



Facts About Breastfeeding presents a selection of findings from research about breastfeeding. These studies have been selected because they are interesting or because they address current topics in breastfeeding. No single study provides the last word on any topic. We look forward to further advances in the future.

Organizations that promote public health consider breastfeeding a worldwide priority.

Malnutrition must be prevented during pregnancy and the first two years of life to be effective. Exclusive breastfeeding for the first six months of life, followed by the introduction of nutrient- and energy-rich foods with breastfeeding continuing until two years of age or longer, is an important measure in the prevention of malnutrition.

*The World Bank. Repositioning Nutrition as Central to Development by the International Bank for Reconstruction and Development 2006.*

The World Health Organization (WHO) developed the first growth standards for children aged zero to five years using data from over 8,000 children from affluent families with non-smoking mothers, exclusively or predominantly breastfed for at least four months, with nutrient-rich complementary foods introduced by six months, and continued breastfeeding through at least 12 months. Children fed according to these criteria from Brazil, Ghana, India, Norway, Oman, and the United States grew and developed similarly.

*M. de Onis et al., guest editors. Supplement to the WHO Child Growth Standards. Acta Paediatrica 2006; 95(450):1-106.*

Most newborn and maternal deaths worldwide could be prevented by a few low-cost interventions: tetanus immunizations for pregnant women, a skilled attendant at childbirth, prompt treatment of newborn infections, and education about the importance for newborns of hygiene, warmth, and breastfeeding. Infant and maternal mortality is not wholly dependent on poverty, as many poor nations have made progress through low-cost interventions including female education, nutrition, family planning, prenatal and postpartum care, and skilled care during childbirth. This report emphasizes the importance of exclusive and

immediate breastfeeding, continuing for six months, as well as kangaroo care of preterm and low-birthweight infants, for reducing infant death.

*Save the Children. State of the World's Mothers 2006: Saving the Lives of Mothers and Newborns 2006.*

The INFO Project at The Johns Hopkins Bloomberg School of Public Health created a report to suggest comprehensive strategies to support breastfeeding worldwide. Sections are devoted to contraception, with a focus on the Lactation Amenorrhea Method (LAM); the importance of community, health care professional, and household support for breastfeeding; and suggestions for feeding options for mothers who have HIV/AIDS, including strategies for safer breastfeeding.

*Setty, V. Population Reports. Series L, No. 14. Baltimore: Johns Hopkins Bloomberg School of Public Health, The INFO Project 2006 Mar; 23(3).*

Tongue-tie division improves breastfeeding for tongue-tied babies with feeding difficulties.

When infants with feeding difficulties and tongue-tie were randomly assigned to division surgery (frenotomy), 96 percent showed improved feeding, compared to three percent of those assigned to intensive assistance by a lactation consultant.

*Hogan, M. et al. Randomized, controlled trial of division of tongue-tie in infants with feeding problems. J Paediatr Child Health 2005; 41:246-50.*

Infants with tongue-tie whose mothers had nipple pain were randomly assigned to tongue-tie division or a sham procedure. Mothers whose babies received tongue-tie division had a greater reduction in pain during breastfeeding immediately afterwards than mothers whose babies were given the sham procedure. The infants who had division also received higher scores on the LATCH tool, a measure of breastfeeding effectiveness.

*Dollberg, S. et al. Immediate nipple pain relief after frenotomy in breastfed infants with ankyloglossia: A randomized, prospective study. J Pediatr Surg 2006; 1598-1600.*

Skin-to-skin care during breastfeeding safely regulates the newborn's body temperature.

Newborns with breastfeeding problems were placed in skin-to-skin contact with their mothers. Infant temperature

not only increased when infants were cool, but decreased when infants were warm. Healthy newborn infants, with or without breastfeeding difficulties, may safely breastfeed in skin-to-skin contact with their mothers.

*Chiu, S.H. et al. Newborn temperature during skin-to-skin breastfeeding in couples having breastfeeding difficulties. Birth 2005; 32(2):115-21.*

The likelihood of breastfeeding difficulties varies with the type of analgesia during labor.

This retrospective study examined the relationship between intrapartum analgesia (inhaled, intrapartum, epidural/neuraxial, and general) and breastfeeding in first-time mothers. The use of epidural/neuraxial analgesia was associated with a reduced likelihood of any breastfeeding at discharge, particularly if the medication used was a lipophilic opioid such as fentanyl or diamorphine.

*Jordan, S. et al. The impact of intrapartum analgesia on infant feeding. BJOG 2005; 112:927-34.*

Multiparous mothers were randomly assigned to receive epidural anesthesia without fentanyl, with a low dose of fentanyl, or with an intermediate dose of fentanyl. Mothers in the high-dose fentanyl group reported more breastfeeding difficulties at 24 hours after birth and were more likely to discontinue breastfeeding by six weeks due to breastfeeding problems.

*Beilin, Y. et al. Effect of labor epidural analgesia with and without fentanyl on infant breastfeeding. Anesthesiology 2005; 103:1211-17.*

Peer counselors improve breastfeeding durations, especially for mothers from under-represented groups.

When a hospital instituted a baby-friendly hospital initiative program, this resulted in a striking improvement in exclusive breastfeeding rates while mothers and babies were in the hospital. However, this improvement was short lived after discharge. The program produced an inequity, in that it improved breastfeeding rates for affluent families more than for disadvantaged families. In contrast, a program of home visits by peer counselors improved rates of exclusive breastfeeding during the first six months of life, and was equally beneficial for all income and education levels.

*Coutinho, S.B. et al. Comparison of the effect of two systems for the promotion of exclusive breastfeeding. Lancet 2005; 366:1094-1100.*

In a randomized controlled trial, peer counselors significantly increased breastfeeding duration for preterm infants in an inner city, baby-friendly hospital. Peer counselors visited mothers weekly for six weeks. At 12 weeks, mothers assigned to peer counselor support were more likely to be providing human milk to their infants than mothers assigned to the control group. This effect was stronger for African-American women.

*Merewood, L.B. et al. The effect of peer counselors on breastfeeding rates in the neonatal intensive care unit: Results of a randomized controlled trial. Arch Pediatr Adolesc Med 2006; 160:681-85.*

Counseling mothers of very low birth weight (VLBW) infants about breastfeeding improves breastfeeding rates and does not increase anxiety.

Lactation counseling for mothers of VLBW infants did not increase mothers' anxiety, even for those who had initially intended not to breastfeed. Of the mothers who did not initially intend to breastfeed, 85 percent began providing their milk to their babies after counseling, demonstrating that lactation counseling can be effective at increasing human milk feeding rates for mothers of VLBW infants.

*Sisk, P.M. et al. Lactation counseling for mothers of very low birth weight infants: Effect on maternal anxiety and infant intake of human milk. Pediatrics 2006; 117(1):e67-e75.*

Adult women who were breastfed have lower levels of C reactive protein (CRP), a marker of risk for cardiovascular disease.

This study found a strong relationship between the duration of breastfeeding and lower CRP levels for adult women. Having been breastfed was independently associated with CRP level for women after controlling for confounding factors. Having been breastfed for longer durations was also associated with lower cholesterol levels for women, compared to shorter durations. Breastfeeding influenced CRP levels for women but not for men.

*Williams, M.J.A. et al. Breastfeeding is related to C reactive protein concentration in adult women. J Epidemiol Community Health 2006; 60:146-48.*

