

Chapter 2: Chronic Diseases

Introduction

A chronic disease is a physical or mental illness that has lasted, or is expected to last, for more than six months. The symptoms may come and go or be present all the time.

In this survey, the prevalence of chronic diseases was determined by asking participants if a doctor had ever told them they had any of the selected chronic diseases. This will underestimate the true prevalence of most chronic diseases, as not all people with the disease will have been diagnosed. The proportion of people who are not diagnosed will vary by disease depending on several factors, such as the presence and severity of symptoms.

Participants who said they had been diagnosed with a particular chronic disease were asked additional questions, including how old they were when that disease was diagnosed, what treatments they now have for that disease, and whether they had ever had surgery for that disease. Information on the proportion of adults who received medical treatment for each disease (current pharmacological treatment or previous surgery for that disease) is also reported here.

All results are presented by sex and ethnic group. Where possible, the following four ethnic groups are used: European/Other, Māori, Pacific and Asian. However, when Pacific and Asian ethnic groups were not represented in adequate numbers for reliable estimates they were combined with European/Other to give a non-Māori ethnic group. 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 after the estimate in the text or 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 diabetes in males or females), use the crude (unadjusted) rates shown in the summary tables at the end of this chapter or in the datacubes.

Results

Key points

- One in 10 adults had been diagnosed with heart disease.
- Males were significantly more likely than females to receive medical treatment for heart disease.
- One in 48 adults had been told by a doctor they had had a stroke.
- One in 23 adults had been diagnosed with diabetes.
- The prevalence of diabetes was significantly higher in Māori and Pacific peoples than in the European/Other ethnic group.
- One in five adults aged 15–44 years had been diagnosed with asthma.
- The prevalence of asthma was about four times higher in the European/Other and Māori ethnic groups than in the Pacific and Asian ethnic groups.
- One in 18 adults aged over 45 years had been diagnosed with chronic obstructive pulmonary disease.
- One in six adults had been diagnosed with arthritis.
- The most common type of arthritis in adults was osteoarthritis, followed by rheumatoid arthritis.
- One in four adults had been diagnosed with chronic neck or back problems.
- One in 42 adults had been diagnosed with osteoporosis.
- Females were four times more likely than males to have been diagnosed with osteoporosis.
- One in 20 adults had been diagnosed with cancer.
- One in 40 adults had been diagnosed with a serious mental disorder (ie, depressive disorder, bipolar disorder or schizophrenia).
- One in 17 adults had been diagnosed with migraine headaches.

Heart disease

Introduction

The most common cause of heart disease is the narrowing or blocking of the coronary arteries that supply blood and oxygen to the heart. Coronary heart disease can cause angina and heart attack and lead to heart failure. Heart disease is the leading cause of mortality in New Zealand, with coronary heart disease accounting for about 25 percent of all mortality.

Heart disease is caused by a combination of genetic and environmental factors. Modifiable risk factors for heart disease include high blood cholesterol, high blood pressure, tobacco smoking, overweight and obesity, physical inactivity, diabetes, high blood homocysteine, and inadequate vegetable and fruit intake.

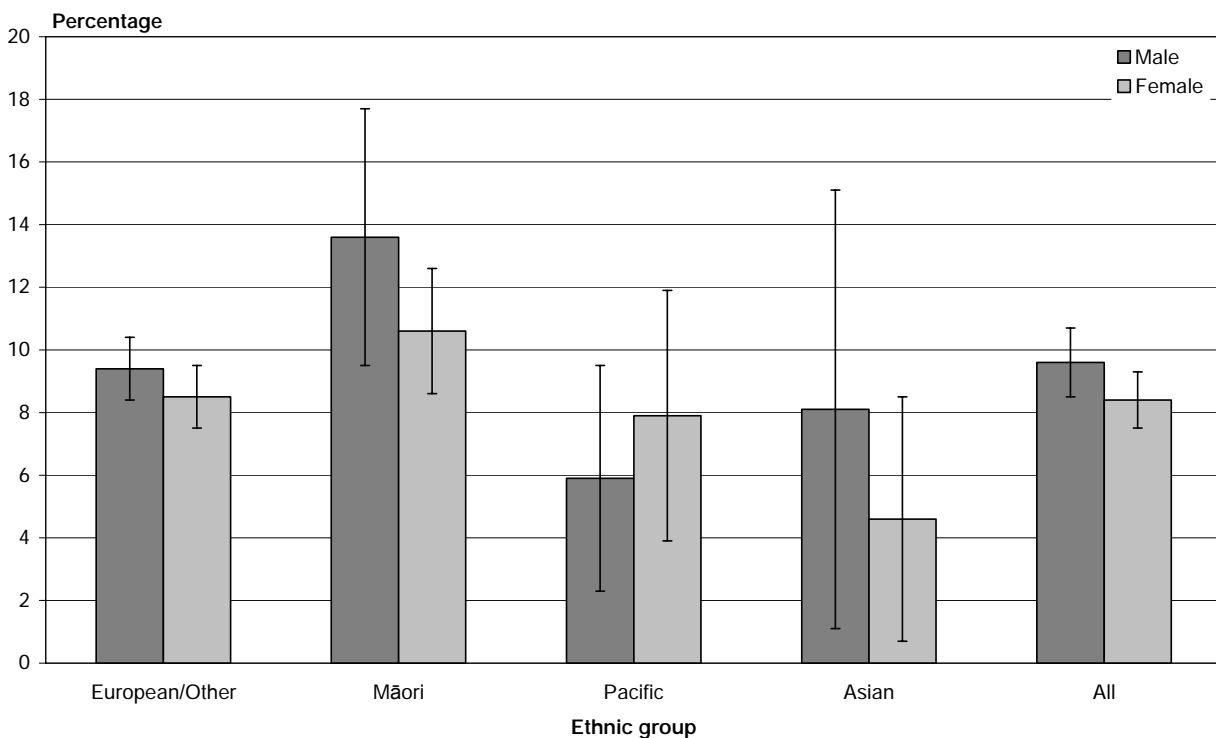
Prevalence

Overall, one in 10 adults (10.4%; 9.7–11.1) had been diagnosed with heart disease (ie, heart attack, angina, abnormal heart rhythm or heart failure).

There was no significant difference in the prevalence of heart disease in males (9.6%; 8.5–10.7) and females (8.4%; 7.5–9.3).

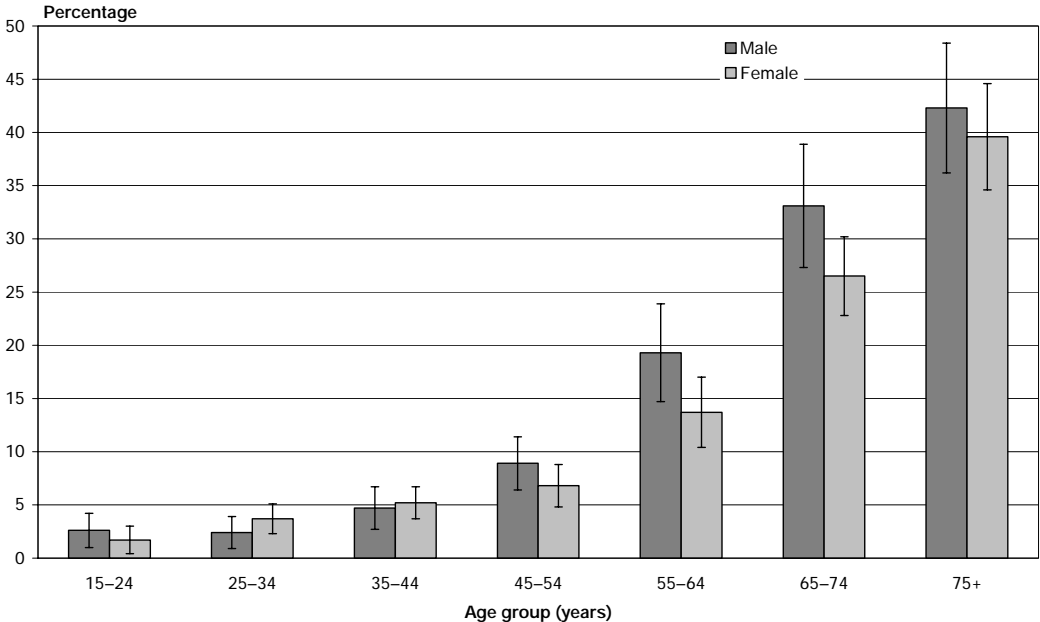
In males, the prevalence of heart disease was highest in Māori, followed by European/Other, Asian and Pacific ethnic groups, although these ethnic differences were not significant (Figure 1). In females, the prevalence of heart disease was highest in Māori, followed by European/Other, Pacific and Asian ethnic groups, but these differences were not significant.

Figure 1: Heart disease in adults, by ethnic group and sex (age-standardised)



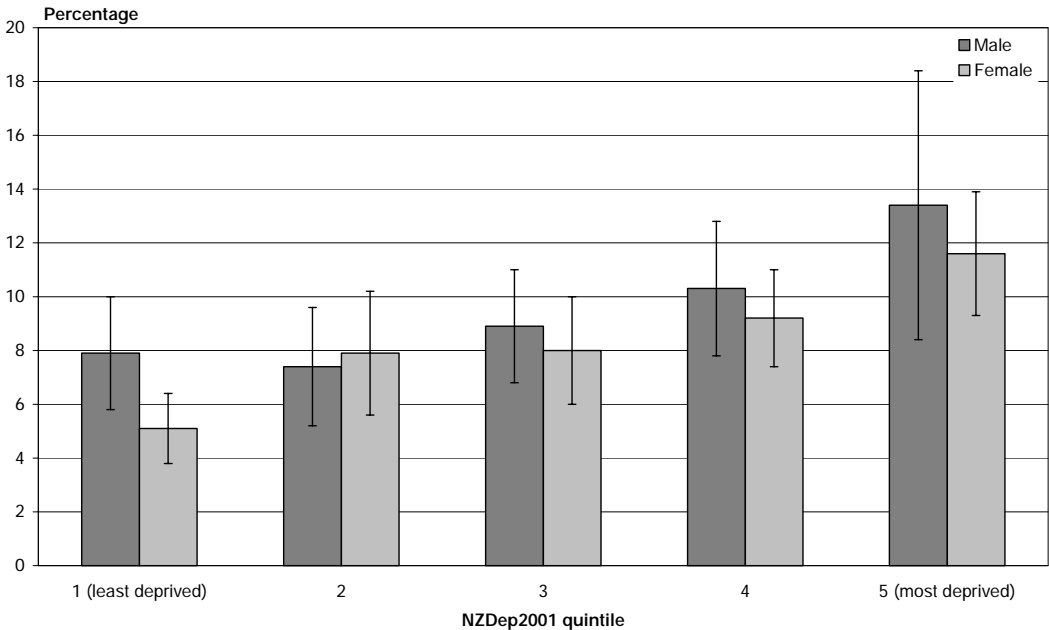
In both males and females, the prevalence of heart disease increased significantly with age, peaking in the 75+ years age group (Figure 2).

Figure 2: Heart disease in adults, by age group and sex



In males, there was no significant difference in the prevalence of heart disease between NZDep2001 quintile 1 (least deprived) and quintile 5 (most deprived), although the prevalence of heart disease tended to increase as the level of deprivation increased (Figure 3). In females, the prevalence of heart disease was significantly higher in NZDep2001 quintile 5 than in quintile 1.

Figure 3: Heart disease in adults, by NZDep2001 quintile and sex (age-standardised)

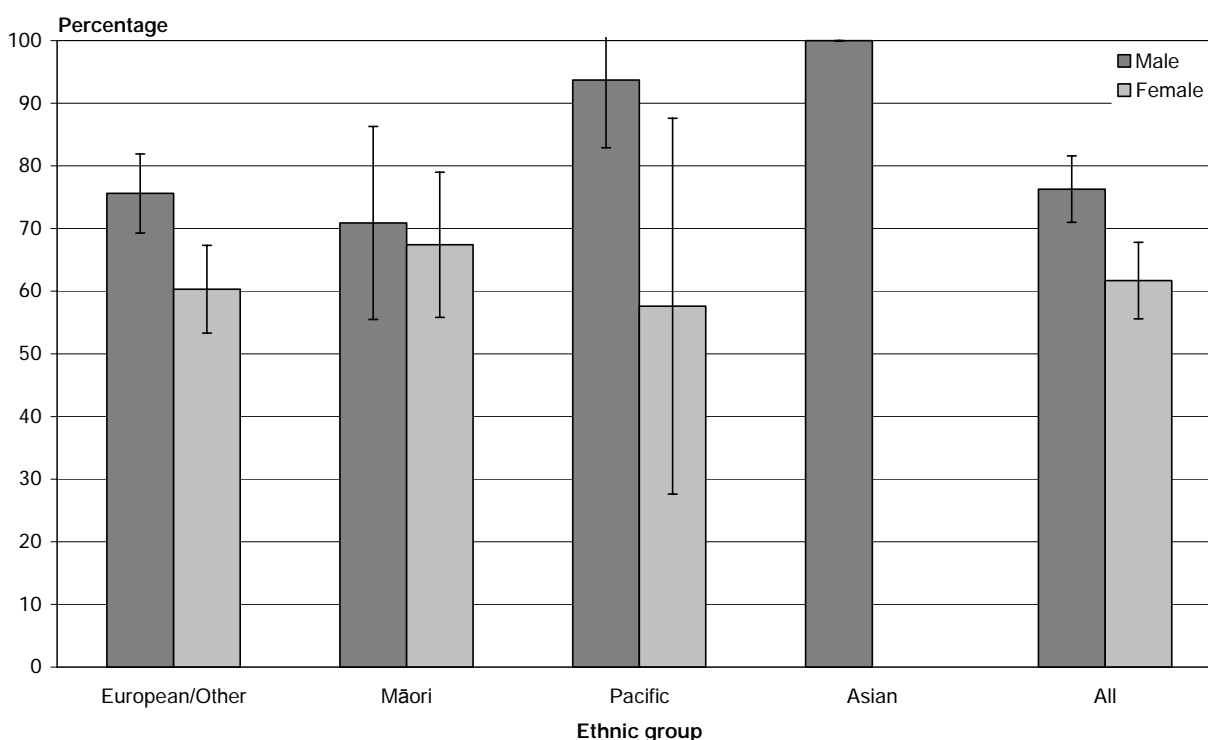


Medical treatment

Among adults diagnosed with heart disease, males (76.3%; 70.9–81.6) were significantly more likely than females (61.7%; 55.6–67.9) to receive medical treatment (aspirin, other medicines, tablets or pills, bypass surgery or angioplasty).

