Greetings
Thank you for your continued support of non-profit milk banking in North America. We hope you will enjoy this issue of HMBANA Matters. Please help us advocate HMBANA’s mission by forwarding this newsletter on to a colleague.

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Celebrating a Decade of Milk Banking in North Texas

This year commemorates a very special birthday for Mothers’ Milk Bank of North Texas (MMBNT). Located in Fort Worth and founded by neonatologist, Susan Sward-Comunelli, MD, the milk bank has been accepting, pasteurizing and distributing donor human milk since September 2004. “It’s overwhelming to comprehend the milestones we have experienced over the years” says Simone Summerlin, Outreach Director. She adds, “The milk bank now has 35 collection depots in Texas and in four other states, and serves over 95 hospitals.”

In ten years, the milk bank has dispensed almost 2 million ounces of milk from over 4,000 donors. As the demand grows, so does the effort to keep the supply flowing for premature and critically ill infants.
Amy Vickers, MSN, RN, IBCLC, Executive Director of MMBNT, knows the milk bank’s success would not have been possible without the selflessness of the donors. “When it comes to the tiniest, sickest NICU babies, every drop counts. We are forever indebted to our amazing donor moms and greatly appreciate the thousands of moms who over the last 10 years have donated their excess breastmilk to help us save lives,” she says.

Milk bank administrators, physicians, nurses, as well as donor and recipient moms celebrated with a very special anniversary luncheon on September 18. One donor mom, Maria Walters, explained, “It was so meaningful to have representatives from every aspect of milk banking in one room, applauding past accomplishments and looking forward to saving many more babies in the future.”

Proceeds from the luncheon will benefit the milk bank’s charitable care program, the Milk Money Fund, as well as seed the organization’s newly formed permanent endowment fund. Money raised will ensure that all infants with a medical need will receive donor human milk for many more decades to come.

To learn more about Mothers’ Milk Bank of North Texas, visit: www.texasmilkbank.org

The Collett family, both received donor milk from MMBNT and then later donated to milk to MMBNT

The King’s Daughters Milk Bank at CHKD is Named HMBANA’s 18th Milk Bank in North America

It’s been a busy year for Children’s Hospital of The King’s Daughters (CHKD), the only freestanding children’s hospital in Virginia. When The King’s Daughters, a philanthropic organization that founded CHKD, heard about the hospital’s new donor human milk treatment program in the 66-bed level IV
neonatal intensive care unit, it brought back memories of the roots of their organization.

The King’s Daughters is a charitable organization that was founded in 1896 to promote superior pediatric wellness for every child in southeastern Virginia. One of the early endeavors of this organization was the Milk and Ice Fund, which operated in the early 1900s collecting pennies to provide milk and ice to local families in need. Upon learning of the hospital’s donor human milk treatment program, they knew immediately they wanted to help. “We felt that donating the seed money to establish a milk bank at CHKD would be like bringing our organization’s mission full circle,” says Lisa Coleman, Executive Director of The King’s Daughters.

In June of 2014, after only 14 months of planning and preparation, The King’s Daughters Milk Bank at CHKD opened its doors.

“We would not have made this transition from concept to reality in such a short period of time without the support of multiple disciplines throughout our hospital, our community and HMBANA,” says Michelle Brenner, MD, IBCLC, Medical Director of The King’s Daughters Milk Bank. “We are very proud of the work that our staff put into learning the ins and outs of milk banking and are thankful for the superb mentorship that Sue Evans and her staff at the WakeMed Mothers’ Milk Bank in Raleigh, NC, offered our team.”

The response from the community has exceeded all expectations. “We are so excited to see such a wonderful response. And, we are especially thankful for the support of the military community,” says Ashlynn Baker, RN, manager of the milk bank. “It is a privileged occasion when we have the opportunity to accept a milk donation from one of our nation’s sailors or soldiers, dressed in uniform and combat boots.”
During the first few months of operation, The King’s Daughters Milk Bank has initiated the screening process for more than 100 potential donors and has accepted over 30,000 ounces of breast milk. Baker is optimistic about the milk bank’s continued success, “We are eager to see what the future holds for our milk bank and honored to be able to provide this invaluable treatment to medically fragile infants in the Hampton Roads community and beyond.”

For more information about The King’s Daughters Milk Bank at CHKD, please visit at www.CHKD.org/milk.

