

Editorial

The Eradication of Poverty One Child at a Time Through Breastfeeding: A Contribution to the Global Theme Issue on Poverty and Human Development, October 22, 2007

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ONE MIGHT ASK what breastfeeding has to do with poverty. Poverty has not been eradicated by many national and international projects designed to solve the problem. Sometimes large problems are best solved one person at a time. Breastfeeding can be an instrument of change, breastfeeding is good for both the mother and the infant, and is capable of changing the lives of both.

The breast is a very efficient machine. It uses very little energy in the work of producing milk. A mother provides nutrients, calories, minerals, vitamins, and the total nutritional requirements for an infant fed exclusively for the first 6 months and for many months and years after.

Breastfeeding actually has benefits for the mother. The physiological impact of breastfeeding upon the maternal system includes an improved absorption of nutrients from the intestinal track that might normally be lost through excretion. While pregnant and lactating, the maternal gut absorbs much more effectively and utilizes resources more efficiently than in the normal state. Benefits to the mother of initiating lactation after delivery include the more rapid recovery from childbirth, including a decrease in the amount of blood loss because of the impact of suckling on the uterus. The uterus clamps down and involutes efficiently, stimulated by the oxytocin released during lactation. Lactation also reduces the risk of long-

term obesity in the mother. It decreases the long-term risk of both breast and ovarian cancer, and decreases long-term risk of osteoporosis in the mother. Most importantly, it suppresses ovulation and decreases the risk of pregnancy, especially in the first 6 months postpartum. In many countries of the world where nutrition is reduced, this suppression of ovulation lasts for many months. It helps to space children. While breastfeeding has not been considered an absolute prevention of pregnancy, it has been responsible for decreasing the reproduction rate of large populations who breastfeed for a year or two.

There are many benefits to the child. The infant is born to breastfeed. The infant knows exactly what to do if given the opportunity to find the breast. Nutritionally, the constituents of human milk are precisely what the growing infant requires. Every mammalian species makes a milk specific to the needs of the offspring of that species. Humans are no different. The nutrition provided in human milk not only supports ideal physical growth for the infant but is especially important for the ideal growth of the brain. The human infant is the most immature of mammalian offspring except for the marsupials. The human brain will double in size in the first year of life. It is the most critical time for brain growth.

Breastfeeding provides many other benefits to the suckling infant. Infection protection is

well documented around the world. In developing countries where the death rate in the first year of life approaches 50% in those infants who are not breastfed, it is especially important to provide the infection protection constituents of human milk. These include pH, secretory IgA, ligands, enzymes, active cells including T cells, and other properties such as lactoferrin, all of which protect against infection. The immunologic protection provided by human milk has only been defined in the last few years. Epidemiologic studies of chronic diseases such as celiac disease, Crohn's disease, and especially diabetes have shown an affect of breastfeeding. Diabetes mellitus has become an international epidemic, and epidemiologic studies have shown that infants that are breastfed exclusively for at least 4 months have a lower risk of childhood-onset diabetes. Obesity is another serious international epidemic. Studies have shown that infants who are exclusively breastfed in the first few months of life have a much lower incidence of long-term obesity.

The relationship between the mother and infant during breastfeeding is also advantageous. The infant hears the same heartbeat that it heard as a fetus in utero. When at the breast the mother's face is within the range of the newborn's vision. Mothers describe a special relationship with the babies they have breastfed. As one looks at food security as an important issue in the developing child, the mother who breastfeeds the child has provided food security.

What is the cost of breastfeeding a child, especially in areas of famine? As mentioned ear-

lier, the breast is a very efficient machine so the cost to the mother is essentially the nutrients in the milk itself and calories, protein, fat, and carbohydrates, requiring minimal dietary increase. The reports of the Dutch famine in World War II is one of the most unique human experiments in history. It demonstrated that women could lactate after delivering an infant during this famine. The infants were about a pound lighter at birth, but the milk was adequate, again because the lactating breast is so efficient.

Infants who are exclusively breastfed are well documented to be healthier and require less of the healthcare dollar. In studies in the United States on the spending of the healthcare dollar, health maintenance organizations have documented that between \$300 and \$400 dollars a year are saved per child. In the developing world this has been demonstrated by lives saved and the health of the child.

In the battle to eradicate poverty, one small step would be to ensure that every newborn is breastfed. This would provide the best nutrition, the greatest infection protection, the most illness prevention, and the greatest food security and psychological protection for the infant.

Breastfeeding is the most precious gift a mother can give her infant.

If there is illness or infection it may be a life saving gift.

If there is poverty it may be the only gift.

—*Ruth A. Lawrence, M.D., FABM*
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