In males, the proportion receiving medical treatment for heart disease was highest in the Asian ethnic group, followed by Pacific, European/Other and Māori ethnic groups, although these differences were not significant (Figure 4). European/Other, Māori and Pacific females were similarly likely to receive medical treatment for heart disease.

Figure 4: Medical treatment for heart disease in adults, by ethnic group and sex (age-standardised)



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

Stroke

Introduction

Stroke refers to the sudden interruption of the blood supply to the brain that can cause permanent damage. The interruption of the blood supply can be caused by either blood clots (ischaemic stroke) or bleeding in the brain (haemorrhagic stroke). Most strokes are due to blot clots. Stroke is one of the leading causes of death in New Zealand, and contributes to about 10 percent of all deaths. Stroke is also an important cause of severe disability.

Stroke is caused by a combination of genetic and environmental factors. Modifiable risk factors for stroke include high blood pressure, high blood cholesterol, smoking, high alcohol consumption, overweight and obesity, and physical inactivity.

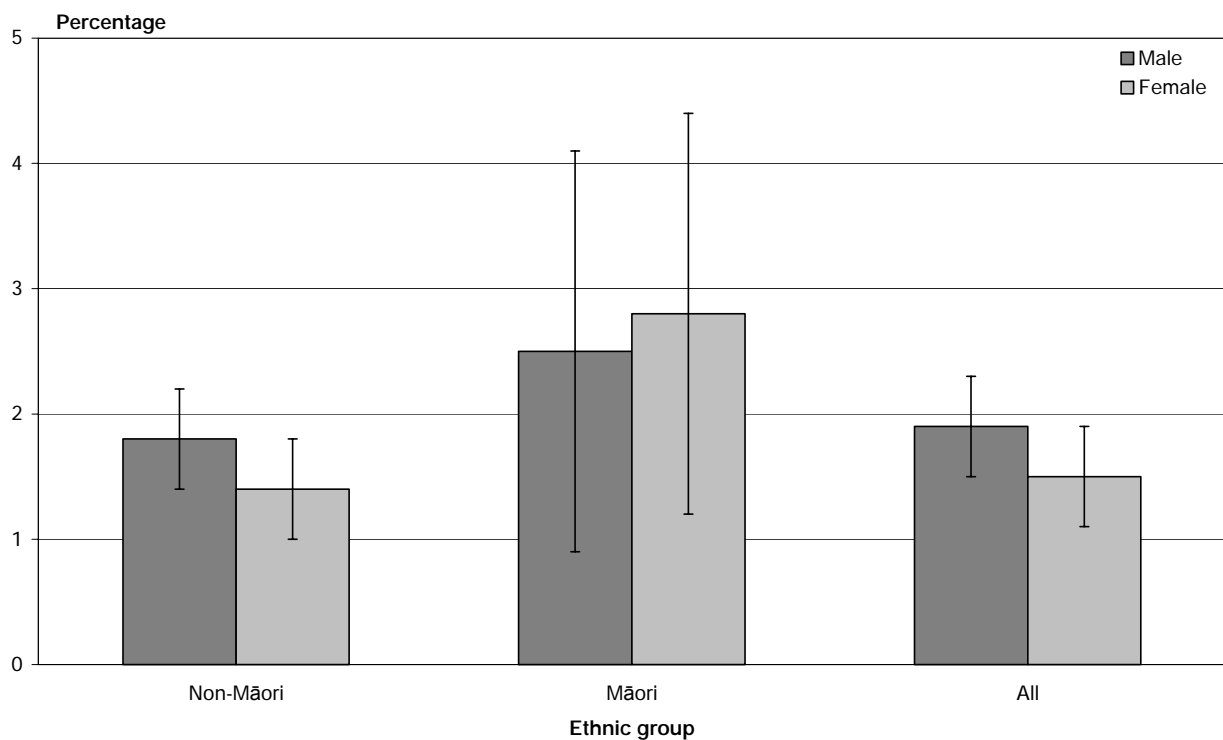
Prevalence

Overall, one in 48 adults (2.1%; 1.8–2.4) had been diagnosed with stroke (excludes transient ischaemic attack or mini-stroke).

There was no significant difference in the prevalence of stroke between males (1.9%; 1.5–2.3) and females (1.5%; 1.2–1.8).

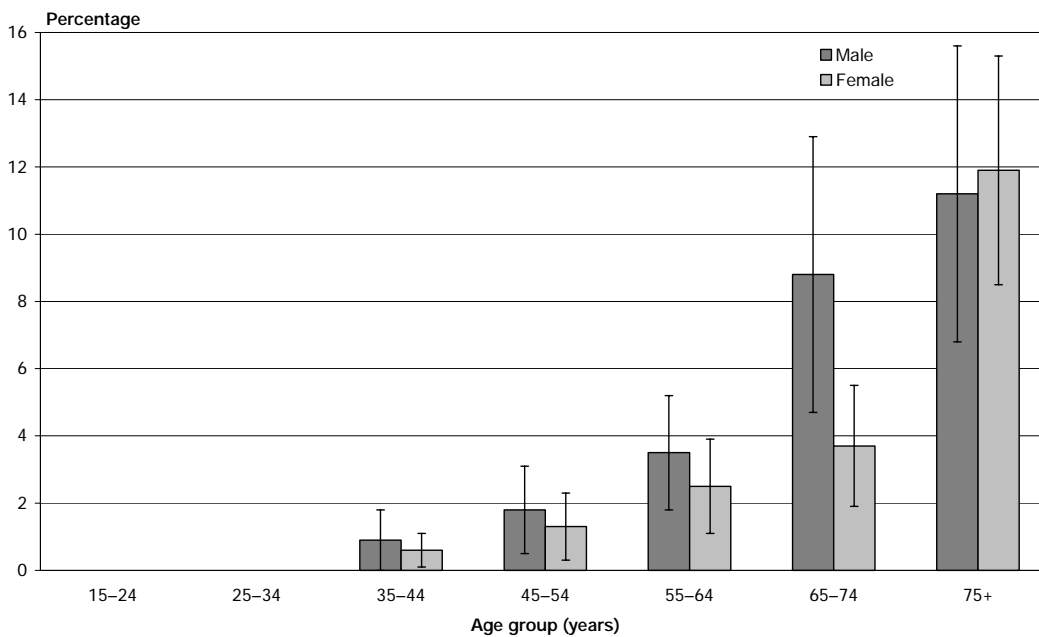
In both males and females, the prevalence of stroke was higher in Māori than non-Māori (Figure 5), although these ethnic differences were not significant.

Figure 5: Stroke in adults, by ethnic group and sex (age-standardised)



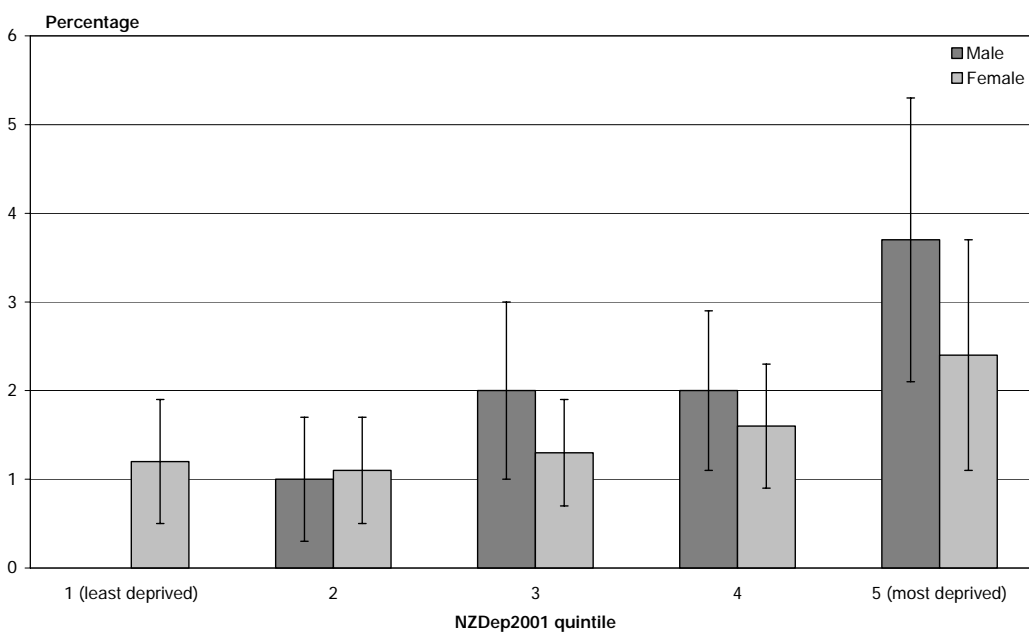
In both males and females, the prevalence of stroke increased with age, peaking in the 75+ years age group (Figure 6).

Figure 6: Stroke in adults, by age group and sex



In both males and females, the prevalence of stroke was higher in the most deprived NZDep2001 quintile than in the least deprived quintile (quintile 2 for males), although these differences were not significant (Figure 7).

Figure 7: Stroke in adults, by NZDep2001 quintile and sex (age-standardised)



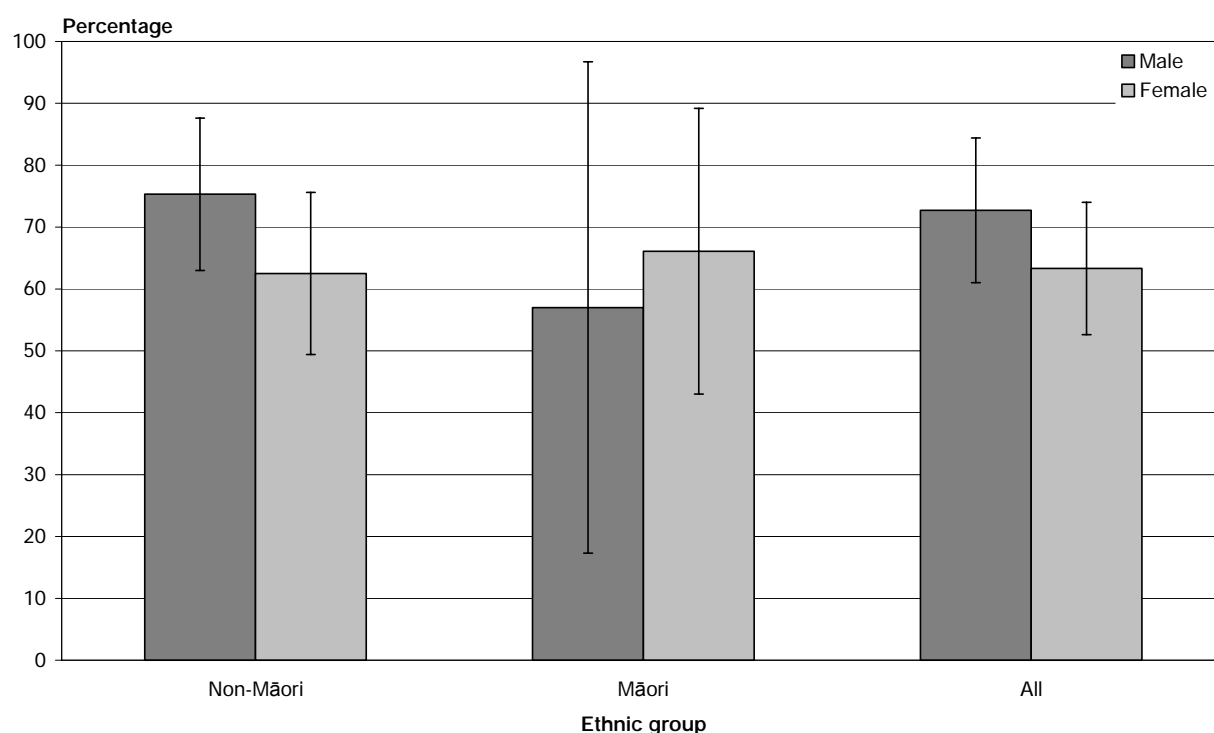
Note: Data are not shown for males in quintile 1 due to low numbers.

Medical treatment

Among adults diagnosed with stroke, there was no significant difference in the proportion of males (72.7%; 61.0–84.4) and females (63.3%; 52.5–74.0) receiving medical treatment (aspirin or other medicines, tablets or pills).

In males, non-Māori were more likely to receive medical treatment for stroke than Māori, although this difference was not significant (Figure 8). In females, non-Māori and Māori were similarly likely to receive medical treatment for stroke.

Figure 8: Medical treatment for stroke in adults, by ethnic group and sex (age-standardised)



Diabetes

Introduction

Diabetes is characterised by raised blood glucose due to insulin deficiency, insulin resistance or both. There are two main types:

- Type 1 diabetes usually develops in childhood and is caused by the destruction of insulin-producing cells, resulting in insulin deficiency. Daily insulin injections are usually required to sustain life.
- Type 2 diabetes usually develops in adulthood and is associated with insulin resistance leading to a relative insulin deficit. Although it is a serious condition, many people with type 2 diabetes do not know they have it. Type 2 diabetes accounts for most (85–90 percent) cases of diabetes.

Diabetes is an important cause of morbidity and mortality, including cardiovascular disease, blindness, kidney disease and vascular insufficiency of the legs, which may lead to nerve damage in, or amputation of, lower limbs. The major risk factors for type 2 diabetes are obesity and physical inactivity.

