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## **ILCA Abstracts**

*J Hum Lact* 2008; 24; 94

DOI: 10.1177/0890334407310590

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### 2007 Outstanding Posters

The recipients of this year's outstanding Research Poster are:

- Anne Merewood, MPH, IBCLC; Tina Navidi, BS; Stephanie Love, MPH; Simone Neuwelt, BS; Reginald Fonrose, BS; from Boston Medical Center, Boston, MA, USA. The title of their work is "Formula Freebees From Hospitals: Patterns of Discharge Pack Distribution in the North Eastern US."

The recipients of this year's outstanding Project Poster are:

- Elisabeth Tufte, RN, MPH, IBCLC, and Nina Lindberg, RN from the Norwegian Resource Centre for Breastfeeding, Rikshospitalet-Ranumhospitalet Medical Centre, Oslo, Norway. The title of their work is "Feasibility and Results of Pre- and Postnatal Counseling of Mothers of Babies With Cleft Lip and Palate."

### General Information

Title: Infant Feeding During Disasters—The Texas Response to Hurricanes Katrina and Rita  
Authors: Tracy Erickson, RD, LD, IBCLC  
Affiliation: Nutrition Education/Clinic Services Unit, Texas Department of State Health Services, Austin, TX, USA

### Abstract

#### Objectives

To educate emergency responders about appropriate protocols and reliable resources that can be utilized to support breastfeeding families in times of crisis. To establish a statewide system to provide responders and

public health officials quick access to trained breastfeeding counselors willing to volunteer their services in times of emergency.

#### Findings

Established a Department of State Health Services (DSHS) protocol to locate skilled breastfeeding assistance during times of disaster. Updated and revised an online lactation support directory to serve as resource. Developed a plan of action to increase staffing for the statewide hotline in times of emergency. Developed, field tested, printed, and distributed posters designed to inform emergency responders of basic protocol and resources to help breastfeeding families.

#### Conclusion

The DSHS is better prepared to provide a rapid response to support breastfeeding families during times of disaster.

#### Purpose

In the devastating aftermath of hurricanes Katrina and Rita, breast milk substitutes were distributed in shelters without regard for how families were currently nourishing their children and with no offer of lactation support. Uncontrolled distribution of breast milk substitutes revealed the need for education for first responders about breastfeeding support in emergency situations and the need for a statewide system to locate breastfeeding counselors in times of crisis. Interrupted breastfeeding and inappropriate complementary feeding heighten the risk for malnutrition, illness, and death—particularly in times of disaster when reliable water sources are scarce.

#### Methods

The Texas DSHS WIC Program established a protocol for locating trained breastfeeding counselors and lactation consultants willing to offer their services in shelters during crisis, utilizing a statewide hotline and a newly updated online Texas Lactation Support (TLS) Directory. An Infant Feeding in Disasters web page was added to the DSHS page that includes recommended protocols for helping breastfeeding families in crisis as well as links to the online directory, hotline, and other infant feeding in emergency resources.

The DSHS simultaneously produced a poster with emergency responders as the primary target audience and WIC families as the secondary target. The poster suggests an immediate support protocol for breastfeeding families and provides responders contact information for the TLS hotline and online directory to help them quickly call in skilled breastfeeding assistance. Eight designs of the poster were field-tested with three groups of Army Reservists and Fire Fighters. Photo and colors (emergency red) were chosen for the design based on design elements that resonated best with the responders. Several responders admitted they would have never considered asking a family how they were feeding their infant before offering breast milk substitutes. All felt the poster would be thought-provoking and helpful to responders.

### Results

State and regional breastfeeding coalition members and WIC employees delivered posters to Coast Guard stations and Army Reserve bases, National Guard Armories, Red Cross offices, emergency rooms, EMS and fire stations, and other emergency responder locales throughout the state. Posters were put on display in WIC clinics to remind participants of the value of breastfeeding during times of crisis.

### Conclusions

Infants and children are among the most vulnerable victims of natural or human-induced catastrophes. Those likely to be first on the scene must remember that breastfeeding is a critical way to ensure the survival of the most vulnerable victims of any disaster until conditions stabilize. As a result of this initiative, the DSHS is better prepared to protect and support breastfeeding families during times of disaster.

### Funding

Funded by the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC).

