Breastfeeding Evidence: The impact of breastfeeding on short and long term health outcomes for infant and mother



The BCBFN aims to establish breastfeeding as the cultural norm in British Columbia, and the use of human milk when breastfeeding is not possible.

Breastfeeding is the normal and unequalled method of feeding infants (Health Canada, 2013). Given the documented short- and long-term medical and neurodevelopmental advantages of breastfeeding, infant nutrition should be considered a public health issue and not only a lifestyle choice (American Academy of Pediatrics, 2012)

<u>Health Canada</u> (and the BCBFN) promotes breastfeeding - exclusively for the first six months, and sustained for up to two years or longer with appropriate complementary feeding - for the nutrition, immunologic protection, growth, and development of infants and toddlers.

- Breastmilk supplies the correct quantity, quality, and absorption of nutrients (Butte, Lopez-Alarcon, & Garza, 2002).
- Infants digest it easily and efficiently (WHO, 2009).
- To support optimal growth, the balance of nutrients in breastmilk changes during feedings and over time as the infant matures (Kent et al., 2006; Riordan & Wambach, 2010).
- Beyond nutrients, breastmilk's unique and complex composition includes bioactive factors, such as anti-infective immunoglobulins and white blood cells (Riordan & Wambach, 2010).
- It also contains factors that stimulate the maturation of the small intestine and aid with the digestion and the absorption of nutrients (Hamosh, 1996; Sheard, 1988).

The importance of breastfeeding is well recognized for infants' short and long-term health (Horta, Bahl, Martines, & Victoria, 2007; Ip et al., 2007; León-Cava, Lutter, Ross, & Martin, 2002).

- Breastfeeding is associated with enhanced cognitive development, and appears to protect against gastrointestinal infections, acute otitis media, respiratory tract infection, and sudden infant death syndrome (Kramer et al., 2008; Quigley et al., 2011; Ip et al., 2007; Hauck, Thompson, Tanabe, Moon, & Vennemann, 2011).
- Observational research also suggests a protective effect of breastfeeding against obesity later in life (Arenz, Rückerl, Koletzko & von Kries, 2004, Ip et al., 2007).
- Exclusive breastfeeding to six months of age is associated with continued protection for the infant against gastrointestinal infections and illness (Kramer et al., 2003; Kramer & Kakuma, 2002) as well as respiratory tract infections (Kramer et al., 2003; Kramer & Kakuma, 2002) There is an association between a history of breastfeeding for at least 6 months and a reduction in the risk of childhood leukemia by 19% (Ip et al., 2007).

• Human milk is associated with a decreased incidence of necrotizing enterocolitis in preterm infants (Ip et al., 2007).

Breastfeeding also has short and long term health implications for mothers.

- Weight loss is more rapid after birth and there may be a delayed return of menses (Kramer & Kakuma, 2002).
- There is an association between breastfeeding and a reduced risk of both breast and ovarian cancer (Ip et al., 2007).

References

American Academy of Pediatrics (2012). *Pediatrics* Vol. 129 No. 3 March 1, 2012 pp. e827-e841. doi: 10.1542/peds.2011-3552.

Arenz, S., Rückerl, R., Koletzko, B. von Kries, R. (2004). Breast-feeding and childhood obesity - a systematic review. *International Journal of Obesity*. 28:1247-1256.

Butte, N., Lopez-Alarcon, M., & Garza, C. (2002). *Nutrient adequacy of exclusive breastfeeding* for the term infant during the first six months of life. Geneva: World Health Organization.

Hamosh, M. (1996). Digestion in the newborn. *Clinics in Perinatology: Neonatal Gastroenterology*. 23(2): 191-208

Hauck, F.R., Thompson, J., Tanabe, K.O., Moon, R.Y., Vennemann, M.M. (2011). Breastfeeding and reduced risk of sudden infant death syndrome: A meta-analysis. *Pediatrics*. 128(1), 103-110.

Health Canada (2013). *Nutrition for Healthy Term Infants: Recommendations from Birth to Six Months*. Retrieved from http://www.hc-sc.gc.ca/fn-an/nutrition/infant-nourisson/recom/index-eng.php.

Horta, B., Bahl, R., Martines, J., & Victoria, C. (2007). *Evidence on the long-term effects of breastfeeding: Systematic reviews and meta-analyses.* Geneva: World Health Organization.

Ip, S., Chung, M., Raman, G., Chew, P., Magula, N., DeVine, D., Trikalinos, T., & Lau, J. (2007). *Breastfeeding and maternal and infant health outcomes in developed countries*. AHRQ publication No. 07-E007. Rockville, MD: Agency for Healthcare Research and Quality.

Kent, J.C., Mitoulas, L.R., Cregan, M.D., Ramsay, D.T., Doherty, D.A., & Hartmann, P.E. (2006). Volume and frequency of breastfeedings and fat content of breast milk throughout the day. *Pediatrics*. 117. e387-e395.

Kramer, M.S. & Kakuma, R. (2002). Optimal duration of exclusive breastfeeding. *Cochrane Database of Systematic Reviews*. Issue 1, Article No. CD003517. DOI: 10.1002/14651858.CD003517.

Kramer, M.S., Guo, T, Platt, R.W., Sevkovskaya, Z., Dzikovich, I., Collet, J.P., Shapiro, S., Chalmers, B., Hodnett, E., Vanilovich, I., Mezen, I., Ducruet, T., Shishko, G., & Bogdanovich, N. (2003). Infant growth and health outcomes associated with 3 compared with 6 months exclusive breastfeeding. *American Journal of Clinical Nutrition*, 78: 291-295.

Kramer, M.S., Aboud, F., Mironova, E., Vanilovich, I., Platt, R.W., Matush, L., Igumnov, S., Fombonne, E., Bogdanovich, N., Ducruet, T., Collet, J.P., Chalmers, B., Hodnett, E., Davidovsky, S., Skugarevsky, O., Trofimovich, O., Kozlova, L., Shapiro, S. (2008). Breastfeeding and child cognitive development: New evidence from a large randomized trial. *Archives of General Psychiatry*, 65(5): 578-584.

León-Cava, N., Lutter, C., Ross, J. & Martin, L. (2002). Quantifying the benefits of breastfeeding: A summary of the evidence. Washington: Pan American Health Organization.

Quigley, M.A., Hockley, C., Carson, C., Kelly, Y., Renfrew, M.J., & Sacker, A. (2011). Breastfeeding is associated with improved child cognitive development: A population-based cohort study. The Journal of Pediatrics, 160:25-32.

Riordan, J. & Wambach, K. (2010). Breastfeeding and Human Lactation. Sudbury MA.: Jones and Bartlett Publishers, Inc. pp. 497-518.

Sheard, N. (1988). The role of breastmilk in the development of the gastrointestinal tract. Nutrition Reviews, 48(1):1-8.

World Health Organization. (2009). Infant and young child feeding (model chapter for textbooks for medical students and allied health professionals), pp 9-17. Geneva: World Health Organization.