Cost Efficacy Aspects of Human Milk Banking

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ABSTRACT

Use of human milk in the nutrition and care of premature infants prevents shortand long-term morbidity. In preventing illness and its sequelae, the use of human milk also saves money. There is the obvious avoidance of the cost of purchasing formula when a mother's own milk is used. When banked donor human milk is used we can also demonstrate cost savings in terms of additional care that is avoided and long-term (sometimes lifetime) care when sequelae are minimized.

In this presentation the example of necrotizing enterocolitis (NEC) is used to explore the additional short-term hospital costs that this disease entails. Considerable savings could be realized in the US if all NICUs prioritized the use of human milk and donor milk to prevent NEC. Figures are given for savings from the use of donor milk to prevent an individual case of NEC. In addition, the presenter calculates the annual savings that could be realized if her home state (Massachusetts) ensured that every premature baby was fed banked donor human milk if his mother's own milk was unavailable.

Prevention is not a one-time-only cost saving. For every year that the intervention is in place, additional savings are seen, and these savings increase as the costs to treat the condition increase annually with inflation.

References:

Arnold, L. (2002) The cost effectiveness of using banked donor human milk in the neonatal intensive care unit: prevention of necrotizing enterocolitis. J. Hum. Lact., 18:172-177.

Arnold, L. (2010) <u>Human milk in the NICU: Policy into practice</u>. Sudbury, MA: Jones & Bartlett Publishers.

Bisquera, J., Cooper, T., Berseth, C. (2002) Impact of necrotizing enteriocolitis on length of stay and hospital charges in very low birth weight infants. Pediatrics, 102:423-428.

Boyd, C., Quigley, M., Brocklehurst, P. (2005) Donor breast milk versus infant formula for preterm infants: a systematic review and meta-analysis. Arch. Dis. Child. Fetal Neonatal Ed.

Heiman, H., Schanler, R. (2006) Benefits of maternal and donor human milk for premature infants. Early Hum. Devel., 82:781-787.

Schanler, R., Lau, C., Hurst, N., Smith, E. (2005) Randomized trial of donor human milk versus preterm formula as substitutes for mothers' own milk in the feeding of extremely premature infants. Pediatrics, 116:400-406.

Lucas, A., Cole, T. (1990) Breast milk and neonatal necrotising enterocolitis. Lancet, 336:1519-1523.

Wight, N. (2001) Donor human milk for preterm infants. J. Perinatol., 21:249-254.

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