### General Information

Title: Pilot Study of Early Feeding Outcomes of Infants Born to Diabetic Women  
 Authors: Ilana Chertok, PhD, RN, IBCLC; Iris Raz, RN, CNM; Iris Shoham, MD; Arnon Wiznitzer, MD  
 Affiliation: West Virginia University, School of Nursing, Morgantown, WV, USA

### Abstract

#### Background

Diabetes mellitus is a common pregnancy complication increasing the risks of infant morbidity and mortality. Postpartum neonatal complications include hypoglycemia related to maternal hyperglycemia and resultant postnatal hyperinsulinism. To prevent and to manage infant hypoglycemia, monitoring of infant glucose levels and infant feeding are often necessary. Human milk, especially colostrum, is the preferred form of infant feeding. Yet, infants born to diabetic mothers may be at higher risk of receiving artificial supplementation potentially affecting breastfeeding.

#### Purpose

The purpose of the pilot study was to examine early infant feeding and physiologic outcomes in the first twelve hours postpartum.

#### Sample

21 healthy, term infants born to diabetic women via vaginal delivery in an Israeli hospital.

#### Methods

Retrospective chart review using the maternal charts to verify diabetes and pregnancy history and infant charts to examine feeding and physiologic outcomes of the first 12 hours postpartum.

#### Results

The outcomes demonstrated that only 2 infants were hypoglycemic (glucose level < 40 mg/dL) in the first hour postpartum, although 8 (38%) of the infants received formula supplementation within that first hour. Breastfeeding was initiated in all the infants within an average of 8 hours and formula was fed to 12 of the 21 infants within the first twelve hours.

#### Conclusions

There is an increased risk of term infants born to diabetic mothers being fed artificial supplementation. Education is crucial for both the health care team and the diabetic mother regarding the importance of human milk for the newborn infant to promote breastfeeding and decrease artificial supplementation.

### General Information

Title: Formula Freebies From the Hospital: Patterns of Discharge Pack Distribution in the North Eastern US

Authors: Anne Merewood, MPH, IBCLC; Tina Navidi, BS; Stephanie Love, MPH; Simone Neuwelt, BS; Reginald Fonrose, BS

Affiliation: Boston Medical Center, Boston, MA, USA

### **Abstract**

#### *Background*

In violation of the WHO Code for the Marketing of Breast Milk Substitutes, infant formula manufacturers distribute free formula samples, packaged as diaper discharge bags, to hospitalized new mothers in the US. Such samples have been shown to undermine breastfeeding. "Ban the Bags" is a national campaign, launched at the 2006 ILCA conference, to rid hospitals of these bags. This study gathered data to assess the extent of this practice, initially in the northeast US.

#### *Objective*

To determine the extent of formula discharge bag distribution at hospital and population levels in 13 north-eastern states and DC.

#### *Design/Methods*

Lists of birthing hospitals were collected from state organizations. Researchers called the maternity service at each hospital and, using a prepared script, asked the answering provider if the hospital distributed a formula-company sponsored diaper discharge bag to new mothers. If the respondent was uncertain, and whenever the respondent said bags were not distributed, a second, independent researcher called and confirmed the information with the lactation department. We obtained data on (1) number of hospitals giving out bags, and (2) proportion of births affected by the practice (number of women giving birth at hospitals with bags/total births per state).

#### *Results*

Dependent on state, between 71% and 100% of hospitals gave out free formula discharge packs. The proportion of births affected varied from 58.7% (Vermont) to 100% (4 states). States where all hospitals distributed formula bags were clustered in the DC region. More New England hospitals had eliminated free bags.

#### *Conclusions*

Most hospitals in the northeastern US distribute formula discharge packs. Distribution varies between states, with evidence of regional patterns and differences. Ongoing study will assess more widespread patterns in the US,

and any correlation that may exist between formula pack distribution and breastfeeding rates.

### **General Information**

Title: Group Prenatal Care Improves Breastfeeding Initiation and Duration: Results From a Two-Site Randomized Controlled Trial

Authors: Claire M. Westdahl, CNM, MPH, FACNM; Trace Kershaw, PhD; Sharon Schindler-Rising, CNM, MN, FACNM; Jeannette Ickovics, PhD

Affiliation: Gyn Ob, Emory University, Atlanta, GA, USA

### **Abstract**

#### *Background*

Breastfeeding is the optimal method of infant feeding. Adolescents, African Americans, and low-income women have the lowest rates of breastfeeding initiation and shortest duration. Group prenatal care provides standard prenatal visits plus health education and social support in a group setting.

#### *Aims*

To examine the effect of group prenatal care and standard prenatal care on breastfeeding initiation and duration among low-income pregnant women (ages 14-25) in two public clinics.