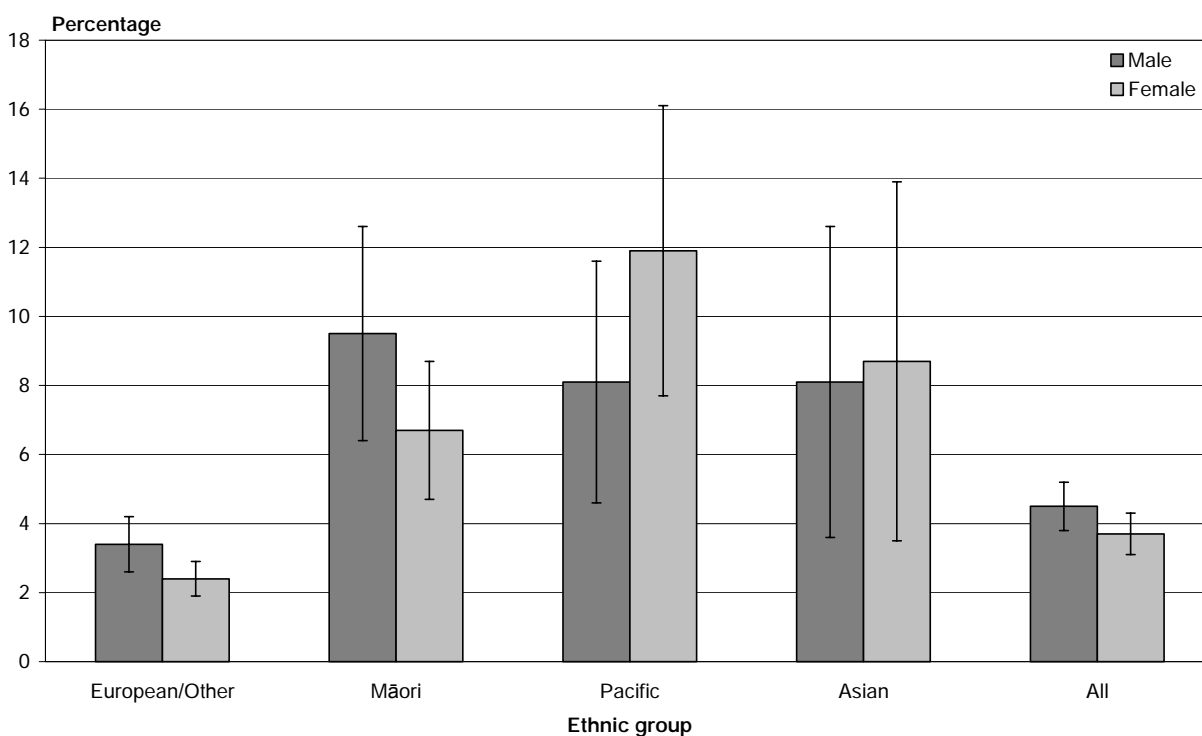
Prevalence

Overall, one in 23 adults (4.3%; 3.7–4.8) had been diagnosed with diabetes (other than during pregnancy).

There was no significant difference in the prevalence of diabetes between males (4.5%; 3.8–5.3) and females (3.7%; 3.1–4.3).

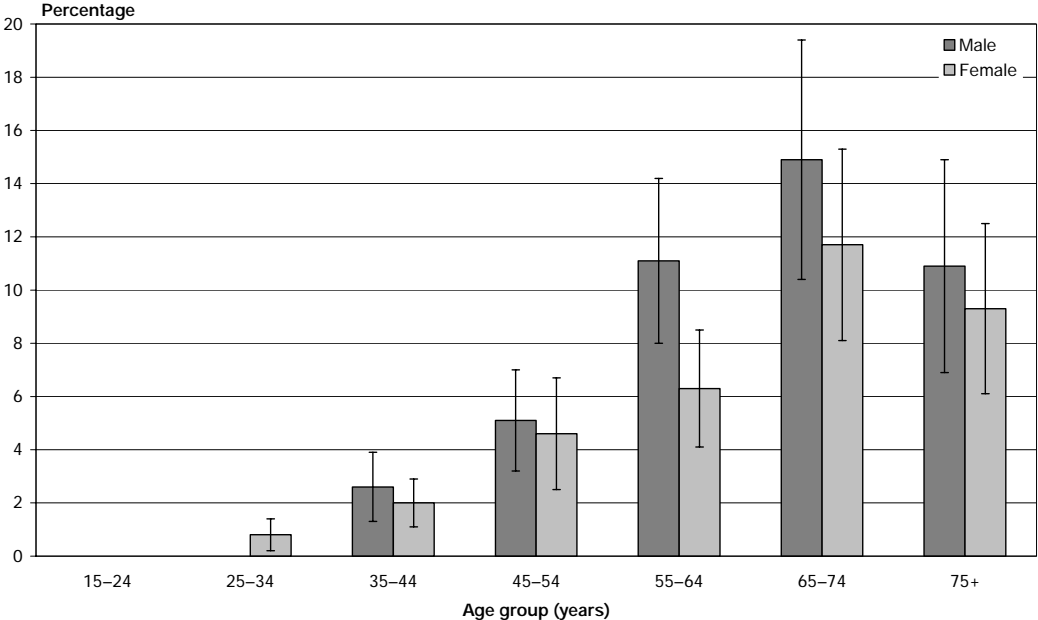
In males, the prevalence of diabetes was significantly lower in the European/Other ethnic group than in Māori and Pacific ethnic groups (Figure 9). In females, the prevalence of diabetes was significantly lower in the European/Other ethnic group than all other ethnic groups.

Figure 9: Diabetes in adults, by ethnic group and sex (age-standardised)



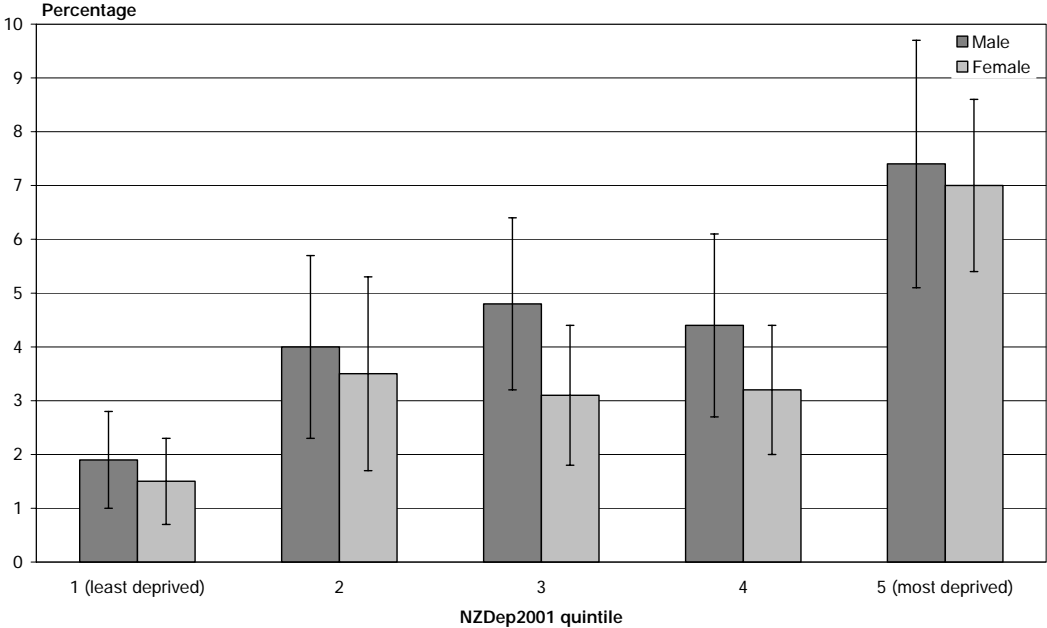
In both males and females, the prevalence of diabetes increased with age, peaked in the 65–74 years age group, and then declined slightly in the 75+ years age group (Figure 10).

Figure 10: Diabetes in adults, by age group and sex



In both males and females, the prevalence of diabetes was about four times higher in NZDep2001 quintile 5 (most deprived) than in quintile 1 (least deprived), and these differences were significant (Figure 11).

Figure 11: Diabetes in adults, by NZDep2001 quintile and sex (age-standardised)

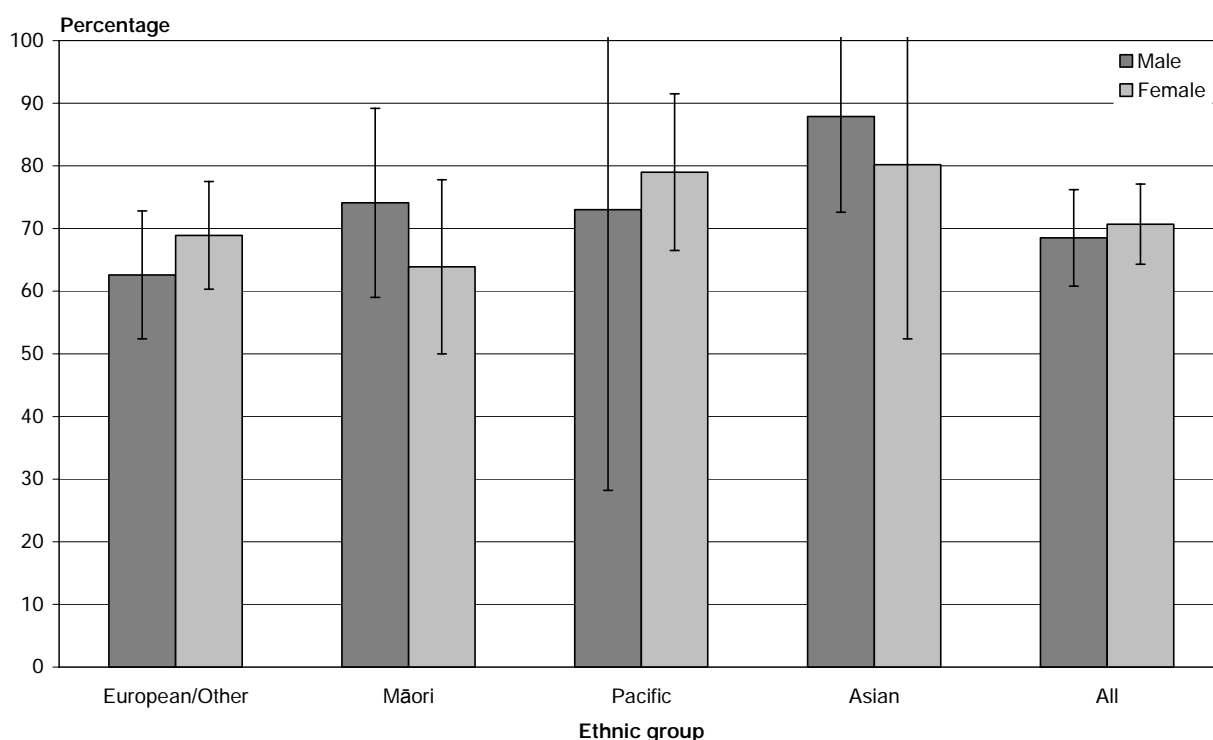


Medical treatment

Among adults diagnosed with diabetes, there was no significant difference in the proportion of males (68.5%; 60.9–76.2) and females (70.7%; 64.4–77.1) who received medical treatment (ie, insulin injections, other medicines, tablets or pills).

In males, the proportion receiving medical treatment for diabetes was highest in the Asian ethnic group, intermediate in Pacific peoples and Māori, and lowest in the European/Other ethnic group (Figure 12). In females, the proportion receiving medical treatment was highest in Asian and Pacific peoples, intermediate in the European/Other ethnic group and lowest in Māori. The differences between ethnic groups were not significant.

Figure 12: Medical treatment for diabetes in adults, by ethnic group and sex (age-standardised)



Asthma

Introduction

Asthma is an inflammatory disorder of the airways that causes airflow in to and out of the lungs to be restricted. It is characterised by periodic attacks of wheezing, breathlessness and coughing and is reversible with appropriate treatment. Asthma attacks can last minutes or days. The cause of asthma is unknown, but once it has developed symptoms can be triggered by allergens, respiratory infections, exercise, cold air, tobacco smoke and other pollutants.

About half of people with asthma develop it before age 10, and most develop it before age 30. In this survey, adults aged 15–44 years were asked if a doctor had ever told them they have asthma.

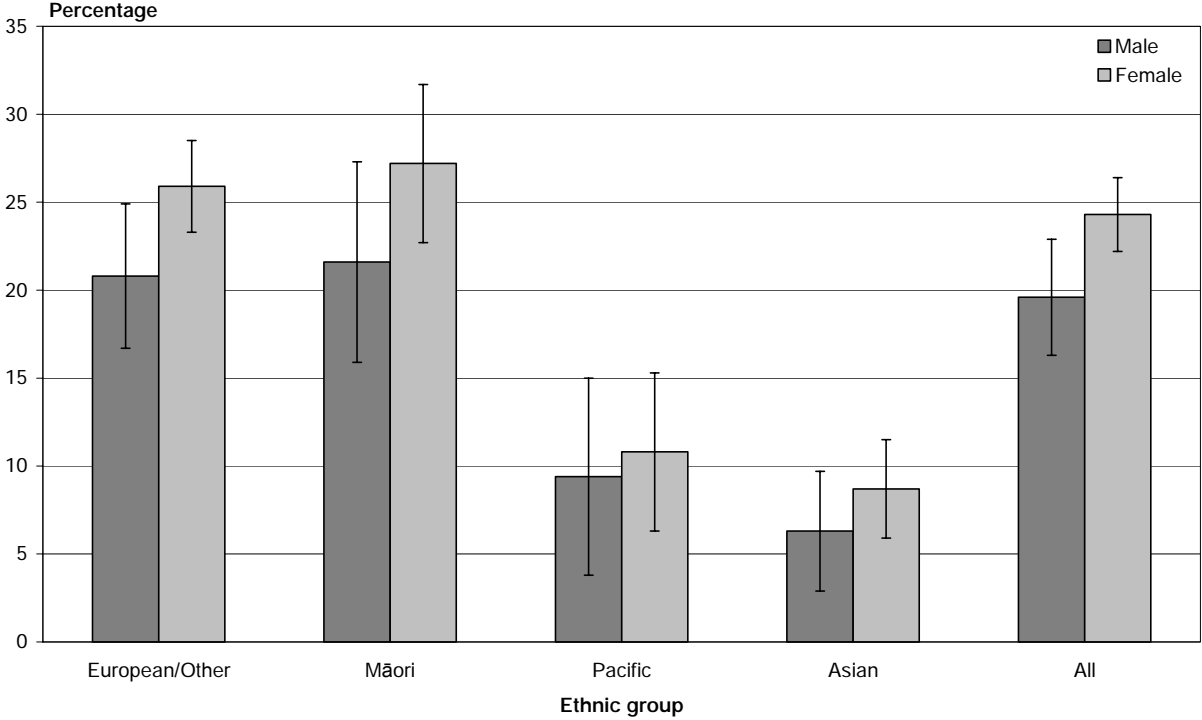
Prevalence

Overall, one in five adults aged 15–44 years (20.7%; 19.0–22.3) had been diagnosed with asthma.

