

Chapter 2: Health Behaviours and Risk Factors

Introduction

Health behaviours and risk factors are modifiable factors associated with good or poor health outcomes.

The health behaviours and risk factors included in this chapter were selected to align with the New Zealand Health Strategy and Health Targets, as well as being of current policy interest. Only behaviours that have been shown to be causally related to health outcomes in previous research have been included.

In the 2006/07 New Zealand Health Survey, the height and weight of all participants aged two years and over (and waist circumference for those aged 5 years old and over) were measured in their home using professional equipment and standardised techniques. The height and weight measures were used to calculate body mass index (BMI), and estimate the proportion of the population with increased risk of health conditions associated with obesity.

For other topics in this chapter, the survey used a series of questions to determine the prevalence of self-reported health behaviour in adults, and parents were asked about the behaviour of their child. The questions used in the survey have been validated in other studies and have been found to provide an accurate estimate of the health behaviour being measured.

Appendices 5 and 6 describe how to access data presented in this chapter, as well as additional results available online.

Infant feeding

Introduction

Appropriate nutrition in the first few months of life is more critical than at any other time in the life cycle. Breast milk is promoted by the World Health Organization and the Ministry of Health as the best food for infants (Ministry of Health 2008; World Health Organization and UNICEF 2003). Breastfed infants have a reduced risk of infectious disease, such as meningitis, gastroenteritis, and respiratory and ear infections because of maternal antibodies in breast milk (Ministry of Health 2001). Breastfed infants also appear to have reduced risk of sudden infant death syndrome (SIDS), and a reduced risk of being overweight during childhood and adulthood (Harder et al 2005). The long-term protective effects of breastfeeding appear to be related to the duration and exclusivity of breastfeeding (Riordan 2005). In addition, breastfeeding has benefits for the mother, with women who have ever breastfed having a lower risk of breast cancer compared to women who have never breastfed (World Cancer Research Fund and American Institute for Cancer Research 2007).

The Ministry of Health recommends that infants be fed exclusively on breast milk to around six months of age, with continued breastfeeding until at least one year of age or beyond. Solid food should be gradually introduced along with the usual milk feed (breast milk or infant formula) when the infant is developmentally ready, usually around six months of age. (Ministry of Health 2008). There are a number of risks associated with the introduction of solids before the age of four months, including increased risk of eczema, asthma, allergies, respiratory disease, gut infections, diarrhoea and dehydration, iron deficiency, and malnutrition.

Late introduction of solids, after six months of age, has been associated with increased risk of iron deficiency, malnutrition and delays in oral motor development (Ministry of Health 2008).

What were the survey questions?

In the 2006/07 New Zealand Health Survey, parents and caregivers of children aged under 15 years were asked if their child had ever been breastfed.

Parents and caregivers of children aged under five years were asked several more questions on breastfeeding, infant formula use, weaning and the introduction of solids. These detailed questions on infant feeding were only asked of the parents of children under five years old to minimise recall bias.

The data presented in this report focus on whether children have ever been breastfed, the prevalence of exclusive breastfeeding, weaning, and the introduction of solids.

Another source of data on breastfeeding rates for New Zealand children is Well Child Tamariki Ora providers (of which Plunket is the largest), which co-ordinate nurses and community health workers to provide support services for the development, health and wellbeing for children under five years of age. Well Child Tamariki Ora services are available to all families, but not all families participate, and not all Well Child breastfeeding data are reported. The breastfeeding incidence rates usually reported by the Ministry of Health are based on Plunket clients and will differ from the prevalence presented in this report.

Ever breastfed children

Nine out of ten children aged from birth to 14 years (87.8%, 86.7–88.9) had ever been breastfed. There was no difference in the age-adjusted prevalence of having ever been breastfed between boys and girls.

Pacific (SRR: 0.94, 0.90–0.98) and Māori (SRR: 0.97, 0.95–0.99) children were less likely to have ever been breastfed compared to the total child population rate, adjusted for age. European/Other children (SRR: 1.02, 1.01–1.02) were more likely to have ever been breastfed.

Children living in the least deprived neighbourhoods (NZDep2006 quintile 1, 92.1%, 89.6–94.5) were more likely to have ever been breastfed than children living in the most deprived neighbourhoods of quintile 5 (83.3%, 81.1–85.5), adjusted for age.

Ever breastfed children, by DHB area

Children aged from birth to 14 years living in Auckland DHB area were significantly more likely to have ever been breastfed compared to the national rate, whereas children living in Counties Manukau and the South Island DHBs, excluding Canterbury, were less likely to have ever been breastfed (Table 2.1).