#### *Subjects/Material*

1538 eligible women, 1047 (68%) enrolled; 778 (74%) African American, 134 Hispanic (13%), 80 White (8%). Average age: 20.4 years (SD = 2.6). 62% in high school or dropped out. 31% were currently employed; the remainder received economic support from a partner or family member (47%) or from public assistance (22%). All patients had public or hospital assistance for insurance.

#### *Methods*

This multi-site randomized controlled trial was conducted at two university-affiliated public hospital clinics. Pregnant women age 14-25 (N = 1047) were randomly assigned to either standard individual or group prenatal care. Those assigned to group received integrated prenatal care in a group setting. Timing/content of visits followed obstetrical guidelines. A Self-Assessment Survey (SAS) "Thinking About Breastfeeding," based on a three-step

social marketing communication strategy, was implemented at the third session.

### Results

Using intent-to-treat analyses, rates of breast feeding initiation and duration were significantly improved for women in group versus individual care: 66.5% vs. 54.6% ( $p < 0.001$ ).

### Conclusions/Clinical Implications

Group prenatal care increased breastfeeding initiation by 22% among low-income young women. The social marketing three-step communication strategy in a facilitated group discussion allows young women to share culturally appropriate strategies to overcome barriers to breastfeeding initiation.

### General Information

Title: Breastfeeding and Clinician Knowledge: An Assessment Among Nurses, WIC Staff, Advanced Practitioners, and Dieticians  
 Authors: Jessica L. Abrams, MPH; Stephanie Love, MPH; Jana Chaudhuri, PhD; Anne Merewood, MPH, IBCLC  
 Affiliation: Pediatrics, Boston Medical Center, Boston, MA, USA

### Abstract

#### Background

Clinician knowledge on breastfeeding has been reported as lacking. Project HELP was an educational intervention to increase breastfeeding initiation in 4 Massachusetts cities with low breastfeeding rates. Specifically, clinicians attended 12 hours of breastfeeding education in the hospital setting. Most attendees were hospital based, but included some offsite participants; "clinicians" comprised nurses, advanced practitioners (doctors, educators, physician assistants, certified nurse midwives, nurse practitioners), WIC staff, and dieticians.

#### Objective

To assess preexisting breastfeeding knowledge among diverse clinicians attending an intensive breastfeeding course.

#### Methods

Teaching occurred between 2005 and 2006, at 4 institutions in 3 cities. Before each session, participants completed a pretest to gauge preexisting breastfeeding knowledge. Responses to 14 questions were used in

this study; inclusion criteria were based on breadth of applicability and significance. Questions were classified as "scientific," "recommendations/guidelines," and "practical management." Breastfeeding knowledge was analyzed using a chi-square test.

### Results

359 pretests were completed in 6 different teaching sessions. Clinicians were composed of 287 nurses, 21 advanced practitioners, 31 WIC personnel, and 20 dieticians. Overall by discipline, nurses scored highest, with 62% of correct answers, and advanced practitioners lowest, with 51% of correct answers. In total, 60% of all questions were answered correctly. The highest scores were on knowledge of Healthy People 2010 goals (87% correct), and the lowest, on knowledge of vitamin D recommendations for breastfeeding women from the American Academy of Pediatrics (13% correct). 48% of WIC staff knew maternal hepatitis C was not a contraindication to breastfeeding, compared to 23% of advanced practitioners. There were statistically significant differences among the proportion of correct answers between clinician groups.

### Conclusion

Clinician knowledge of pertinent breastfeeding issues was poor. These findings suggest a need for further breastfeeding education, especially among advanced practitioners.

### General Information

Title: Hop Into Evidence-Based Practice to Promote Quality Care: Kangaroo Care in the Healthy Newborn  
 Authors: Jane Lamp, MS, RNC, CNS; Patricia M. Rice, BA, IBCLC, LCCE, FACCE  
 Affiliation: Riverside Methodist Hospital, Columbus, OH, USA

### Abstract

This poster project will increase an attendee's knowledge regarding the selection of an evidence-based practice model to effectively promote and change practices that improve health outcomes for babies and families within the clinical setting. The role of the Lactation Consultant as an essential team member and leader in the process of change will be described.

