

The Benefits of Breastfeeding.

Breastfeeding benefits the infant, mother and community. The NH&MRC¹ describe breastfeeding as the physiological norm, providing beneficial effects on the nutritional, health and psychological make-up of the infant, and health benefits for the mother. The infants rapid growth and development at a time when digestive and excretory systems are still immature demands optimum nutrition. Exclusive breastfeeding from birth until 6 months of age provides the best nutritional start to infants². Breastmilk is a product formulated over millions of years of mammalian evolution to meet the nutritional requirements of the infant in the nexus between placental detachment at birth and the capacity to obtain nutrition from exogenous sources.

In the longer term, breastfeeding has been associated with decreased risks of:

- physiological reflux³
- pyloric stenosis⁴
- juvenile diabetes⁵
- inflammatory bowel disease⁶
- some childhood cancers⁷
- delayed onset of coeliac disease^{8,9}
- obesity¹⁰

Lactation also shows some protective effects for the mother against:

- premenopausal breast cancer¹¹, and
- osteoporosis¹²

Resistance to infection is recently cited as an important immunological benefit of breastfeeding. Breastmilk contains a number of known and unknown immunological factors that confer protection in the infants first 3-6 months whilst its own immune

¹ NH&MRC. Food for health, Dietary Guidelines for Children and Adolescents in Australia incorporating the Infant Feeding Guidelines for Health Workers. 2003. Commonwealth of Australia, Canberra.

² World Health Organisation. The Optimal Duration of Exclusive Breastfeeding: A Systematic Review. 2002. World Health Organisation, Switzerland.

³ Heacock H, Jeffery H, Baker J, Page M. Influence of breast versus formula milk on physiological gastroesophageal reflux in healthy, newborn infants. *J Ped Gastroent Nut* 1992;14(1):41-6.

⁴ Habbick BF, Khanna C, To T. Infantile hypertrophic pyloric stenosis: a study of feeding practices and other possible causes. *CMAJ* 1989;140(4):401-4.

⁵ Mayer EJ et al. The Colorado IDDM registry reduced risk of IDDM amongst breast-fed children. *Diabetes*. 37: 1625-1632

⁶ Calkins, BM and Mendeloff AL. Epidemiology of inflammatory bowel disease. *Epidemiol Rev*. 8:60-91. 1986.

⁷ Davis, MK, savitz, DA and Graubard BL. Infant feeding and childhood cancer. *Lancet* 2(8607):365-368, 1988.

⁸ Lawrence R. Breastfeeding: a guide for the medical profession. CV Mosby, St Louis, 1989

⁹ Kelly DA et al. Rise and fall of coeliac disease 1960-85. *Arch Dis Child*. 64:1157-1160, 1989

¹⁰ Arenz S, Ruckerl R, Koletzko B, Von Kries R. Breastfeeding and childhood obesity – a systematic review. *Int J Obes* 2004;28: 1247-56.

¹¹ McTiernan A and Thomas DA. evidence for the protective effect of lactation on the risk of breast cancer in young women. *Am J epidemiol* 124: 353-358, 1986.

¹² Cummings SR et al. Epidemiology of osteoporosis and osteoporitic fractures. *Epidemiol Review* 7: 178-203, 1985.

system is immature. Breastmilk continues to offer some protection throughout the entire course of lactation¹³.

Clinically breastfeeding has been shown to protect infants against:

- otitis media¹⁴
- urinary tract infection¹⁵
- bacterial meningitis¹⁶
- Sudden Infant Death syndrome¹⁷
- necrotising enterocolitis¹⁸
- severe respiratory illness, particularly in households where parents smoke¹⁹.

An association has been demonstrated between breastfeeding and the neurodevelopment of pre-term²⁰, small for gestational age²¹ and term infants. For pre-term infants, not being breastfed before discharge from hospital discharge has been associated with IQ differences at 7-8 years that is roughly equivalent to loss of cognitive potential caused by low level lead exposure²⁰.

Developmental studies have shown increased responsiveness and enhanced cognitive performance amongst breastfed and previously breastfed children up to the age of 7-8 years^{22,23}. Although these studies demonstrate a relationship between breastfeeding and cognitive development, meta-analyses have indicated difficulty distinguishing the effect of breastfeeding from confounding factors in research design such as mothers' intelligence.²⁴ Recent research indicated a positive effect on cognitive development regardless of maternal intelligence²⁵, however further research is required in this area.

¹³ Goldman AS, Goldblum RM and Garza C. immunological components in human milk in the second year of lactation. *Acta Paediatr Scand.* 72: 461-462,1983.

¹⁴ Duncan B et al. Exclusive breast-feeding for at least 4 months protects against otitis media. *Paediatrics.* 91:5, 1993.

¹⁵ Pisacane A et al. Breastfeeding and urinary tract infection. *J Pediatrics.* 120:87-89, 1992

¹⁶ Cochi SL et al. Primary invasive *Haemophilus influenzae* type b disease: a population - based assessment of risk factors. *J Pediatrics* 108: 887-896, 1986.

¹⁷ Mitchell EA et al. Results from the first year of the New Zealand cot death study. *NZ Med J.* pp71-76, 1991.

¹⁸ Lucas A, Cole TG. Breastmilk and necrotising enterocolitis. *Lancet* 336:1519,1990.

¹⁹ Woodward A et al. Acute respiratory illness in adelaide children: breastfeeding modifies the effect of passive smoking. *J Epidem & Comm Health* 44:224-230, 1990.

²⁰ Wilson D. *The Lead scandal.* London: Heinemann, 1983.

²¹ Morley R, Fewtrell MS, Abbott RA, Sepsenson T, MacFadyen U, Lucas A. Neurodevelopment in children born small for gestational age: a randomized trial of nutrient-enriched versus standard formula and comparison with reference breastfed group. *Pediatrics* 2004; 113(3 Pt 1): 515-21.

²² Bauer G et al. Breastfeeding and cognitive development of three year old children. *psychological reports.* 68:1218, 1991

²³ Lucas A et al. Breastmilk and subsequent intelligence quotient in children born preterm. *Lancet* 339:261-264,1992.

²⁴ Jain A, Concato J, Leventhal JM. How good is the evidence linking breastfeeding and intelligence? *Paediatrics* 2002;109(6): 1044-53.

²⁵ Gomez-Sanchiz M, Canete R, Rodero I, Baeza JE, Gonzalez JA. Influence of breast-feeding and parental intelligence on cognitive development in the 24-month-old child. *Clin Pediatr (Phila)* 2004; 43(8): 753-61.