Table 2.1: Children aged from birth to 14 years who have ever been breastfed, by DHB area (unadjusted)

DHB area	Prevalence (95% CI)	Number of children
Northland / Lakes / Tairāwhiti / Hawke's Bay / Whanganui	89.6 (87.2–91.9)	103500
Waitemata	90.5 (87.5–93.4)	94200
Auckland	94.5 (92.1–96.8) +	70500
Counties Manukau	82.8 (79.6–86.0) –	92100
Waikato	85.8 (81.8–89.8)	65400
Bay of Plenty / Taranaki / MidCentral	89.5 (86.4–92.7)	88200
Wairarapa / Hutt Valley / Capital and Coast	86.0 (82.1–89.9)	76900
Canterbury	89.6 (85.4–93.9)	81500
Nelson Marlborough / West Coast / South Canterbury / Otago / Southland	82.8 (77.8–87.8) –	77800
New Zealand total	87.8 (86.7–88.9)	750000

Source: 2006/07 New Zealand Health Survey

Notes: Estimates indicated with a + are significantly higher than the national rate, and estimates indicated with a – are significantly lower than the national rate. Data are based on direct survey estimates and could be confounded by different population characteristics in each DHB. Due to small sample size, some DHB areas have been combined. Survey population is the estimated resident population living in permanent private dwellings at 31 June 2007.

Age breastfeeding stopped

For children aged less than five years who had ever been breastfed, the average (mean) age at which breastfeeding was stopped was 8.6 months (8.1–9.2 months).¹⁰ There was no difference between boys and girls in the age at which breastfeeding stopped. One in eleven children (8.8%, 6.3–11.3) were still breastfed at two years of age.¹¹

European/Other children were more likely to have stopped breastfeeding at an earlier age compared to children in the total population (SRR: 0.96, 0.92–0.99). There were no other differences by ethnic group. There were also no differences by NZDep2006 quintile.

Exclusive breastfeeding

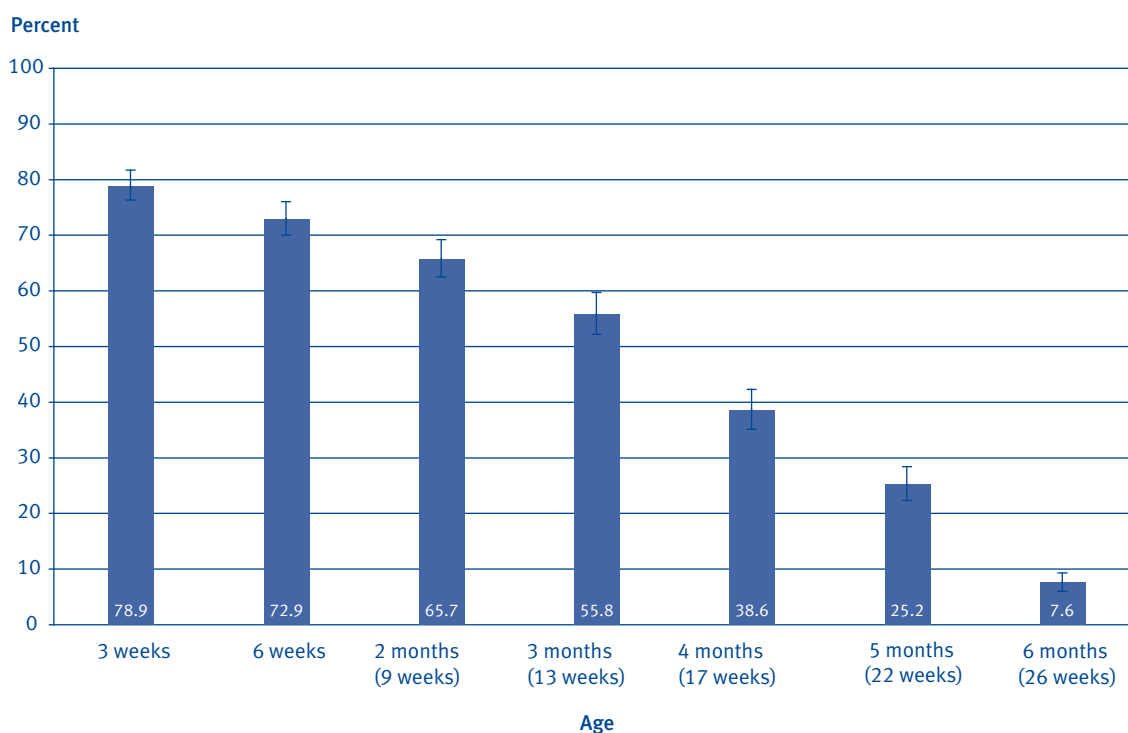
Exclusive breastfeeding is when infants have not been given any liquids or solids (excluding prescribed medicines) other than breast milk. There was no difference in the rate of exclusive breastfeeding for infants by gender, so the data presented combine boys and girls.