Clinical leaders identified a current practice of separating newborns and mothers at birth to provide newborn thermoregulation via overheard warmers. This

practice needed to be assessed in light of research regarding Skin-to-Skin and Kangaroo Care. The Iowa Model of Evidence-Based Practice to Promote Quality Care (Titler et al) was selected as the model through which to implement a change from current practice to evidence-based practice. The Iowa Model provides an extremely effective method through which staff nurses and clinical leaders *collaboratively and actively* explore research and define current evidence-based practices. When staff nurses in our setting personally explored the thirty years of research, they were strongly motivated to implement changes that would improve health outcomes. Clinical leaders did not direct staff nurses to change traditional bedside care. Instead, staff nurses were personally experiencing the excitement of making discoveries about evidence-based practices and were voicing the desire to challenge current practice. Implementation of Kangaroo Care provided the opportunity for better health outcomes, including the uninterrupted initiation of breastfeeding for mothers and babies.

While every Lactation Consultant can recite a profound list of advantages to implementing Kangaroo Care, the intrinsic value of this poster project is the dynamic illustration of the use of the Iowa Model in successfully introducing and accomplishing changes in bedside nursing practice that will positively affect breastfeeding outcomes.

### General Information

Title: Impact of Early Postpartum Depo Provera Injection on Lactogenesis II  
 Authors: Jean A. Kovzelove, RN, IBCLC, MSHSM; Karen C. Stanzo, RN, IBCLC, BSN; Jung-Tzu Lin, Rn, MSN; Cynthia Dingus, RN, MSN; Patricia Schmehl, RN, MSN  
 Affiliation: INOVA Fairfax Hospital, Falls Church, VA, USA

### Abstract

#### Background

The choice of contraception for breastfeeding women may impact the duration of exclusive breastfeeding. Breastfeeding women may choose progestin-only contraceptives such as Depo Provera injection before their discharge. Experts recommend waiting at least 3 days to 6 weeks postpartum before initiating this contraceptive since it may interfere with lactogenesis II. However, no clinical evidence shows the impact of early postpartum Depo injection on lactogenesis II.

#### Aim

To explore the effects of Depo Provera injections on lactogenesis II, when given within the first 3 postpartum days.

#### Subjects

All low-income women who delivered between January 2006 and June 2006.

#### Methods

This is a descriptive study. Subjects were invited to participate and signed the consent forms before leaving the hospital. A telephone interview was completed 2 weeks from the delivery.

#### Results

A total of 124 women were approached by phone and 110 completed the interview. The response rate was 89%. After delivery, only ninety-five (86.4%) women experienced changes in their breasts related to lactogenesis II, with the average at  $3.5 \pm 1.9$  (ranged 1-10) days postpartum. Lactogenesis II was not influenced by gestational age, delivery mode, or parity. Thirty-seven (33.6%) women received a Depo Provera injection within 3 days postpartum. Receiving an early postpartum Depo Provera injection didn't impact Lactogenesis II ( $\chi^2 = 0.38, p = 0.38$ ). However, women who received the Depo Provera were more likely to choose formula feeding ( $\chi^2 = 9.36, p < 0.01$ ), and none of these women were exclusively breastfeeding at 2 weeks postpartum.

#### Conclusion

Early postpartum Depo Provera injection did not impact lactogenesis II. Comprehensive lactation counseling should be provided to low-income mothers receiving early postpartum Depo Provera to encourage prolongation of exclusive breastfeeding. Further investigation is needed to determine why mothers receiving Depo Provera give more formula to their babies, when they perceive their milk as coming in adequately.

### General Information

Title: Electronic Health Records in an Outpatient Breastfeeding Medicine Clinic  
 Authors: Betsy A. List, RN, IBCLC; Jeanne L. Ballard, MD, FAAP, FABM; Kathleen S. Langworthy, BA; Alicia M. Vincent, BBA; Sarah W. Riddle, MD; Olga W. Tamayo, RN, IBCLC; Sheela R. Geraghty, MD, MS, IBCLC

Affiliation: Cincinnati Children's Hospital Medical Center, Cincinnati, OH, USA

### **Abstract**

#### *Problem*

No electronic documentation forms specific to the breastfeeding dyad were available for use in a pediatric care setting where a breastfeeding mother and her infant are seen in the same outpatient visit. The goal of this project was to develop a set of lactation-specific forms to facilitate documentation of care provided by physicians, dietitians, and nurses.

#### *Background*

The Center for Breastfeeding Medicine at Cincinnati Children's Hospital Medical Center is a multidisciplinary effort to improve outcomes for the breastfeeding dyad. The Breastfeeding Medicine Clinic was transitioning from largely narrative paper documentation forms to a fully electronic health record.

#### *Clinical Question*

What content should be included in health records specific to a breastfeeding medicine clinic?

#### *Theoretical Framework*

The Child Health Assessment Interaction Model provides a framework for the assessment of a combination of influences, including environment, caregiver, and infant, which impact the breastfeeding dyad. Factors from each of these were included in the content of the new documentation forms.