There was no significant difference in the prevalence of asthma in males (19.6%; 16.3–22.9) and females (24.3%; 22.1–26.4) aged 15–44 years.

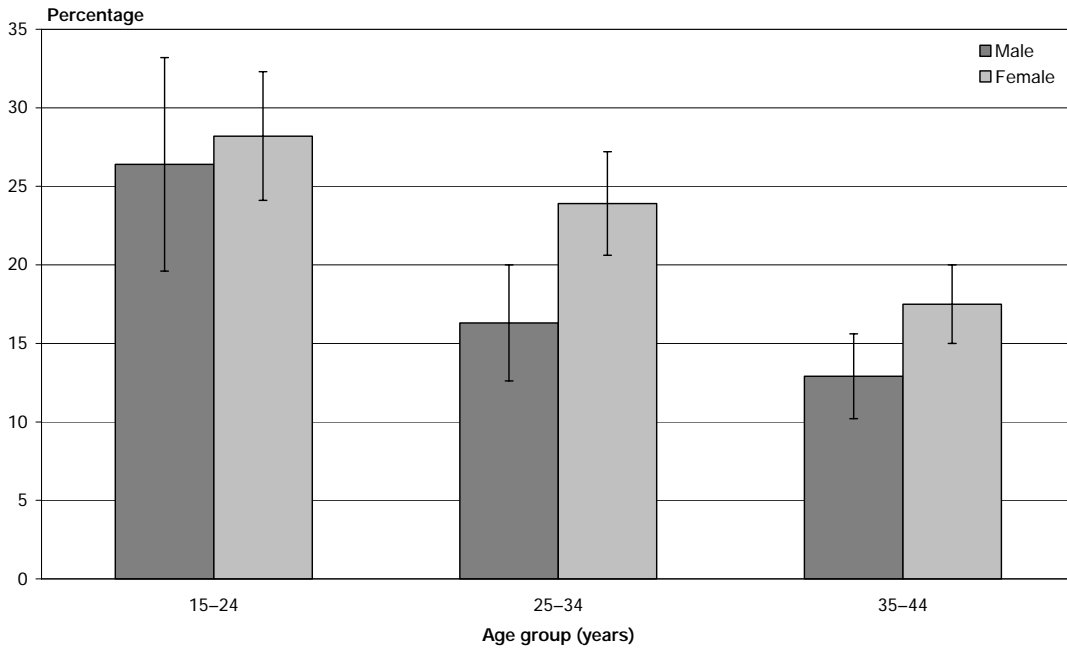
In both males and females, the prevalence of asthma was significantly higher in the Māori and European/Other ethnic groups than in Pacific and Asian ethnic groups (Figure 13).

Figure 13: Asthma in adults aged 15–44 years, by ethnic group and sex (age-standardised)



In both males and females, the prevalence of asthma was highest in the 15–24 years age group, and then decreased with age (Figure 14).

Figure 14: Asthma in adults aged 15–44 years, by age group and sex



In both males and females, there was no significant difference in the prevalence of asthma across NZDep2001 quintiles (Figure 15).

Figure 15: Asthma in adults aged 15–44 years, by NZDep2001 quintile and sex (age-standardised)

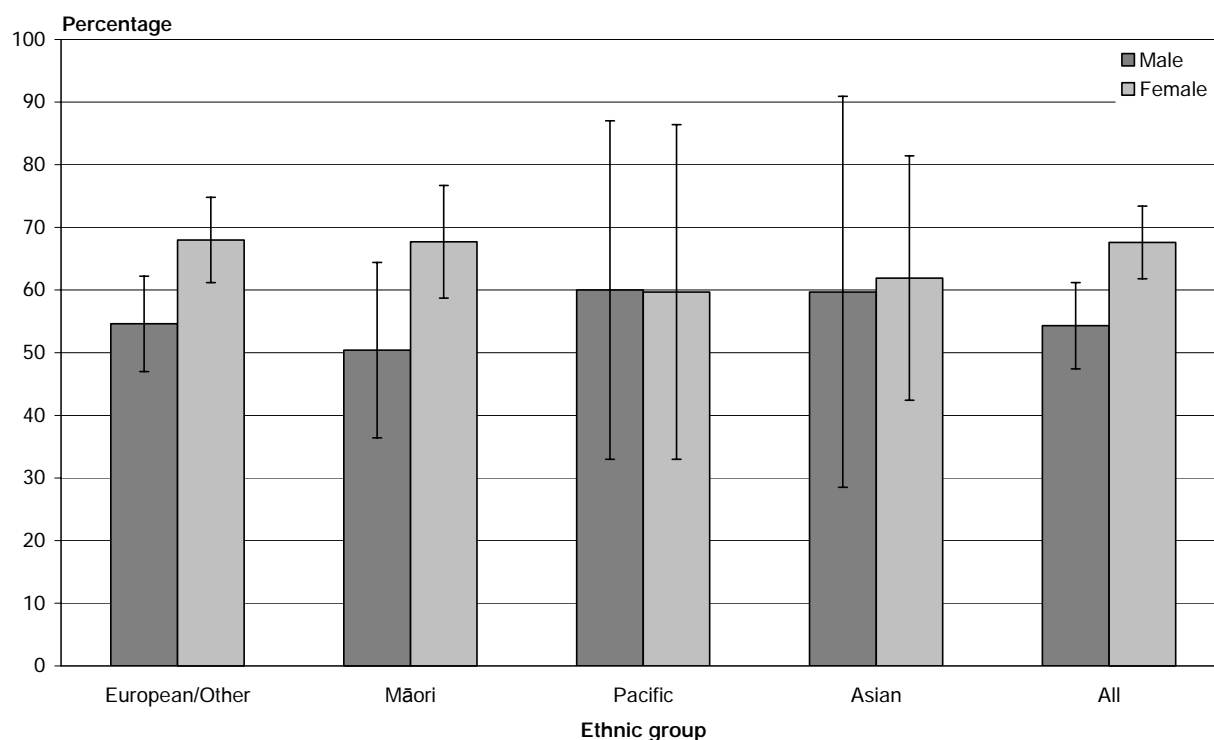


Medical treatment

Among adults diagnosed with asthma, males (54.3%; 47.4–61.2) were less likely than females (67.6%; 61.9–73.4) to receive medical treatment (ie, inhalers, aerosols or tablets).

There were no significant differences between ethnic groups in the proportion receiving medical treatment for asthma (Figure 16).

Figure 16: Medical treatment for asthma in adults aged 15–44 years, by ethnic group and sex (age-standardised)



Chronic obstructive pulmonary disease

Introduction

Chronic obstructive pulmonary disease (COPD) refers to several chronic lung disorders that are characterised by non-reversible airflow restriction in to and out of the lungs. Emphysema and chronic bronchitis are the most common forms of COPD. Chronic bronchitis occurs when the airways to the lungs become narrow and clogged with mucus. Emphysema occurs when some of the air sacs deep in the lungs have been damaged. The main risk factor is tobacco smoking.

In this survey, adults aged over 45 years were asked if a doctor had ever told them they have chronic bronchitis, emphysema or asthma. However, asthma is reversible, so it has not been included in our definition of COPD (which is permanent).

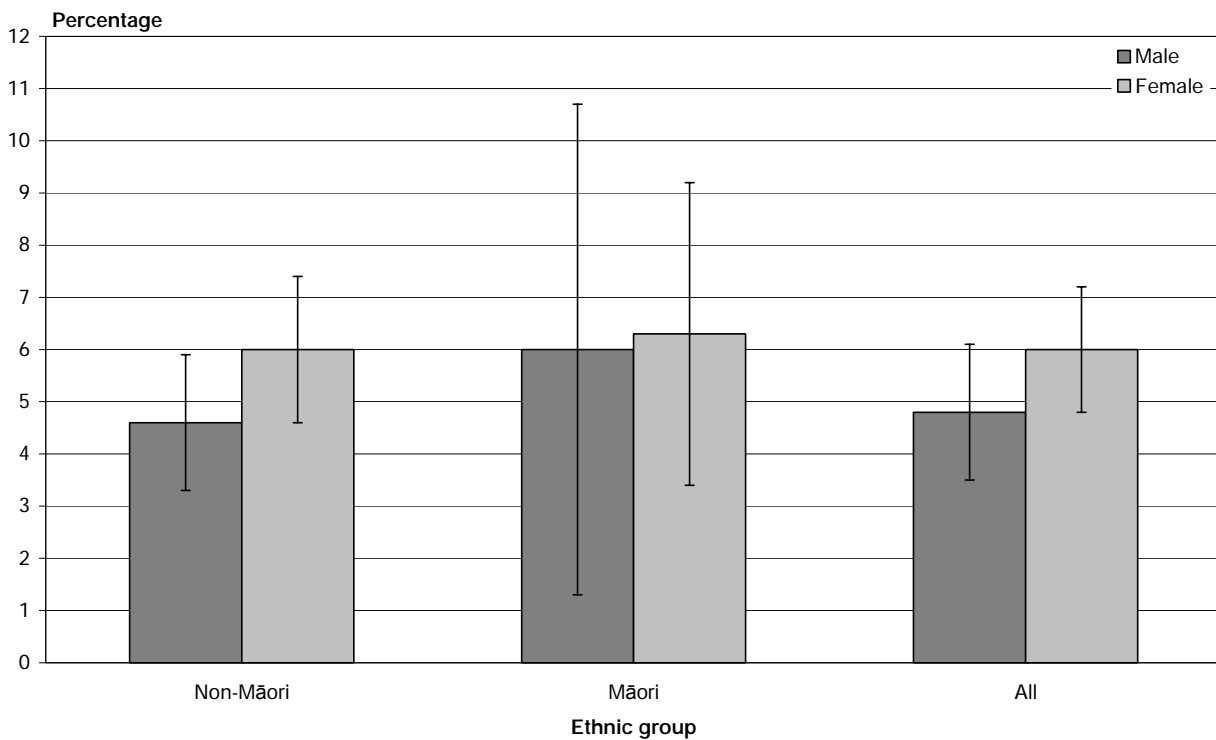
Prevalence

Overall, one in 18 adults aged over 45 years (5.5%; 4.6–6.3) had been told by their doctor they have COPD (emphysema or chronic bronchitis).

There was no significant difference in the prevalence of COPD in males (4.8%; 3.5–6.1) and females (6.0%; 4.8–7.3).

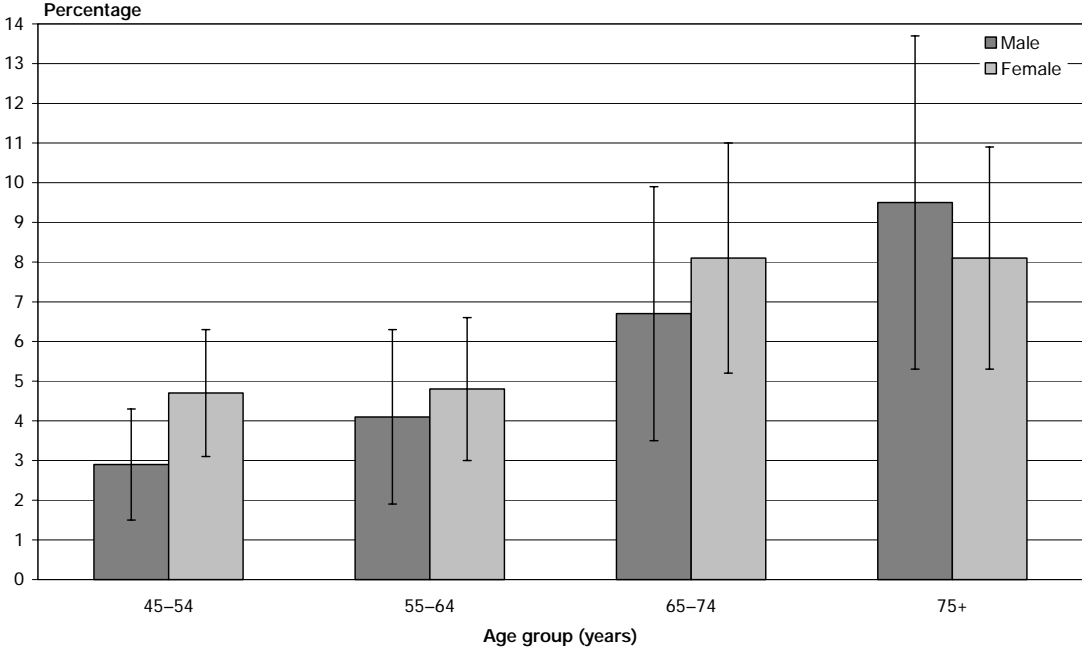
In both males and females, there was no significant difference in the prevalence of COPD between non-Māori and Māori (Figure 17).

Figure 17: Chronic obstructive pulmonary disease in adults aged over 45 years, by ethnic group and sex (age-standardised)



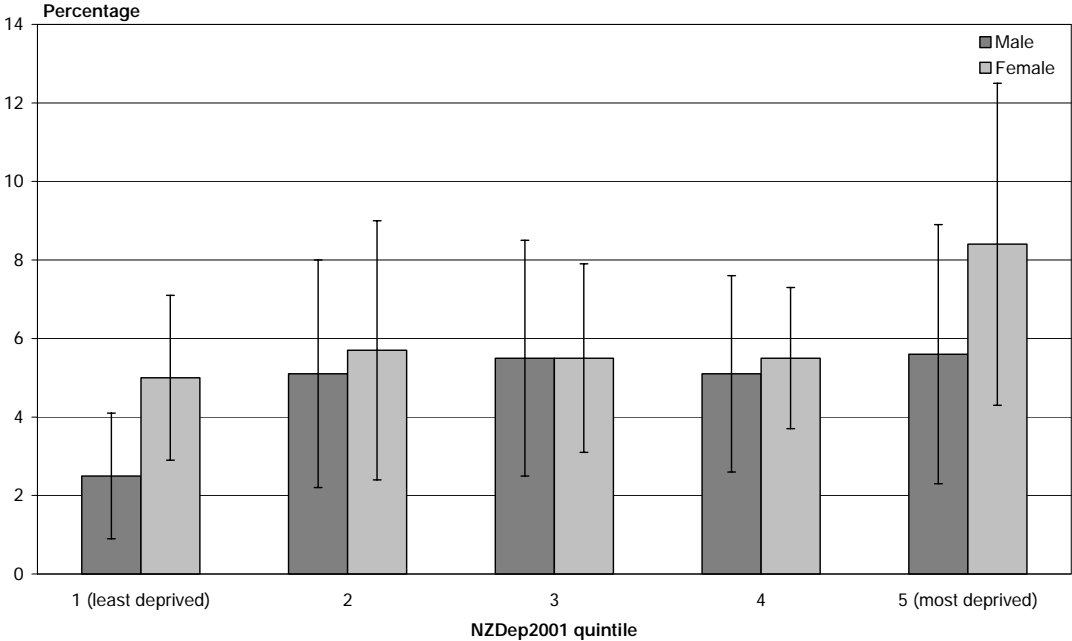
In both males and females, the prevalence of COPD increased with age (Figure 18).