At six weeks of age seven out of ten infants were exclusively breastfed. This proportion reduced with age, until by three months of age just over half of infants were exclusively breastfed, and at six months of age 1 in 13 infants were still being exclusively breastfed (Figure 2.1).

¹⁰ Excluding children who were still being breastfed at the time of the survey.

¹¹ Aged under five years but over two years in the sample, who were breastfed at two years old.

Figure 2.1: Exclusively breastfed, by age of infant, at intervals up to 6 months of age (26 weeks) (unadjusted prevalence)



Source: 2006/07 New Zealand Health Survey

Note: Includes children aged under five years at the time of survey, and older than the age of interest in analyses.

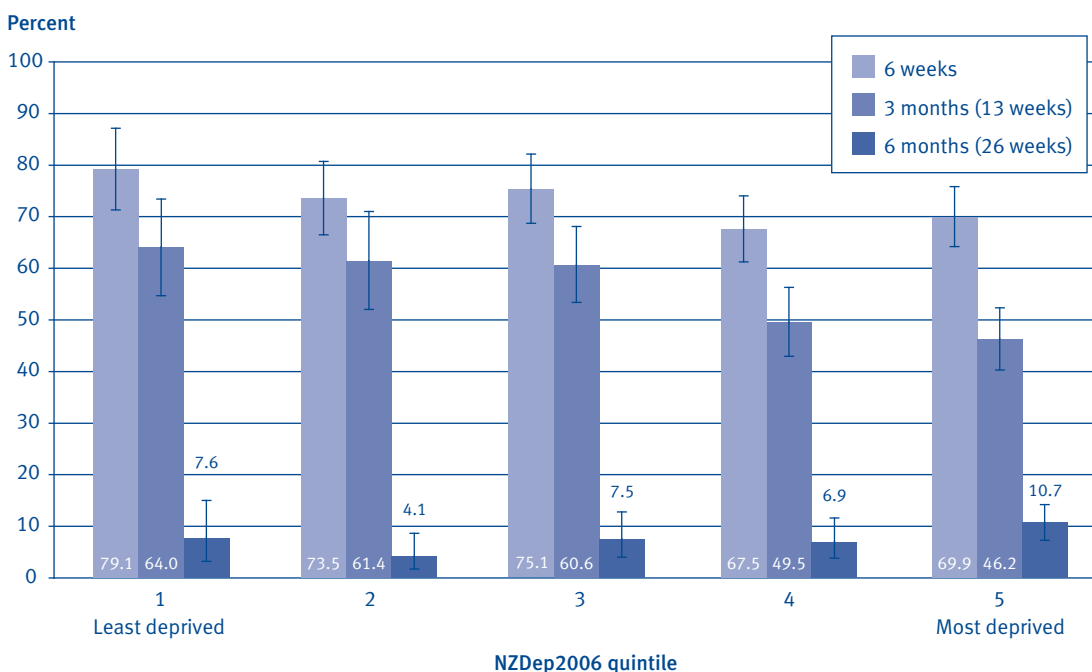
Exclusive breastfeeding, by ethnic group

At six weeks and three months of age there were no significant differences by ethnic group in the proportion of children exclusively breastfed. At six months of age, European/Other children were much less likely to be exclusively breastfed than all children at six months of age (SRR: 0.81, 0.67–0.95).

Exclusive breastfeeding, by neighbourhood deprivation

Infants at three months of age living in areas of low neighbourhood deprivation (NZDep2006 quintile 1) were more likely to be exclusively breastfed than infants of the same age living in deprived areas (NZDep2006 quintile 5) (Figure 2.2). However, by six months of age infants living in quintile 2 were less likely than infants in quintile 5 to still be exclusively breastfed (p-value < 0.05).

Figure 2.2: Exclusively breastfed at 6 weeks, 3 months (13 weeks) and 6 months (26 weeks) of age, by NZDep2006 quintile (unadjusted prevalence)



Source: 2006/07 New Zealand Health Survey

Note: Includes children aged under five years at the time of survey, and older than the age of interest in analyses.