#### *Methods*

Existing electronic forms used for well-child visits in the Pediatric Primary Care Center were reviewed. Fields specific to a lactation history, exam, feeding assessment, and plan of care did not exist in the current system. Content was built based upon a thorough review of breastfeeding and human lactation literature.

#### *Results*

Five electronic "forms" are now available to document care. A complete maternal and infant breastfeeding history includes potential risk factors, current problems, exam findings, and specific feeding related data.

#### *Conclusions*

An electronic health record for a breastfeeding medicine clinic includes data specific to maternal, infant,

and environmental factors related to lactation and infant feeding.

#### *Implications for Practice*

Providers caring for breastfeeding dyads need fields in the electronic health record to document lactation history and assessments. Appropriate interventions can then be planned to assist mothers in meeting their breastfeeding-related goals.

### **General Information**

Title: Do We Have a Reliable Method to Assess the Amount of Breast Milk a Preterm Baby Is Able to Ingest During a Breast Feed?  
 Authors: Yvette A. Sheehy, RN, RM, IBCLC, BHSc; Fiona Craig, RN, RM; Martin Kluckow, Neonatologist  
 Affiliation: Royal North Shore Hospital, Newborn Care Centre, St Leonards, NSW Australia, Australia

### **Abstract**

#### *Background*

Clinicians need a reliable tool to assess preterm breastfeeding. There are few validated methods. The author has modified an assessment tool. There are five aspects to the Modified Latch Assessment Score (MLA), given a score between 0 and 2:

- 1) Maternal assistance required.
- 2) Infant attachment.
- 3) Infant suck/swallow efficiency.
- 4) Breast drainage at the breastfeed.
- 5) Time spent suckling.

The MLA score is used to determine amount of complementary feed.

#### *Aim*

The aim was to validate the MLA score.

#### *Method*

1. The Lactation Specialist and a nursing staff member independently assessed the same breastfeed and each assigned an MLA score. 2. The MLA score was compared against the percentage of expected feed when measured by a test weight.

#### *Results*

To date 15 premature babies have been assessed. Gestational ages ranged from 24 to 35 weeks. At the time of the

assessment babies were 32 to 40 weeks gestation. MLA scores obtained by the nurse looking after the baby and the Lactation Specialist were significantly correlated (Spearman's  $\rho = 0.93, p < 0.01$ ). MLA scores compared with test weighing also showed a significant correlation, (Spearman's  $\rho = 0.86, p < 0.01$ ).

### Conclusion

Preliminary data suggest that the MLA score may be able to accurately assess the efficacy of the preterm baby's breastfeeding ability. The MLA score was shown to be repeatable between two observers and able to predict milk intake as measured by test weighing.

### General Information

Title: Teaching Breastfeeding Online: BSN and RN Students  
 Author: Charlotte J. Koehler, RN, MN, IBCLC  
 Affiliation: University of South Carolina Upstate, Spartanburg, SC, USA

### Abstract

This Poster Presentation outlines a course that I am teaching at the Mary Black School of Nursing at the University of South Carolina Upstate. This is an online course titled: Current Topics in Nursing: Breastfeeding the Art and Science.

This course is designed for BSN and RN students in the School of Nursing but open to all students in the University. The purpose of the course is to prepare the student with skills to effectively promote and support breastfeeding and human lactation in a variety of settings. Students either express a desire to become lactation consultants or just want to increase their knowledge in this area.

The course content is composed of content that introduces the student to each of the IBLCE Exam Blueprint Topics. Many Web resources and online publications through our library system are used. The course is designed to take 15 weeks to complete, with teaching strategies that include lectures, readings from online sources, interviews, observation of a lactation consultant, weekly quizzes, and ILCA Study Modules. Weekly online discussions are used to assist the student to increase their knowledge of controversial topics as well as items in the media.

Benefits of this would include information on the many online Websites available and specifics of how this course is designed.

### General Information

Title: The Association Between Infant Feeding Pattern and Mother's Quality of Life in Taiwan  
 Authors: Yi Chun Chen; Wei-Chu Chie; Shu-Chen Kuo; Yu-Hsuaw Lin; Shio-Jean Lin; Pau-Chung Chen  
 Affiliation: National Taiwan University; Yuanpei University; National Cheng-Kung University; Taipei Medical University, Taipei, Taiwan

### Abstract

#### Background

For some women, breastfeeding is pleasurable and intimate, but others may experience burden, stress, and depression. Thus, the health-related quality of life (HRQOL) of breastfeeding mothers needs to be fully evaluated.