Figure 18: Chronic obstructive pulmonary disease in adults aged over 45 years, by age group and sex



In both males and females, there was no significant difference in the prevalence of COPD between NZDep2001 quintile 1 (least deprived) and quintile 5 (most deprived) (Figure 19).

Figure 19: Chronic obstructive pulmonary disease in adults aged over 45 years, by NZDep2001 quintile and sex (age-standardised)

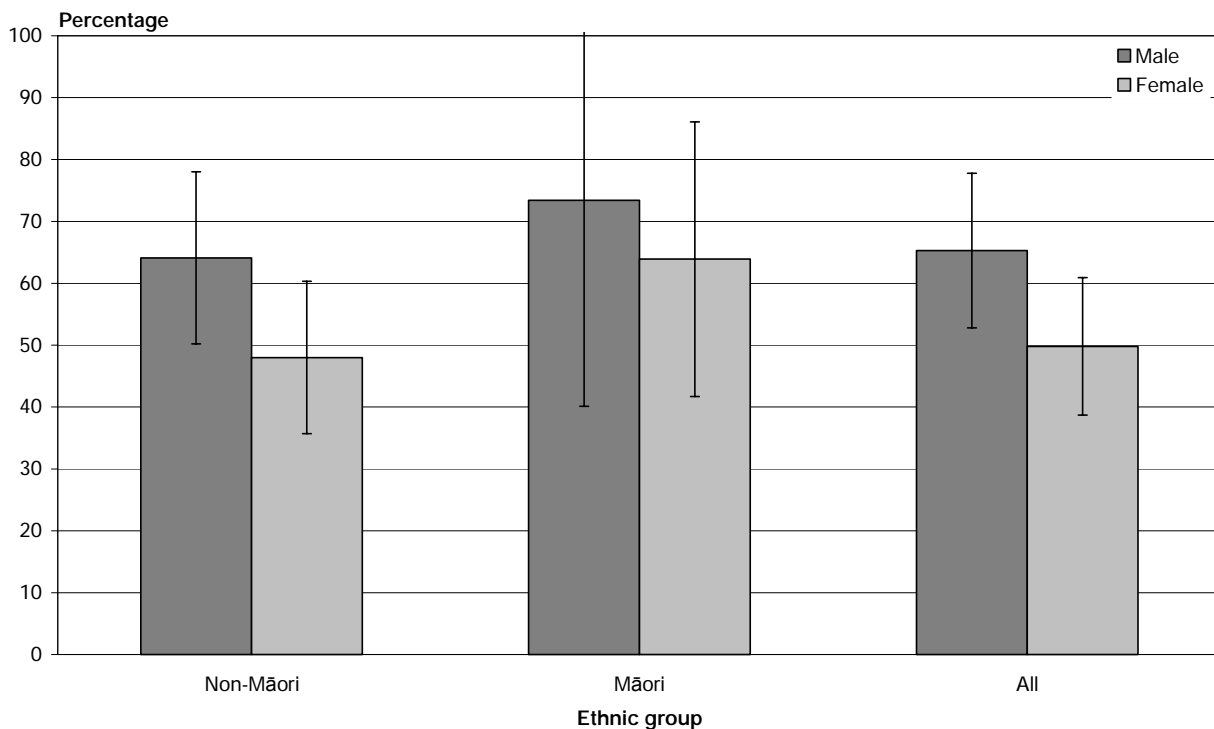


Medical treatment

Among adults diagnosed with COPD, there was no significant difference in the proportion of males (65.3%; 52.8–77.8) and females (49.8%; 38.7–60.8) receiving medical treatment (ie, inhalers, aerosols or tablets).

In both males and females, Māori were slightly more likely than non-Māori to receive treatment for COPD, although these differences were not significant (Figure 20).

Figure 20: Medical treatment for chronic obstructive pulmonary disease in adults aged over 45 years, by ethnic group and sex (age-standardised)



Arthritis

Introduction

Arthritis is a group of diseases that involve inflammation of one or more joints. This joint inflammation may occur in response to a mechanical injury to a joint, the presence of an infection, an attack on the joint by the body (autoimmune disease) or accumulated wear and tear on joints. Chronic arthritis occurs when prolonged inflammation results in long-term pain and deformity.

Osteoarthritis is the most common type of arthritis and usually results from accumulated wear and tear. Osteoarthritis is common in the elderly and usually affects the hip and knee joints. Other types of arthritis include rheumatoid arthritis (caused by autoimmune disease) and gout (caused by uric acid crystals forming in the joints and leading to inflammation).

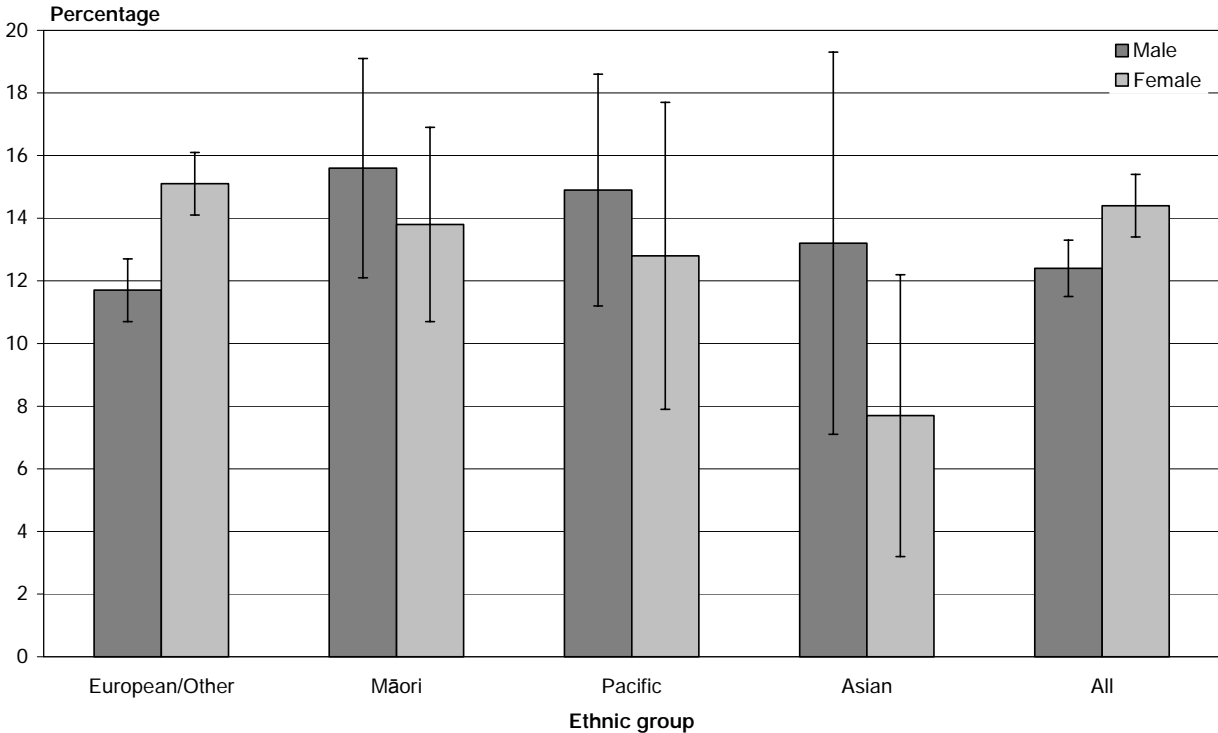
Prevalence

Overall, one in six adults (15.7%; 15.0–16.4) had been told by their doctor they have arthritis. The most common type of arthritis was osteoarthritis (7.7%; 7.2–8.3), followed by rheumatoid arthritis (3.2%; 2.8–3.6).

The prevalence of arthritis was higher in females (14.4%; 13.4–15.4) than in males (12.4%; 11.4–13.3).

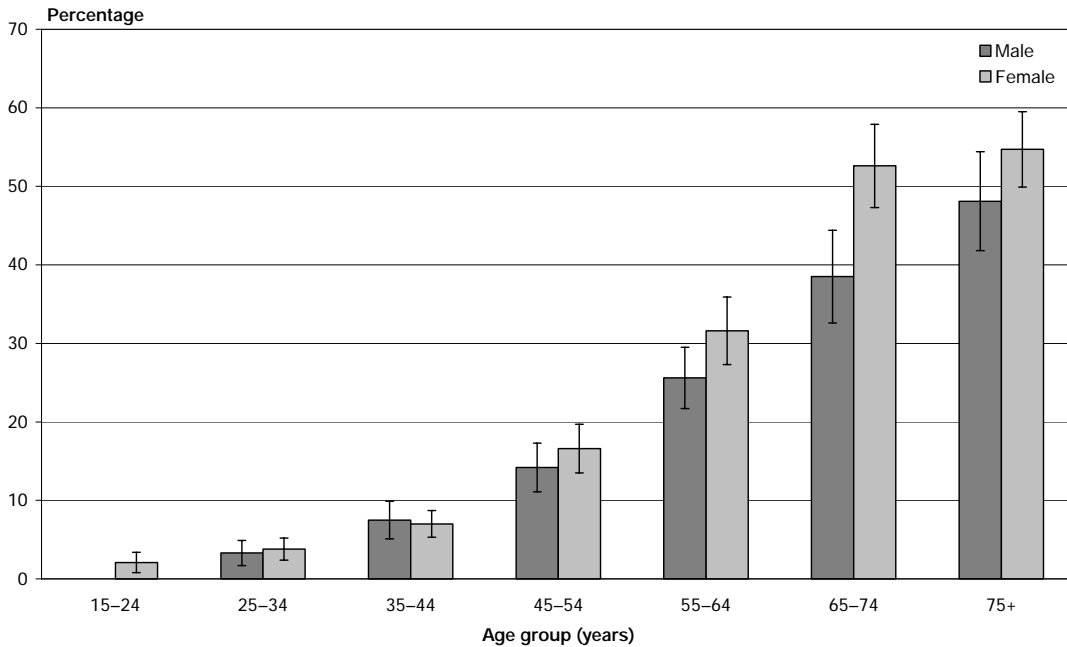
In males, there was no significant difference in the prevalence of arthritis between ethnic groups (Figure 21). The prevalence of arthritis was significantly lower in Asian females than in European/Other females.

Figure 21: Arthritis in adults, by ethnic group and sex (age-standardised)



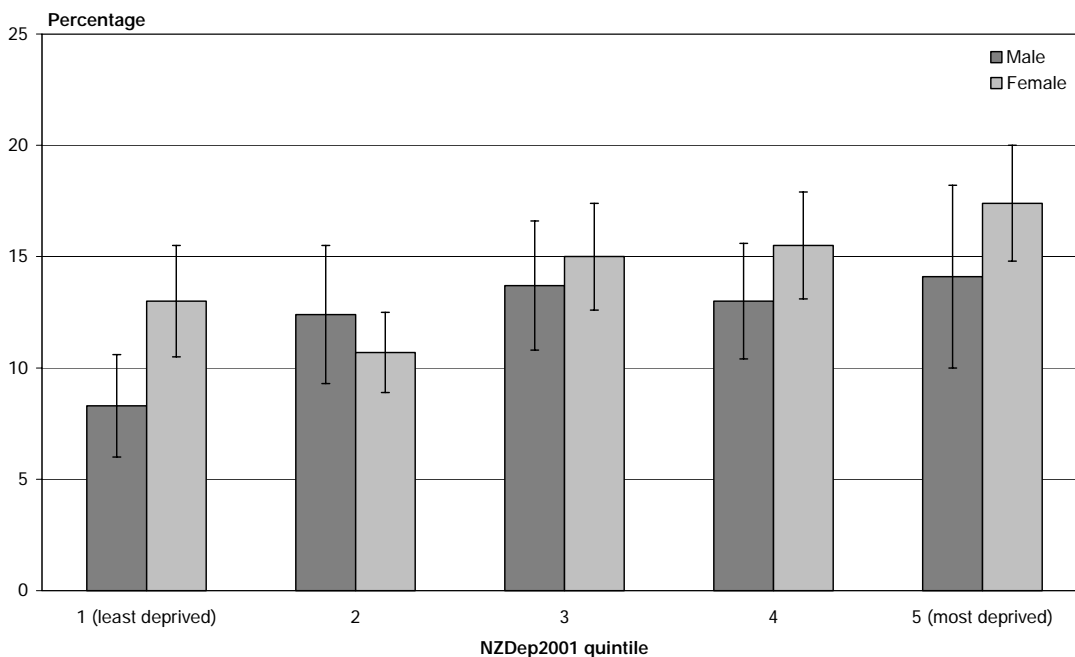
In both males and females, the prevalence of arthritis increased with age, peaking in the 75+ years age group (Figure 22).

Figure 22: Arthritis in adults, by age group and sex



In both males and females, the prevalence of arthritis was higher in NZDep2001 quintile 5 (most deprived) than in quintile 1 (least deprived), but these differences were not significant (Figure 23).