From the Journals, September 2014

By:
Kim Updegrove, CNM, MSN, MPH
Executive Director, Mothers’ Milk Bank at Austin

Donor screening is the critical first step to ensure a safe supply of donor human milk. Responses to verbal and written interviews concerning lifestyle and medical history determine if a milk bank will request information from health care providers and incur the cost of prospective donor blood testing. Discerning the honesty, openness, and commitment of prospective donors is critical to the screening process. This study addresses the validity of several components of a donor screening questionnaire.


The researchers recruited 63 donors, each of whom contributed 400 breast milk samples for testing. No illegal drugs were found in the milk, a reassuring consistency with answers to lifestyle questions asked. Only one milk sample tested positive for nicotine and cotinine, despite the donor stating she was a non-smoker. Over 100 other samples from this donor tested negative, however, and second-hand smoke exposure was determined to be responsible for the variance.

Caffeine was detected in 45.3% of samples, with a mean concentration of 496 +/- 778 ng/mL. Exclusion criteria for caffeine was limited to women who reported a daily consumption of more than 2 caffeinated beverages (coffee, tea, or soft drinks). Since sensitivity and specificity of the questionnaire to identify caffeine consumption, was quite low (46 and 77% respectively), improvement of the survey instrument is called for in this area. Little data exists on the implications of this data for the typical donor milk recipient, however, caffeine is used as a treatment for apnea of
prematurity (AOP) in the preterm infant. More research is needed to understand the level of caffeine acceptable in milk, appropriate screening methods to determine the likelihood of various levels among donors, and the implications for various therapeutic treatments for AOP.

Limitations of the study include participants’ knowledge of the testing protocols, as well as the relatively short half-life of illegal drugs, so donor milk may have been expressed by women after the toxic substances would have been transmitted.

**Holder pasteurization — at 62.5°C for 30 minutes — is also critical to produce safe donor milk. Human milk can contain a wide variety of viruses and bacteria, so the effectiveness of Holder pasteurization is the subject of ongoing research.**


HPV are non-enveloped double-stranded DNA viruses ranked into low-risk and high-risk categories based on oncogenic potential. HPV are typically transmitted sexually, although non-sexual routes such as the vertical transmission through maternal milk are under investigation. It is unknown whether HPV and HPV-associated disease can be transmitted to infants through breastfeeding although HPV has been isolated from milk samples. The researchers sought to identify whether HPV, like the human immunodeficiency virus (HIV), the human T-lymphotrophic virus type I and II (HTLV I and HTLV II), and the human cytomegalovirus (HCMV) are inactivated by Holder pasteurization.

Raw milk samples were spiked with HPV-16 preparation (40 ng/mL) and incubated at 30 minutes at 62.5°C in a water bath, and then cooled at 4°C. HPV-16 was chosen, because it is the genotype identified most often in human milk samples; it is also a high-risk HPV type. HPV-18 was added as another high-risk HPV type, and HPV-6 was used to represent a low-risk type. Holder pasteurization completely destroyed the structural integrity of the viral particles, and, thus, all HPV infectivity.

No connection is seen between cervical DNA detection or oral HPV and HPV detection in breast milk, and serologic testing for HPV is not currently recommended for milk donors.

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**Conference Posters - Part 4**

This year’s HMBANA conference in beautiful Victoria British Columbia offered participants an outstanding set of plenary talks, breakout sessions and posters on a wide variety of topics in research and best practices.

Several posters presented research on use of donor milk in hospitals, milk sharing and milk bank donation and ways to make increased safety and effectiveness of donor milk. Included in the issue is the final portion of these presentation abstracts.

Please go to our website to find the abstracts from the other posters in previous newsletters.

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**The Lived Experience of the Milk Donor: A Case Series**

**Author:** Laura Candelaria PhD(c), RN, FNP

**Objective:** The American Academy of Pediatrics (2012)
recommends all infants receive breast milk and if mothers own milk is unavailable, pasteurized human donor milk should be used. Not much is known about women who choose to donate their breast milk. For milk banks to thrive and meet supply and demand, there needs to be an adequate number of women donating their breast milk. This study examines the lived experience of the milk donor. By gaining knowledge regarding which thoughts prompt a woman to donate and repeatedly donate her milk and formulating an understanding regarding the experience, we can create an effective method of education. Through education we can propel forward towards a global initiative to increase supply to the level needed for the current clinical environment.

