Media Release

It's Time to take the Health and Economic Benefits of Human Milk Seriously

When a very-low-birth weight (VLBW) child gets human milk as early as possible during his stay in the NICU (Neonatal Intensive Care Unit), the chances of late onset sepsis decrease by up to 19%[1]. Similarly, the risk of NEC (necrotizing enterocolitis) is three times lower if a VLBW child is exclusively fed with human milk for the first 14 days of life.

At Medela's 9th Breastfeeding and Lactation Symposium (Madrid 4-5 April 2014), Professors Paula Meier and Jae Kim will present clear insights into the value of early human milk provision in the NICU from both health and economic perspectives, suggesting improved processes to strengthen the human milk chain from mother to baby.

The health of prematurely born babies is threatened by multiple factors. Research and practical evidence have shown that feeding human milk to VLBW infants can be conceptualized as a primary prevention strategy against a number of those complications. As a strategy, it is safe, effective, widely available and inexpensive. In recent months a number of research studies have shed more light on the medical effects and, specifically, on the substantial economic savings that result from systematic, well-structured and early human milk delivery to preterm infants in the NICU. However, this can only be successfully implemented when all stakeholders in the hospital are brought together, optimising the human milk chain from mother to baby[2].

Remarkable reduction of the risk of sepsis

In early 2013 Prof Paula Meier was able to show that each additional 10ml of human milk received by VLBW infants during the first 28 days post-birth reduced the risk of late onset sepsis by 19%[2]. The research was carried out as part of a 5 year NIH-(National Institutes of Health) funded cohort study of 430 mother-VBLW infant pairs at Rush University Medical Center in Chicago. Increasing the average daily dose of human milk in days 1-28 from below 25 to above 50 mL decreased NICU costs by USD $31,514 per infant[1]. The incremental costs of sepsis are attributed to a number of factors: infants with sepsis stay longer in the NICU than infants without sepsis (on average 28 days longer); the treatment of sepsis is resource intensive, and there is an increased risk of long-term health and neurodevelopmental problems. The study showed that NICU costs for the treatment were lowest in VLBW infants who received the highest average dose of human milk during the first 28 days. These savings are likely to offset the maternal and institutional costs of human milk provision and feeding, such as breast pump rental, lactation care providers and milk storage.

Early Milk Provision to VBLW Infants has Significant Economic Value

Another new study[3] examined precisely this fact, analysing the economic value of early human milk provision to VLBW infants. Complications associated with premature babies such as necrotizing enterocolitis, chronic lung disease, poor growth, neurocognitive delay

and rehospitalisation after discharge from NICU are costly to families, health care institutions, educational systems and society at large[4]. Although there are costs related to human milk collection, including hospital-grade breast pump rental, the breast pump collection kit and the disposable food-grade storage containers, the research showed that enabling biological mothers to pump human milk costs less than acquiring the same amount of donor human milk or commercial formula. Mothers only need to pump a minimum average daily volume of more than 100mL for a sufficient period of time (4-19 days). The study concluded that, from an economic perspective, *"institutional efforts should be directed towards early identification and intervention for mothers who produce less than 100mL [per day] for their VLBW infants. Efforts that prioritize lactation care for these mothers not only provide recipient infants with higher doses of human milk but clearly translate into cost savings for institutions".* Previous studies have shown that most mothers of VLBW infants are able to establish a sufficient milk volume when they are provided with evidence-based lactation care and products such as effective breast pumps[5].

Initiatives to Standardize Human Milk Delivery in Hospitals

During the Symposium, Prof Jae Kim will be sharing his experiences with new initiatives designed to standardize human milk delivery in the NICU. A specific example will be the SPIN programme at the University of California in San Diego which targets 100% human milk nutrition, maximising mothers' milk production, optimising milk quality and safety as well as encouraging skin-to-skin care and breastfeeding. The programme supports the use of donor milk to fill the need which can be present in the preterm environment[2].

ENDS

Professor Paula Meier

Paula Meier, PhD, RN, FAAN, is the director for clinical research and lactation in the neonatal intensive care unit and is a professor of women, children and family nursing and a professor of pediatrics at Rush University Medical Center in Chicago. She has worked as a practitioner and researcher in the area of human milk, lactation and breastfeeding for premature infants and their mothers since 1975.

Doctor Jae Kim

Dr. Jae Kim is an Associate Clinical Professor of Pediatrics at the University of California, San Diego and Rady Children’s Hospital of San Diego with dual appointments in the Divisions of Neonatology and Pediatric Gastroenterology, Hepatology and Nutrition. His special areas of both clinical and research interests include neonatal nutrition, neonatal bowel injury and bedside ultrasound.

References

1. Patel,A.L. *et al.* Impact of early human milk on sepsis and health-care costs in very low birth weight infants. J Perinatol 33, 514-519 (2013).

2. Kim,J.H., Chan,C.S., Vaucher,Y.E., & Stellwagen,L.M. Challenges in the practice of human milk nutrition in the neonatal intensive care unit. Early Hum Dev 89 Suppl 2, S35-S38 (2013).

3. Jegier,B.J. *et al.* The institutional cost of acquiring 100 mL of human milk for very low birth weight infants in the neonatal intensive care unit. J Hum Lact 29, 390-399 (2013).

4. Johnson,T.J., Patel,A.L., Jegier,B.J., Engstrom,J.L., & Meier,P. Cost of morbidities in very low birth wieght infants. The Journal of Pediatrics 162, 243-249 (2013).

5. Meier,P.P., Engstrom,J.L., Janes,J.E., Jegier,B.J., & Loera,F. Breast pump suction patterns that mimic the human infant during breastfeeding: greater milk output in less time spent pumping for breast pump-dependent mothers with premature infants. J Perinatol 32, 103-110 (2012).

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