Age first given any food or drink other than breast milk

The mean age children aged under five years old were given any food or drink other than breast milk was four months (3.7–4.1).¹² There was no difference between boys and girls, or by NZDep2006 quintile in the age at which they were given any food or drink other than breast milk.

The mean age at which Pacific children (SRR: 1.13, 1.01–1.25) were given any food or drink other than breast milk was higher than children in the total population. European/Other children had a lower mean age (SRR: 0.97, 0.95–1.00). There were no other differences by ethnic group.

The first food or drink given to infants (other than breast milk) was:

- infant formula: 53.1% (49.9–56.2)
- water: 22.5% (19.5–25.4)
- solids: 21.9% (19.1–24.6)
- milk (any non-breast milk): 2.6% (1.6–3.7).

¹² Excluding children who had not been given any liquids or solids other than breast milk at the time of the survey.

Age first given solids

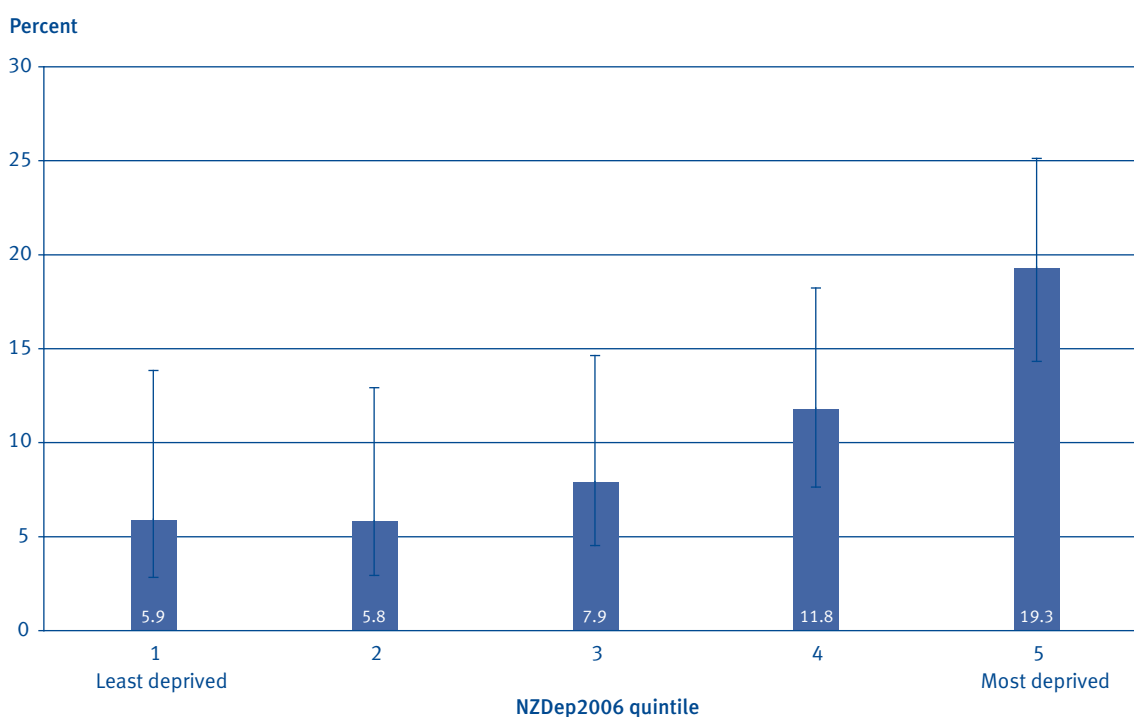
For children aged under five years, the mean age at which solids were introduced was five and a half months (5.4, 5.2-5.6).¹³ There was no difference between boys and girls in the age at which solids were introduced.

One in ten infants was first given solids before four months of age (10.6%, 8.6–12.5). There was no difference by gender in the prevalence of being given solids early.

Māori children (SRR: 1.57, 1.20–1.95) were more likely than children in the total population to have been given solids before four months of age. European/Other (SRR: 0.88, 0.76–1.00) and Asian (SRR: 0.40, 0.19–0.61) children were less likely.

Children living in the most deprived areas (NZDep2006 quintile 5) were over three times more likely than children in the least deprived neighbourhoods to be given solids before four months of age (Figure 2.3).

Figure 2.3: First given solids before 4 months of age, for children aged from 4 months to 5 years, by NZDep2006 quintile (unadjusted prevalence)



Source: 2006/07 New Zealand Health Survey.

¹³ Excluding children who had not started solids at the time of the survey.