Figure 23: Arthritis in adults, by NZDep2001 quintile and sex (age-standardised)

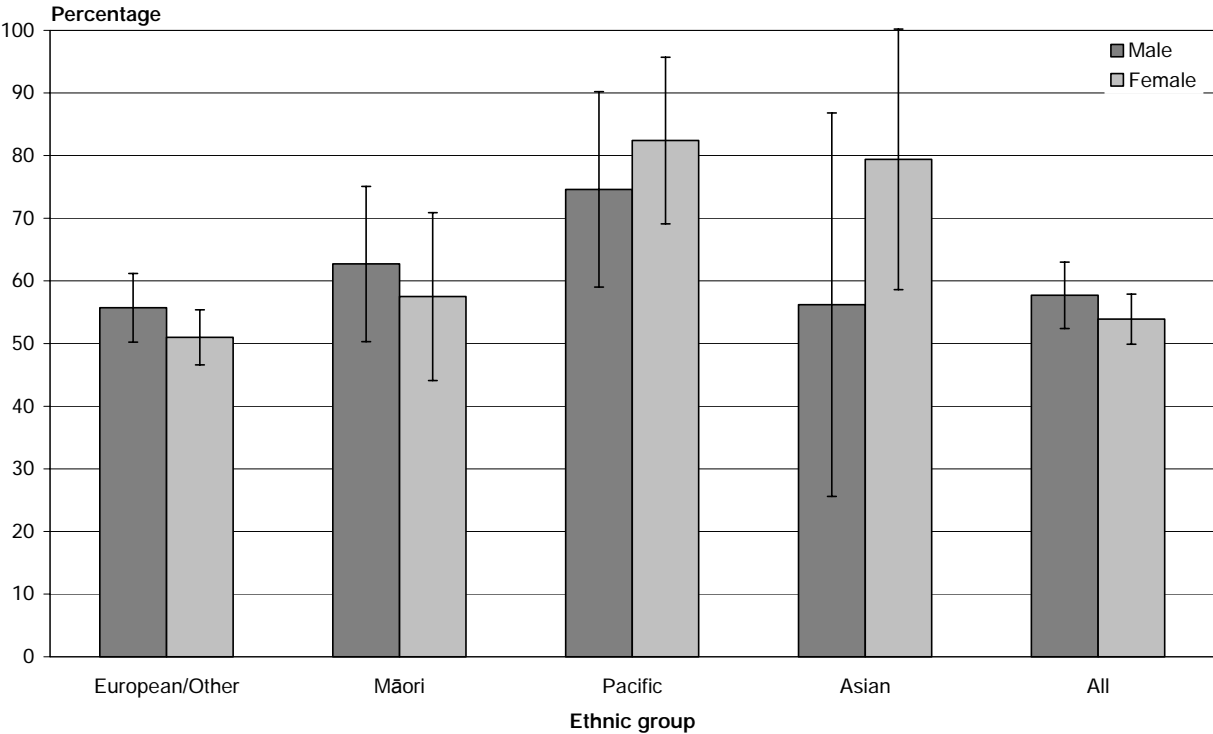


Medical treatment

Among adults diagnosed with arthritis, there was no significant difference in the proportion of males (57.7%; 52.3–63.0) and females (53.9%; 49.9–57.9) receiving medical treatment (ie, medicines, tablets or pills, steroid injections, surgery).

Pacific males were more likely to receive medical treatment for arthritis than males in other ethnic groups, although these ethnic differences were not significant (Figure 24). Pacific and Asian females were significantly more likely to receive medical treatment for arthritis than European/Other females.

Figure 24: Medical treatment for arthritis in adults, by ethnic group and sex (age-standardised)



Spinal disorders

Introduction

Spinal disorders include disorders of the back or neck (eg, lumbago, sciatica, chronic back or neck pain, and vertebrae or disc problems). Spinal disorders are usually caused by injury, overuse, muscle disorders, pressure on a nerve or poor posture. Many people will experience spinal disorders at some time, but fewer experience symptoms for six months or more. Chronic spinal disorders are painful and can be debilitating.

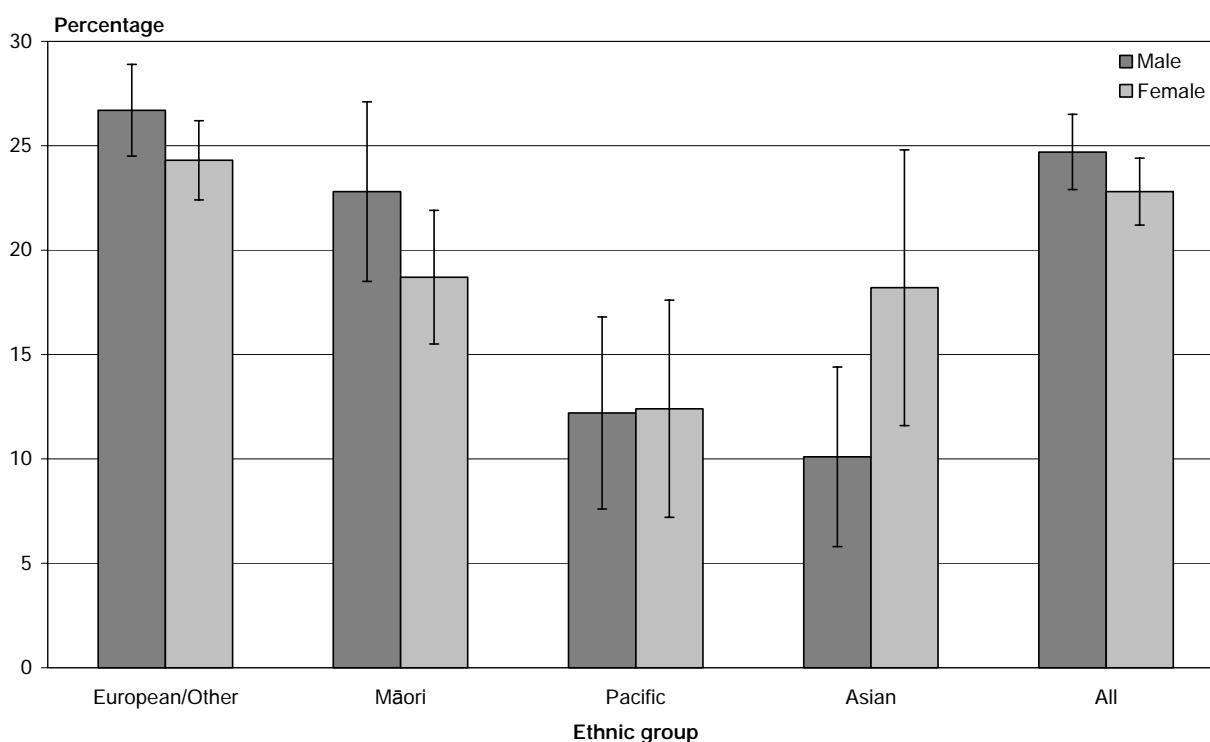
Prevalence

Overall, one in four adults (24.9%; 23.8–26.1) had been diagnosed with a chronic disorder of the back or neck.

There was no significant difference in the prevalence of spinal disorders between males (24.7%; 22.9–26.5) and females (22.8%; 21.2–24.4).

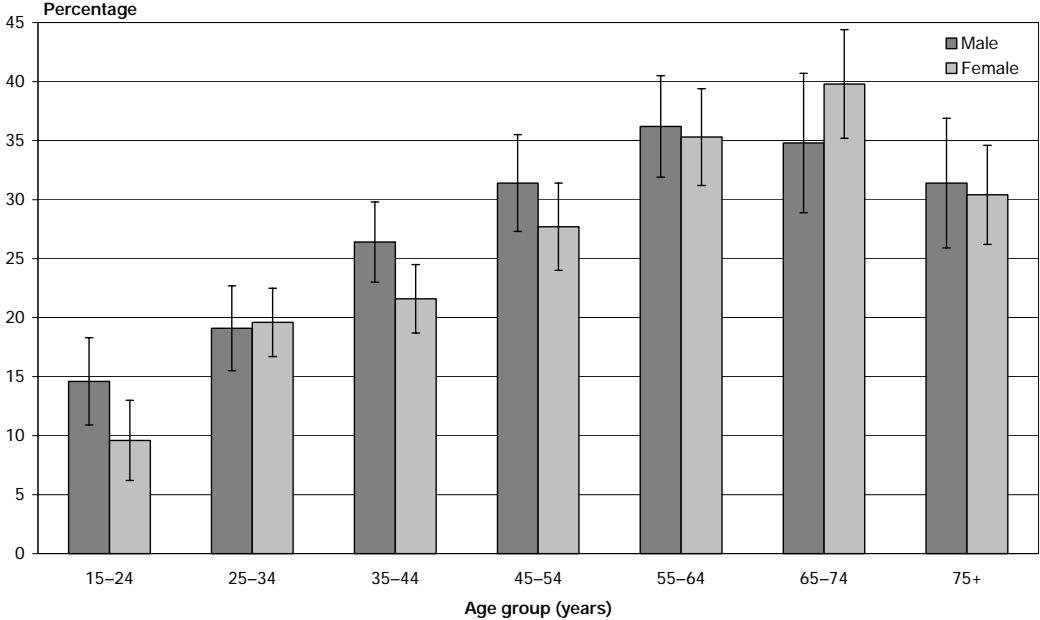
In males, the prevalence of spinal disorders was significantly higher in the European/Other and Māori ethnic groups than in Pacific and Asian ethnic groups (Figure 25). In females, the prevalence of spinal disorders was significantly higher in the European/Other ethnic group than in Māori and Pacific ethnic groups.

Figure 25: Spinal disorders in adults, by ethnic group and sex (age-standardised)



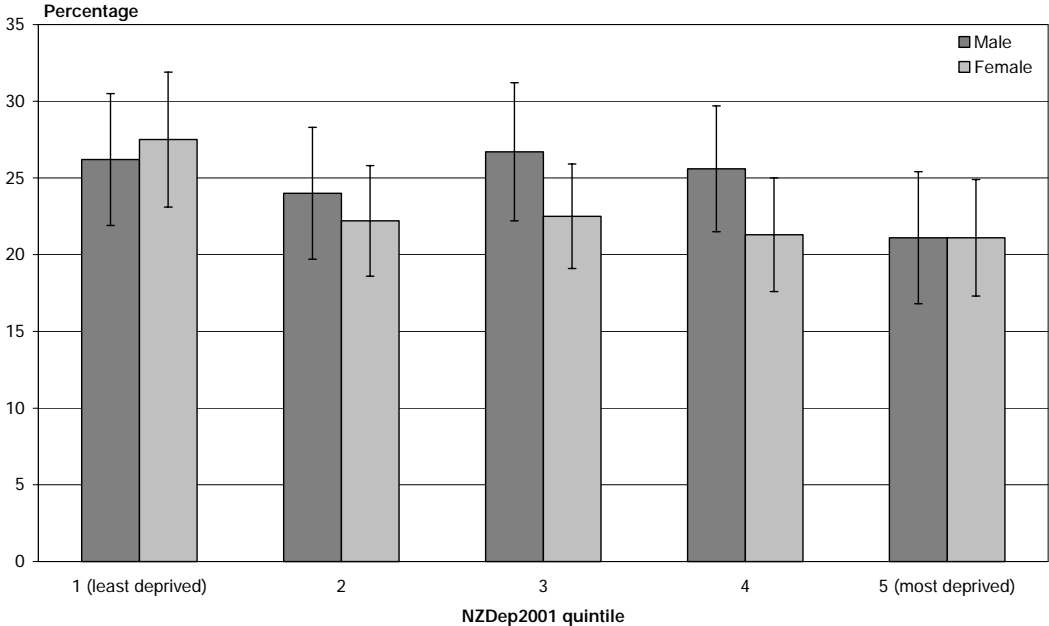
In males, the prevalence of spinal disorders increased with age until the 55–64 years age group and then declined slightly in the two oldest age groups (Figure 26). In females, the prevalence of spinal disorders increased with age until the 65–74 years age group and then declined slightly in the oldest age group.

Figure 26: Spinal disorders in adults, by age group and sex



In both males and females, the prevalence of spinal disorders was slightly higher in NZDep2001 quintile 1 (least deprived) than in quintile 5 (most deprived), but these differences were not significant (Figure 27).

Figure 27: Spinal disorders in adults, by NZDep2001 quintile and sex (age-standardised)



Osteoporosis

Introduction

Osteoporosis is the thinning of bones resulting in a loss of bone density. It occurs when not enough new bone is formed, too much bone is reabsorbed, or both. Osteoporosis causes bones to become brittle and fragile, which can lead to fractures even in the absence of trauma. Most people will not know they have osteoporosis until they break a bone. The most common fracture sites are the wrist, spine and hip. Osteoporosis usually develops slowly and is most common in older people.

Women are particularly prone to osteoporosis as the drop in oestrogen that occurs at menopause results in accelerated bone loss. Other risk factors for osteoporosis include ethnicity, family history, tobacco smoking, eating disorders, low body weight, low calcium intake, heavy alcohol consumption and physical inactivity.

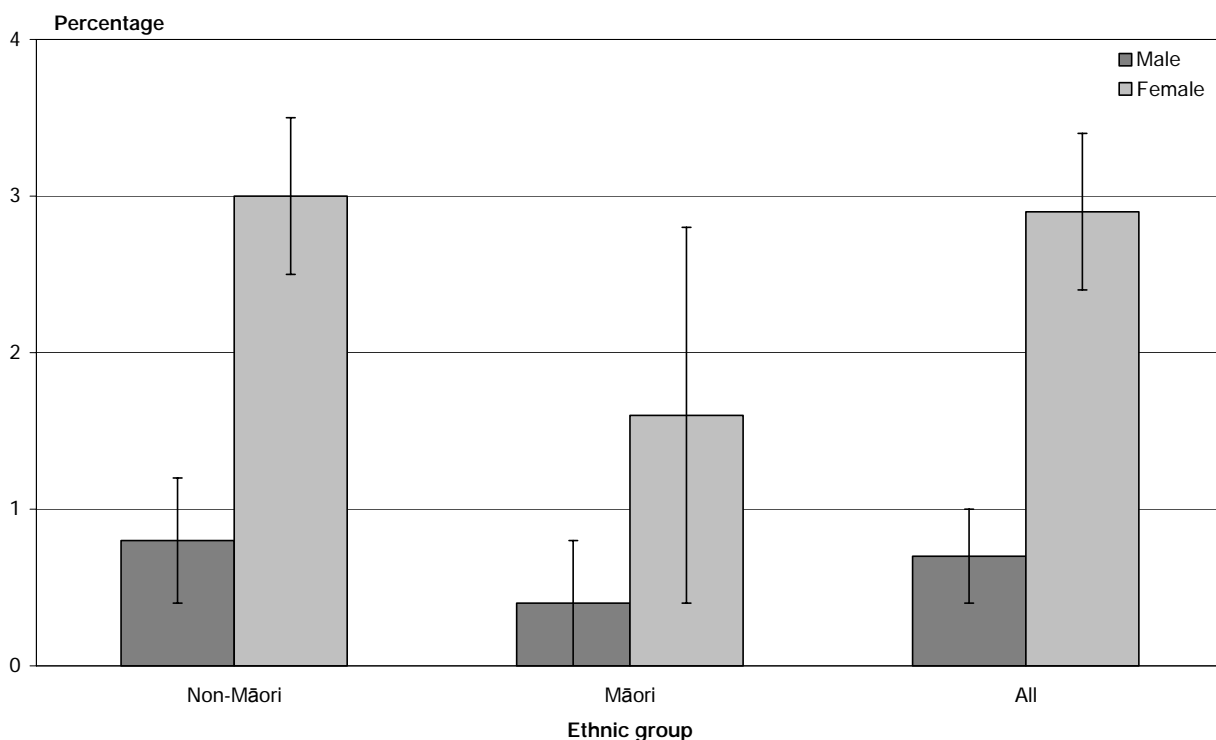
Prevalence

Overall, one in 42 adults (2.4%; 2.1–2.7) had been diagnosed with osteoporosis.

