.8 (3.5–10.1)	27.1 (24.7–29.5)
Current smoker	21.3 (19.1–23.5)	42.9 (37.8–47.9)	34.8 (27.8–41.8)	18.9 (14.0–23.7)	24.0 (22.0–26.0)
Passive smoking	6.8 (5.3–8.2)	12.2 (8.8–15.6)	10.0 (5.2–14.9)	6.5 (2.9–10.2)	7.5 (6.2–8.7)
Marijuana use last 12 months	20.2 (18.2–22.3)	32.9 (28.5–37.3)	13.4 (7.7–19.2)	4.3 (1.8–6.9)	20.4 (18.6–22.2)
Regular marijuana use	7.6 (6.1–9.0)	17.1 (13.2–21.0)	8.1 (3.4–12.9)	–	8.3 (6.9–9.6)

Notes

1. When ethnic groups were not represented in adequate numbers for reliable estimates results are suppressed and a dash (–) is shown in the table.
2. See main results for definitions of each risk and protective factor.

Table 14: Prevalence (percent) of risk and protective factors in adult females, by ethnic group (age-standardised)

	European/ Other	Māori	Pacific	Asian	All
Identified high blood pressure	19.2 (17.7–20.6)	23.9 (20.6–27.3)	18.2 (13.0–23.4)	13.1 (7.5–18.8)	19.3 (18.0–20.5)
Identified high cholesterol	13.2 (12.2–14.2)	12.0 (9.7–14.3)	11.1 (6.9–15.2)	12.3 (6.7–18.0)	12.9 (12.0–13.8)
Adequate vegetable intake	75.1 (72.9–77.3)	67.6 (63.0–72.2)	39.4 (32.2–46.7)	49.6 (41.4–57.7)	71.1 (69.1–73.1)
Adequate fruit intake	65.2 (63.1–67.3)	54.6 (50.3–58.8)	57.5 (50.8–64.2)	64.7 (57.5–71.8)	63.6 (61.8–65.5)
Physically active	71.7 (69.4–74.0)	70.7 (65.7–75.7)	61.2 (53.5–68.8)	52.2 (44.2–60.2)	69.9 (67.9–71.9)
Regularly physically active	49.6 (47.4–51.9)	51.2 (46.9–55.6)	44.0 (35.9–52.1)	33.6 (26.3–40.8)	48.6 (46.5–50.6)
Sedentary	12.0 (10.6–13.5)	13.5 (9.2–17.8)	23.9 (17.1–30.6)	26.7 (19.3–34.2)	13.6 (12.2–15.1)
Overweight	26.9 (24.9–28.9)	33.7 (28.7–38.6)	34.8 (27.1–42.6)	19.5 (13.7–25.3)	27.5 (25.8–29.2)
Obese	19.8 (18.0–21.6)	27.5 (23.0–32.1)	47.8 (39.8–55.9)	6.9 (3.2–10.6)	21.0 (19.5–22.5)
Overweight or obese	46.7 (44.3–49.1)	61.2 (56.9–65.5)	82.6 (76.6–88.6)	26.4 (19.7–33.1)	48.5 (46.4–50.5)
Abdominal obesity	30.8 (28.8–32.8)	54.4 (50.0–58.8)	76.6 (68.6–84.6)	19.6 (13.4–25.9)	34.6 (32.7–36.4)
Adult weight gain	52.5 (50.4–54.6)	67.9 (64.1–71.8)	67.6 (61.6–73.7)	39.7 (33.4–46.1)	54.1 (52.4–55.8)
Weight cycling	17.5 (16.0–19.0)	25.7 (22.4–29.0)	28.7 (23.0–34.5)	6.5 (2.7–10.3)	18.2 (17.0–19.5)
Hazardous drinking pattern	11.4 (10.0–12.9)	18.4 (14.6–22.2)	7.6 (4.0–11.3)	–	11.4 (10.1–12.7)
Current smoker	19.9 (18.3–21.6)	51.1 (46.8–55.3)	31.6 (25.3–37.8)	3.6 (1.7–5.6)	22.9 (21.5–24.3)
Passive smoking	6.1 (4.8–7.5)	8.5 (5.6–11.4)	16.0 (11.1–21.0)	11.0 (6.2–15.7)	7.1 (6.0–8.2)
Marijuana use last 12 months	12.4 (10.7–14.1)	22.5 (18.8–26.2)	5.3 (2.6–8.0)	–	12.5 (11.1–13.9)
Regular marijuana use	3.3 (2.3–4.3)	8.6 (6.3–11.0)	–	–	3.6 (2.8–4.4)

Notes

1. When ethnic groups were not represented in adequate numbers for reliable estimates results are suppressed and a dash (–) is shown in the table.
2. See the main results for definitions of each risk and protective factor.

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