#### Aim

This study compared the health-related quality of life of mothers using different infant feeding methods.

#### Methods

We used the Medical Outcomes Study 36-item Short-Form (SF-36) to measure the HRQOL of 1,747 mothers and used the scores to look for associations with different infant feeding methods (not breastfeeding, breastfeeding for < 1 month, breastfeeding 1-5 months, and still breastfeeding at 6 months). The mothers were chosen via stratified sampling from the Taiwan national birth registration data between November and December 2003.

#### Results

HRQOL and breastfeeding duration were positively associated. Of the eight unadjusted domain scores of the SF-36, general health perception and mental health significantly different among these four different infant feeding groups ( $p < 0.05$ ). After controlling the confounding factors, mothers who breastfed longer than 6 months had a higher HRQOL score than the other mothers. In addition, their physical functioning, general health perception, and mental health scores were higher than those of mothers who did not breastfeed ( $p < 0.05$ ).

#### Conclusion

Compared to the other mothers, mothers who breastfed for > 6 months had better HRQOL. These results support that creating a supportive environment is important to



promote breastfeeding. However, cross-sectional in design should be considered and further researches are needed.

### General Information

Title: Factors Affecting Exclusivity Among Latina Women Giving Birth at an Inner-City Baby Friendly Hospital  
 Authors: Kimberly N. Newton, MPH; Jana Chaudhuri, PhD; Anne Merewood, MPH, IBCLC; Linda Barnes, PhD  
 Affiliation: General Pediatrics, Boston Medical Center, Boston, MA, USA

### Abstract

#### Background

Latina women in the US have high breastfeeding initiation rates, but high rates of formula supplementation, beginning in the hospital postpartum. The American Academy of Pediatrics recommends 6 months of exclusive breastfeeding.

#### Objective

To examine factors affecting exclusive breastfeeding among Latinas at an urban, US Baby-Friendly Hospital.

#### Methods

We obtained demographic and feeding data from hospital records on 231 healthy, breastfeeding-eligible Latina women and their newborns at Boston Medical Center in 2004-5.

#### Results

The mean age of mothers was 26.8; 84% of women received public-subsidized insurance such as Medicaid or Healthy Start; 13.4% were US born; and 65.4% were non-US born (21.2% had an undocumented birthplace). 26.8% gave birth vaginally, and 56.7% of women were assisted by a midwife, while 43.4% had a physician. Overall, 24.7% of women exclusively breastfed, 68.0% mixed fed, and 7.4% formula fed. Comparing exclusive breastfeeders with mixed feeders in univariate analysis, younger age (OR 0.83; 95% CI 0.87-0.98), US birthplace (OR 2.85; 95% CI 1.14-7.12), and vaginal birth (OR 2.28; 95% CI 1.04-5.02) were predictors of exclusive breastfeeding. In multivariate logistic regression analysis including maternal age, insurance, birthplace, and type of delivery, younger maternal age (AOR 0.88; 95% CI 0.81-0.96) and vaginal delivery (AOR 2.81; 95%

CI 1.01-7.81) remained significant predictors of exclusive breastfeeding.

### Conclusion

The strongest predictor of exclusive breastfeeding among a healthy Latina population was vaginal delivery; women with vaginal delivery have almost 3 times the odds of exclusively breastfeeding than women with cesarean birth. Further investigation is needed to determine why cesarean birth in a Baby-Friendly hospital would be associated with formula supplementation.

### General Information

Title: Realities of Breastfeeding Mothers' Lives: A Photovoice Project  
 Author: Eleanor S. Johnson, RN, BSN, IBCLC  
 Affiliation: Indiana University School of Nursing, Indianapolis, IN, USA

### Abstract

Over the past 7 years, intensification of educating low-income mothers about breastfeeding has been initiated in the federally funded nutrition education and food supplementation program for low-income women called WIC (Women, Infant and Children). In Delaware County, there has been a 10% increase in initiation but the duration of breastfeeding continues to stay very low. Realities of Breastfeeding Mother's Lives (RML) is a qualitative exploratory study designed to improve the support low-income women receive from community for continuing to breastfeed their children through the first year of life. It will be conducted to gain insight into the breastfeeding experience WIC mothers who are living in Delaware County, Indiana. The project will follow a Community-Based Participatory Research (CBPR) approach and use the photovoice method. Over a one-year period, 7 WIC mothers working with a lactation consultant will: generate photo-assignments, take photographs based on these assignments, use the photographs for photo-discussions, and define themes based on these photo-discussions. A photograph exhibition and community forum in a format based on the group's decision will be organized to raise awareness among local decision-makers and the community of the concerns and assets of Breastfeeding mothers. The action that this group can take will initiate a process towards changes that improves the support low-income women need in the community for continuing to breastfeed their children through the first year of life.