The prevalence of osteoporosis was significantly higher in females (2.9%; 2.4–3.4) than in males (0.7%; 0.4–1.1).

In both males and females, the prevalence of osteoporosis was twice as high in non-Māori as in Māori, although these differences were not significant (Figure 28).

Figure 28: Osteoporosis in adults, by ethnic group and sex (age-standardised)



In males, it was not possible to examine differences in the prevalence of osteoporosis across age groups due to low numbers. In females, osteoporosis first appeared in the 35–44 years age group (0.6%; 0.1–1.1) and the prevalence increased with age, peaking in the 75+ years age group (18.1%; 14.2–21.9).

In males, it was not possible to examine differences in the prevalence of osteoporosis across NZDep2001 quintiles due to low numbers. In females, there was no significant difference in the prevalence of osteoporosis between NZDep2001 quintile 1 (2.6%; 1.6–3.5) and quintile 5 (2.5%; 1.1–3.9).

Medical treatment

Among adults diagnosed with osteoporosis, there was no significant difference in the proportion of males (57.6%; 39.5–75.6) and females (64.5%; 55.2–73.8) who received medical treatment.

In males, it was not possible to examine ethnic differences in the proportion receiving medical treatment for osteoporosis due to low numbers. In females, non-Māori (66.6%; 58.5–74.7) were more likely than Māori (33.5%; 0.0–70.5) to receive medical treatment for osteoporosis, although this difference was not significant.

Cancer

Introduction

Cancer involves the uncontrolled growth of cells, which can prevent the normal function of vital organs. There are at least 200 different kinds of cancer and they can develop in almost any organ or tissue. Cancer is an important cause of morbidity and mortality in New Zealand. Collectively, cancers account for about a quarter of deaths, with the major sites being lung, colon, breast and prostate.

The following results are for all cancers except non-melanoma skin cancer, not differentiated by site.

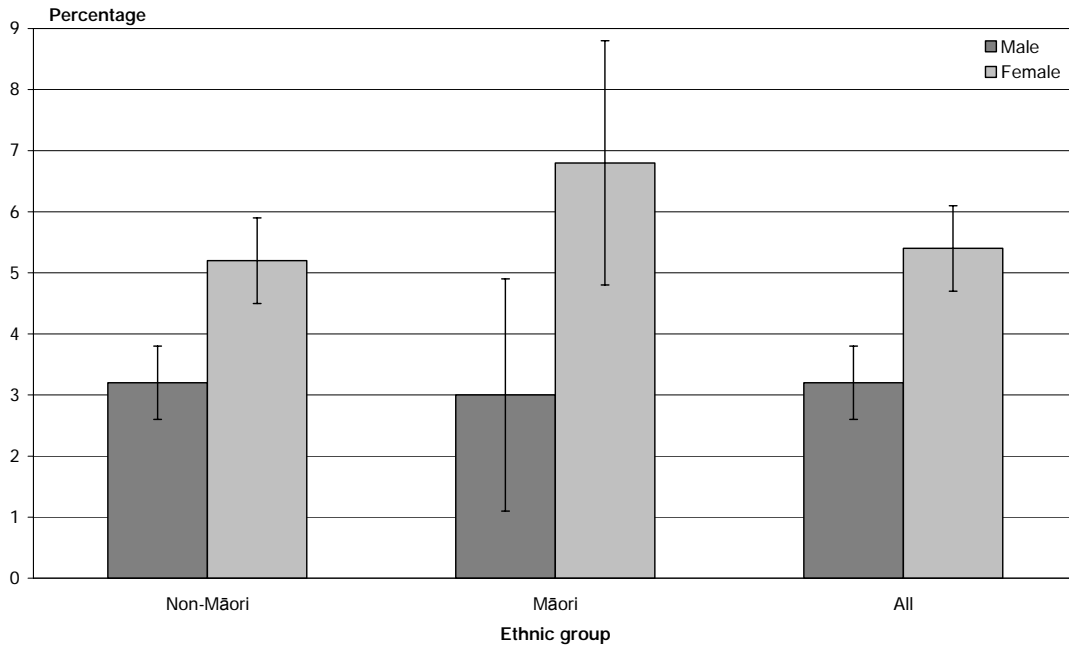
Prevalence

Overall, one in 20 adults (5.0%; 4.6–5.5) had ever been diagnosed with cancer.

Females (5.4%; 4.6–6.1) were significantly more likely than males (3.2%; 2.6–3.7) to have been diagnosed with cancer.

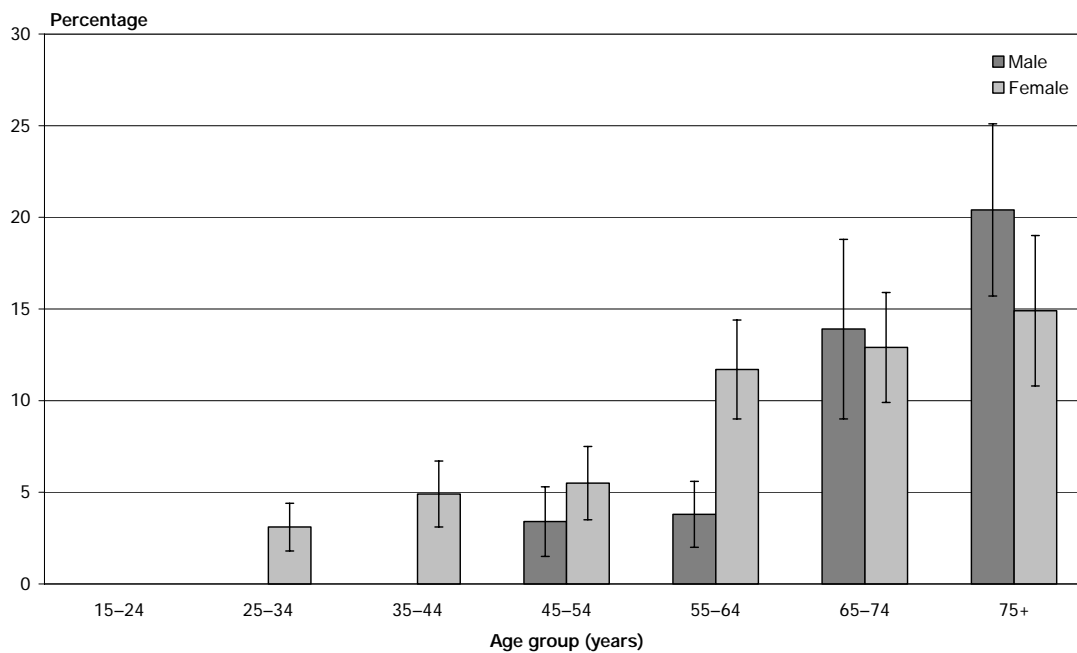
In males, the prevalence of a cancer diagnosis at any time was similar in non-Māori and Māori (Figure 29). In females, the prevalence of cancer was slightly higher in Māori than in non-Māori, although this difference was not significant.

Figure 29: Cancer in adults, by ethnic group and sex (age-standardised)



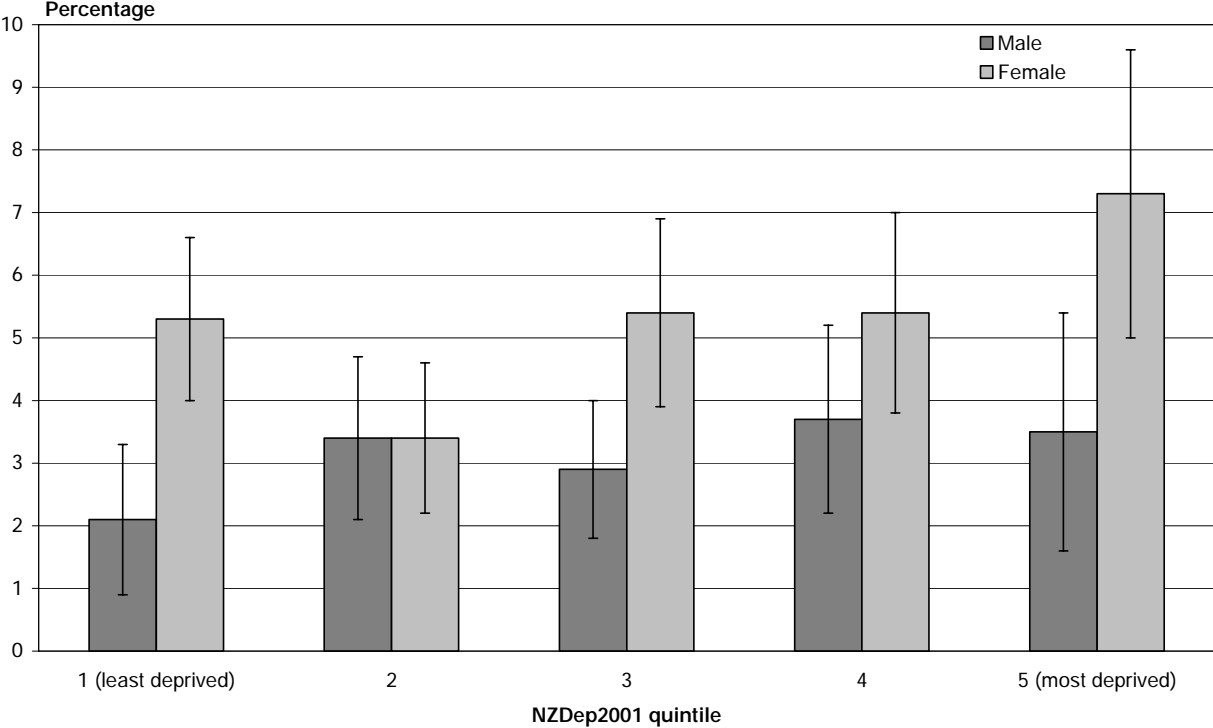
In both males and females, the prevalence of a cancer diagnosis at any time increased with age, peaking in the 75+ years age group (Figure 30).

Figure 30: Cancer in adults, by age group and sex



In both males and females, the prevalence of a cancer diagnosis at any time was slightly lower in NZDep2001 quintile 1 (least deprived) than in quintile 5 (most deprived), although these differences were not significant (Figure 31).

Figure 31: Cancer in adults, by NZDep2001 quintile and sex (age-standardised)



Serious mental disorders

Introduction

Serious mental disorders include depressive disorder, bipolar disorder and schizophrenia. Depressive disorders affect the way a person feels about themselves and how they think about things, and is associated with feelings of sadness, hopelessness and helplessness. Bipolar disorder (manic depression) is characterised by periods of excitability (mania) alternating with periods of depression, often with abrupt changes between the two moods. Schizophrenia is a serious disorder of thinking and feeling, typically including auditory hallucinations.

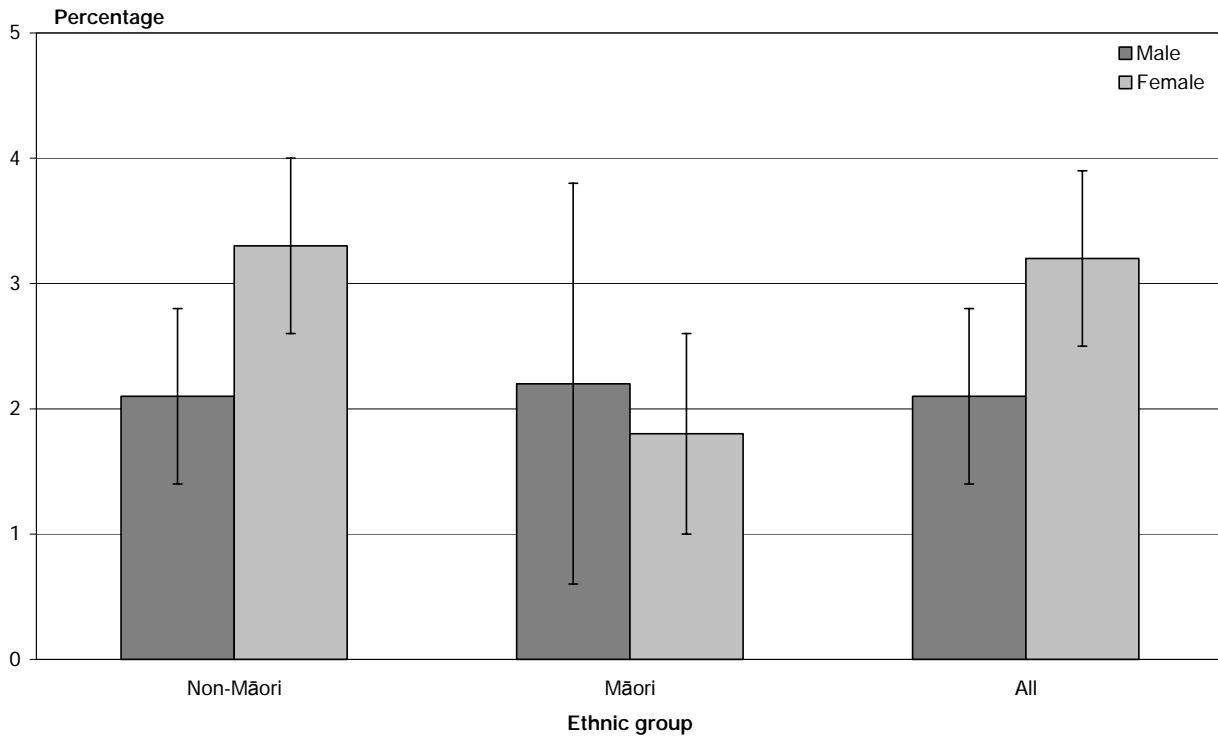
Prevalence

Overall, one in 40 adults (2.5%; 2.1–2.9) had ever been diagnosed with a serious mental disorder (ie, depressive disorder, bipolar disorder or schizophrenia). Depressive disorders were most common (1.9%; 1.6–2.2), followed by bipolar disorder (0.5%; 0.3–0.7) and schizophrenia (0.2%; 0.1–0.4).