Methods: Women who repeatedly donated breast milk to a milk bank were interviewed for this study. The philosophy of Husserl and the phenomenological research method of Coliazzi were employed in analyzing participants’ transcripts. The formulated meanings were clustered into codes allowing for the emergence of themes common to all participants.

Results: Themes were generated related to the experience of human milk donation. This study gave rise to four themes including feminine empowerment, continuation of life, family transcendence and restorative healing.

Conclusions: Women who donate breast milk have a similar emotional experience. The ability to better understand the emotional and social consequences of donation has led us to a better comprehension of which thoughts prompt a woman to donate and continue donating her breast milk.

Acknowledgments/Conflicts of Interest: There is no financial or personal relationship with persons or organizations related to this study. IRB approval and ethical considerations are upheld through Molloy College in Rockville Centre, NY.

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Explaining Safety: How to Talk about Donor Milk Safety to NICU Parents

Author: Katherine Carroll, PhD

When mothers of preterm infants are unable to produce sufficient volumes of breastmilk, some neonatologists prescribe pasteurized donor breastmilk (PDM). Of primary concern to NICU parents and clinicians is that PDM is safe. This research reports on an ethnographic study of two HMBs, and two NICUs in the USA. It investigated how the safety of PDM is constructed and legitimated not only in the HMB itself, but also in the homes of milk donors and in the NICU. The ethnographic research also reports on 73 semi-structured interviews with milk donors, NICU parents and clinicians with regard to their perceptions of safety of PDM. This research found that in order to reassure NICU parents, there is a need to expand upon current conceptualizations of PDM’s safety. For instance, there are additional safety-constructing practices that donors enact in their homes that contribute to the safety of PDM. Moreover, NICU clinicians also engage in safety-enhancing practices that reassure parents in the NICU. In their consultations with parents, NICU clinicians rarely discussed these additional safety-constructing practices that occurred outside of the HMB. This research provides NICU clinicians with additional safety information that can be used during parent education and informed consent to reassure anxious parents about the safety of PDM.

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Docosahexaenoic Acid (DHA) and Amino Acids (AA) are Limiting in Pasteurized Donor Milk from a Cross Sectional
Sampling in North American Milk Banks.

Authors: Christina J. Valentine M.D,M.S. R.D., Georgia Morrow R.N., IBCLC, Amanda Hodge, RD, Ardythe L. Morrow, Ph.D. and Lynette K. Rogers PhD. Perinatal Institute, Division of Neonatology, Cincinnati Children’s Hospital Medical Center, Cincinnati, OH; The Mothers’ Milk Bank of Ohio, Grant Medical Center, Columbus, OH; and The Center for Perinatal Research at Nationwide Children’s Hospital, Columbus, OH.

Background: AA, EFA, and DHA are required for immune homeostasis, growth, and development in the preterm infant. We previously demonstrated that DHA and FAA are limiting for the preterm infant in a Midwestern donor bank. With the increased use of donor milk for high risk infants and the history of slow growth in infants fed fortified donor milk, it is imperative to better understand the milk nutrient composition on a more regional basis.

Objective: We tested the hypothesis that the DHA and AA would be lower in pasteurized (PST) donor milk for the high risk infant across the United States.

Methods: The study is a prospective cross sectional sampling of milk from 6 HMBANA member milk banks (New England (NE), Ohio, Michigan, Colorado, Texas (Fort Worth), and California. Milk samples were collected after informed consent and IRB approval (#0600532). 1516 donor samples with donor median age range of 31-33.5 years, lactational stage 1-5.5 months were taken from all the milk banks except NE which provided 6. The samples were pooled to minimize individual variability and aliquots of 1 ml were taken from the resultant pools post PST. FA were measured by GC-FID; AA were measured by HPLC.

Analysis: Kruskal-Wallis with Dunn’s Multiple Comparison post hoc adjustment criteria were used to calculate the critical value to describe a p-value < 0.003 being significant.

Results: AA (micromole/L) were not significantly different between milk banks except for the AA isoleucine and leucine which were significantly higher in NE (p=0.03) but once pooled met the requirements for the preterm infant. The DHA content (mg/100mL) was a median value of 29-39 and was not significantly different between the Milk Banks but would provide an intake lower than the fetal accretion value for the high risk neonate.

Conclusions: Pooling remains vital to ensure nutrient variability is eliminated for the preterm infant but donor milk remains low in DHA and thus should prompt nutrient supplementation strategies to ensure adequate intake.