### General Information

**Title:** Newman-Goldfarb Protocols for Induced Lactation Decision Tool  
**Authors:** Lenore Goldfarb, BComm, BSc, IBCLC; Jack Newman, MD, FRCPC  
**Affiliation:** HFPC Breastfeeding Clinic, Montreal, PQ, Canada

### Abstract

In 1999, the authors began to develop a hormonal approach to inducing lactation which they made available to the public in 2002. These protocols are designed for intended mothers (via surrogacy) or adoptive breastfeeding mothers and involve the use of medications (domperidone, estrogen, and progesterone) used in combination for a prescribed time period (30 days to several months) followed by a pumping regimen, preferably with a good dual electric breast pump, to bring in their milk supplies. These protocols are designed to mimic the effects of pregnancy and to reduce the need for supplementation of the infant with artificial infant milk. To date, over 2000 women have followed a version of these protocols (Regular, Accelerated, Menopause) to breast-feed their infants.

Since the authors released their guide for the induced lactation protocols to the public in 2002, they have received thousands of emails, telephone calls, and letters, each year requesting further clarification. It occurred to them that a visual decision tool might offer such clarification. The decision process for choosing the appropriate protocol is a two-phase process. Phase I involves the choice of protocol and is dependent on the baby's expected arrival date. Phase II involves frequent and efficient breastmilk expression. The protocols are designed in such a way as to provide flexibility in order that adjustments can be made to accommodate an infant's early arrive with little or no preparation time. The decision tool is meant to facilitate the decision process by providing a visual reference. If, for example, the mother begins one of the protocols but her infant is born early, the mother can follow the Phase II instructions which are self-explanatory. Preliminary testing of this tool has received positive feedback.

### General Information

**Title:** Feasibility and Results of Pre- and Postnatal Counseling of Mothers of Babies With Cleft Lip and Palate

**Authors:** Elisabeth Tufte, RN, MPH, IBCLC; Nina Lindberg, RN

**Affiliation:** Norwegian Resource Centre for Breastfeeding, Rikshospitalet-Radiumhospitalet Medical Centre, Oslo, Norway

### Abstract

#### Background

Newborn babies with cleft lip often succeed in breastfeeding. However, a cleft in the palate will create difficulty with generating a negative intraoral pressure and reduce the ability to breastfeed. In a Norwegian survey, 2 of 36 mothers breastfed at two weeks and none at three months. Information and practical guidance about feeding was lacking. In a Brazilian study, none were breastfed beyond 42 days. There are no interventional studies of pre and post partum lactation counseling aiming to support the duration of breastfeeding or pump milk feeding in this population.

#### Aim

The aim of this observational study was to 1) explore the feasibility of lactation counseling pre and post partum and 2) describe the extent of breastfeeding and milk production in a cohort of mothers of babies with cleft lip and palate.

#### Methods

Nine pregnant women were recruited upon contact with the plastic surgery service following prenatal diagnosis of a baby with possible cleft palate. Individual counseling was offered by a team with one RN from the department of plastic surgery, and one IBCLC. Prenatal counseling included cup-feeding, hand-expressing, pumping, and psychosocial support. Postnatal counseling was guided by a "hands-off" approach to ensure that mothers' own efforts and dexterity was supported.

#### Results

All mothers initiated pumping and attempted breastfeeding. Seven of nine established a milk production that was sufficient for mainly breast milk nutrition for three months. Five babies still received breastmilk by six months. Three were able to breastfeed > 50%, supplementing from cup or bottle.

#### Conclusion

Pre- and postnatal counseling appears to increase the ability to breastfeed babies with cleft lip and palate. An

adequate milk production can be established over a longer period than previous studies have reported.

### General Information

**Title:** Presenting an Alternative: Formula-Free Gifts for New Moms and Babies  
**Authors:** Reginald S. Fonrose, BS; Stephanie A. Love, BS, MPH; Alyssa Pamernacki, BA; Tina D. Navidi, BS; Anne Merewood, MPH, IBCLC  
**Affiliation:** The Breastfeeding Center, Boston Medical Center, Boston, MA, USA

### Abstract

#### Background

Growing numbers of hospitals no longer give out infant formula company-sponsored diaper discharge bags. However, some hospitals express concerns that removing a perceived “free gift” may upset patients and staff, and the bags will be too expensive to replace.