There was no significant difference in the prevalence of serious mental disorders between males (2.1%; 1.4–2.8) and females (3.2%; 2.5–3.8).

In males, there was no significant difference in the prevalence of serious mental disorders (ie, a diagnosis of serious mental disorder at any time) between Māori and non-Māori (Figure 32). In females, non-Māori were nearly twice as likely as Māori to have been diagnosed with a serious mental disorder, although this difference was not significant.

Figure 32: Serious mental disorders in adults, by ethnic group and sex (age-standardised)



Migraine

Introduction

Migraine headaches occur repeatedly in some people. They are different from other headaches because they typically occur with nausea, vomiting or sensitivity to light.

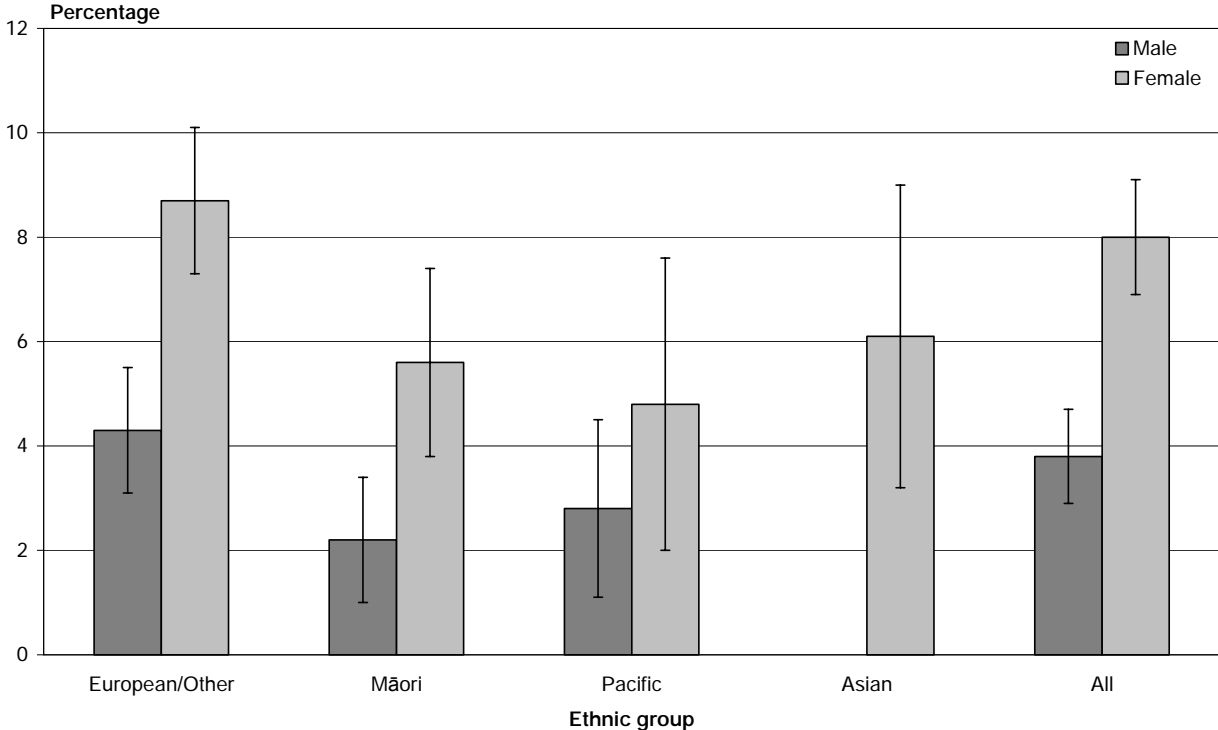
Prevalence

Overall, one in 17 adults (5.8%; 5.2–6.5) had been diagnosed with migraine headaches.

Females (8.0%; 6.8–9.1) were significantly more likely than males (3.8%; 2.9–4.8) to have been diagnosed with migraine headaches.

In both males and females, there were no significant differences in the prevalence of migraines between ethnic groups (Figure 33).

Figure 33: Migraine in adults, by ethnic group and sex (age-standardised)



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

Summary tables

Table 6 (male) and Table 7 (female) summarise the crude prevalence of selected chronic diseases 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 6: Prevalence (percent) of chronic diseases, by ethnic group, males (crude)

	European/ Other	Māori	Pacific	Asian	All
Heart disease	11.7 (10.6–12.8)	10.8 (7.1–14.4)	4.3 (1.8–6.9)	5.0 (1.0–9.0)	10.9 (9.9–11.9)
Stroke	2.6 (2.0–3.2)	2.1 (0.5–3.7)	–	–	2.3 (1.8–2.9)
Diabetes	4.3 (3.4–5.2)	7.3 (4.7–9.9)	4.0 (2.2–5.8)	6.7 (3.0–10.5)	4.7 (3.9–5.5)
Asthma (15–44 years)	19.5 (15.9–23.1)	21.9 (16.1–27.8)	9.5 (4.0–15.0)	6.1 (2.7–9.4)	18.3 (15.5–21.1)
COPD (≥ 45 years)	4.9 (3.5–6.3)	5.9 (1.2–10.6)	–	–	4.9 (3.6–6.2)
Arthritis	14.6 (13.4–15.8)	12.4 (9.3–15.5)	9.5 (6.5–12.6)	9.7 (5.1–14.2)	13.9 (12.9–14.8)
Osteoarthritis	6.8 (6.0–7.7)	4.1 (1.9–6.3)	–	–	6.0 (5.2–6.7)
Rheumatoid arthritis	2.6 (1.9–3.3)	2.5 (1.1–4.0)	–	–	2.6 (2.0–3.2)
Spinal disorders	28.6 (26.6–30.6)	21.9 (17.6–26.2)	8.2 (4.5–11.8)	10.7 (5.9–15.5)	26.0 (24.3–27.6)
Osteoporosis	0.9 (0.5–1.3)	0.3 (0.0–0.6)	–	–	0.8 (0.5–1.1)
Cancer	4.4 (3.7–5.1)	2.0 (0.7–3.3)	–	–	3.8 (3.2–4.4)
Migraine	4.2 (3.1–5.2)	2.3 (1.0–3.7)	2.8 (1.0–4.7)	–	3.8 (2.9–4.6)
Serious mental disorders	2.2 (1.5–2.9)	2.3 (0.7–4.0)	–	–	2.0 (1.4–2.6)

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

Table 7: Prevalence (percent) of chronic diseases, by ethnic group, females (crude)

	European/ Other	Māori	Pacific	Asian	All
Heart disease	11.0 (9.9–12.0)	7.8 (6.3–9.4)	6.2 (2.8–9.6)	2.6 (0.5–4.7)	9.9 (9.0–10.8)
Stroke	2.0 (1.5–2.5)	2.1 (1.0–3.2)	–	–	1.9 (1.5–2.3)
Diabetes	3.2 (2.5–3.8)	5.2 (3.5–6.8)	9.4 (2.1–8.2)	5.2 (6.2–12.7)	3.8 (3.2–4.4)
Asthma (15–44 years)	24.5 (22.2–26.8)	27.1 (22.6–31.6)	10.9 (6.4–15.4)	8.6 (5.9–11.4)	22.8 (21.0–24.7)
COPD (≥ 45 years)	6.1 (5.0–7.3)	5.6 (2.9–8.2)	–	–	6.0 (5.0–7.1)
Arthritis	19.7 (18.5–20.9)	10.4 (7.9–12.9)	9.6 (5.5–13.7)	4.9 (2.2–7.6)	17.3 (16.3–18.4)
Osteoarthritis	11.1 (10.0–12.2)	4.1 (2.5–5.7)	3.7 (0.9–6.5)	1.7 (0.0–3.5)	9.4 (8.5–10.3)
Rheumatoid arthritis	3.9 (3.3–4.5)	3.9 (2.1–5.7)	3.8 (1.2–6.5)	–	3.7 (3.2–4.2)
Spinal disorders	26.6 (24.9–28.4)	16.8 (13.7–19.9)	10.8 (6.0–15.5)	13.6 (9.0–18.3)	24.0 (22.5–25.5)
Osteoporosis	4.6 (3.9–5.3)	1.1 (0.3–2.0)	–	–	3.9 (3.3–4.5)
Cancer	6.7 (5.8–7.5)	6.2 (4.2–8.3)	2.5 (0.9–4.1)	2.2 (0.0–4.3)	6.2 (5.4–6.9)
Migraine	8.5 (7.2–9.8)	5.4 (3.7–7.2)	4.1 (1.8–6.4)	5.9 (3.1–8.8)	7.8 (6.7–8.8)
Serious mental disorders	3.5 (2.8–4.2)	1.9 (1.1–2.8)	1.1 (0.0–2.2)	–	3.0 (2.4–3.6)

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

Table 8 (male) and Table 9 (female) summarise the age-standardised prevalence of selected chronic diseases 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 8: Prevalence (percent) of chronic diseases, by ethnic group, males (age-standardised)

	European/ Other	Māori	Pacific	Asian	All
Heart disease	9.4 (8.4–10.5)	13.6 (9.6–17.7)	5.9 (2.4–9.5)	8.1 (1.1–15.1)	9.6 (8.5–10.7)
Stroke	2.0 (1.5–2.4)	2.5 (0.9–4.1)	–	–	1.9 (1.5–2.3)
Diabetes	3.4 (2.6–4.2)	9.5 (6.4–12.6)	8.1 (4.6–11.5)	8.1 (3.6–12.5)	4.5 (3.8–5.3)
Asthma (15–44 years)	20.8 (16.7–24.9)	21.6 (15.9–27.3)	9.4 (3.8–15.0)	6.3 (2.9–9.6)	19.6 (16.3–22.9)
COPD (≥ 45 years)	4.6 (3.3–6.0)	6.0 (1.3–10.8)	–	–	4.8 (3.5–6.1)
Arthritis	11.7 (10.7–12.8)	15.6 (12.1–19.2)	14.9 (11.2–18.6)	13.2 (7.1–19.3)	12.4 (11.4–13.3)
Osteoarthritis	5.3 (4.6–6.0)	5.4 (2.5–8.3)	–	–	5.0 (4.4–5.7)
Rheumatoid arthritis	2.2 (1.6–2.9)	2.9 (1.4–4.4)	–	–	2.4 (1.9–3.0)
Spinal disorders	26.7 (24.6–28.9)	22.8 (18.4–27.1)	12.2 (7.6–16.8)	10.1 (5.9–14.4)	24.7 (22.9–26.5)
Osteoporosis	0.8 (0.4–1.2)	0.4 (0.0–0.7)	–	–	0.7 (0.4–1.1)
Cancer	3.4 (2.8–4.0)	3.0 (1.2–4.9)	–	–	3.2 (2.6–3.7)
Migraine	4.3 (3.1–5.5)	2.2 (0.9–3.4)	2.8 (1.1–4.5)	–	3.8 (2.9–4.8)
Serious mental disorders	2.3 (1.5–3.1)	2.2 (0.6–3.7)	–	–	2.1 (1.4–2.8)

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

Table 9: Prevalence (percent) of chronic diseases, by ethnic group, females (age-standardised)

	European/ Other	Māori	Pacific	Asian	All
Heart disease	8.5 (7.5–9.4)	10.6 (8.5–12.6)	7.9 (3.9–11.9)	4.6 (0.7–8.6)	8.4 (7.5–9.3)
Stroke	1.4 (1.1–1.8)	2.8 (1.5–4.2)	–	–	1.5 (1.2–1.8)
Diabetes	2.4 (1.9–2.9)	6.7 (4.7–8.6)	11.9 (7.7–16.2)	8.7 (3.5–14.0)	3.7 (3.1–4.3)
Asthma (15–44 years)	25.9 (23.3–28.5)	27.2 (22.7–31.6)	10.8 (6.3–15.2)	8.7 (5.9–11.5)	24.3 (22.1–26.4)
COPD (≥ 45 years)	5.9 (4.8–7.1)	6.3 (3.4–9.1)	–	–	6.0 (4.8–7.3)
Arthritis	15.1 (14.0–16.1)	13.8 (10.6–16.9)	12.8 (8.0–17.7)	7.7 (3.2–12.1)	14.4 (13.4–15.4)
Osteoarthritis	8.0 (7.1–8.8)	5.5 (3.5–7.5)	5.1 (1.2–9.0)	2.0 (0.1–4.0)	7.2 (6.4–8.0)
Rheumatoid arthritis	3.1 (2.6–3.6)	4.7 (2.7–6.7)	4.6 (1.7–7.4)	–	3.2 (2.8–3.7)
Spinal disorders	24.3 (22.5–26.2)	18.7 (15.6–21.9)	12.4 (7.2–17.6)	18.2 (11.6–24.7)	22.8 (21.2–24.4)
Osteoporosis	3.2 (2.7–3.7)	1.6 (0.4–2.9)	–	–	2.9 (2.4–3.4)
Cancer	5.5 (4.7–6.2)	6.8 (4.8–8.8)	3.0 (1.1–4.9)	3.1 (0.0–6.7)	5.4 (4.6–6.1)
Migraine	8.7 (7.2–10.1)	5.6 (3.8–7.4)	4.8 (2.0–7.6)	6.1 (3.2–9.0)	8.0 (6.8–9.1)
Serious mental disorders	3.7 (2.8–4.5)	1.8 (1.0–2.7)	1.1 (0.1–2.0)	–	3.2 (2.5–3.8)

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