#### Objective

To determine what percentage of hospitals are already distributing alternative “gifts” to new mothers, instead of, or as well as, formula company diaper bags, and to describe these gifts.

#### Methods

In late 2006, our research team called the newborn unit at all 118 hospitals with maternity service in Pennsylvania, and at all 27 hospitals with maternity service in New Hampshire, and asked staff whether they gave alternative or additional gifts to mothers at discharge.

#### Results

In Pennsylvania, 25/118 (21%) of hospitals gave out their own hospital bag (created by the hospital); one hospital gave out *only* hospital bags, while 24/118 (20%) gave out *both* formula company bags and hospital bags. In New Hampshire, 12/27 (44%) of hospitals gave out hospital bags; 6/27 (22%) of hospitals gave out *only* hospital bags; 6/27 (22%) gave out *both* their bag and a formula company bag. The most popular gifts in the hospital bags were water bottles, breast pads, baby blankets, hand pumps, baby hats, and bibs. The 3 Baby-Friendly hospitals in both states gave out only the hospital bag.

#### Conclusion

Considerable percentages of hospitals are already giving out their own gift bags, often in combination with

the formula company bag. Giving nonformula company gifts to mothers is a realistic option for many maternity services.

### General Information

**Title:** What Makes Mothers Change Their Minds? Unexpected Results Around Accuracy of Breastfeeding Data on the Massachusetts Birth Certificate  
**Authors:** Tina Navidi, BS; Jana Chaudhuri, PhD; Anne Merewood, MPH, IBCLC  
**Affiliation:** Boston Medical Center, Boston, MA, USA

### Abstract

#### Background

Many states record infant feeding data on the birth certificate, from which breastfeeding initiation rates can be calculated. However, accuracy of birth certificate data is unclear. In Massachusetts, the birth certificate reflects the mother’s answer to the question, “Are you breastfeeding or do you intend to breastfeed?” asked prenatally on the obstetric unit.

#### Objective

To determine whether birth certificate data accurately reflected actual feeding method.

#### Methods

Between 2004-5, we randomly selected 306 medical records at Lowell General Hospital (LGH) and 232 medical records at Baby-Friendly Boston Medical Center (BMC). Individual birth certificate answers were compared with each infant’s postpartum feeding record.

#### Results

At LGH, 94.8% of birth certificate responses concurred with the feeding record (7 infants described as breastfed by the birth certificate received formula; 9 described as formula fed were breastfed). At BMC, 79.8% of birth certificate responses concurred with the feeding record (7 infants described as breastfed on the birth certificate were fed formula; 40 infants described as formula fed were breastfed). Chi-square analysis found no significant difference between women who answered correctly or incorrectly.

#### Conclusions

Although breastfeeding is a desirable health behavior, mothers did not overstate intent prenatally. Accuracy

of breastfeeding data on the birth certificate varied dependent on hospital. The common assertion that women make infant feeding decisions in pregnancy may be flawed. In the Baby-Friendly hospital, many women who stated intent to formula feed apparently decided to breastfeed in the hospital postpartum. Baby-Friendly policies may affect a woman's feeding decision postpartum.

### General Information

**Title:** Putting Public Health Into Print: Newspaper Reports on Breastfeeding, 1997-2006  
**Authors:** Megan Chen, BA; Shannon Hensley, MD; Anne Merewood, MPH, IBCLC  
**Affiliation:** Boston Medical Center, Boston, MA, USA; Division of General Pediatrics, Boston Medical Center, Boston, MA, USA

### Abstract

#### Background

Breastfeeding as a preventive public health strategy has been increasingly promoted in the US public health and medical sectors over the past decade. Breastfeeding-supportive legislation has been widely implemented, major medical organizations have published emphatic statements in favor of breastfeeding, and the US government has actively promoted breastfeeding, most recently via the National Breastfeeding Awareness Campaign. The ultimate goals of such promotion are to increase public awareness and acceptance, and to raise breastfeeding rates.

#### Objective

To determine whether popular coverage of breastfeeding also increased in the past decade.

#### Methods

We analyzed data from all of the top 20, and 100 of the top 200 circulating US newspapers in the LexisNexis database. We recorded the number of articles available for 1997 through 2006, calculated the average number of articles per publication per year, and used linear regression to look for any significant trend. P-values were determined by linear correlation analysis using an F test.

#### Results

The volume of articles about breastfeeding in the print media rose between 1997 and 2006. Significant increases were visible within both the top 20 newspapers ( $p = 0.007$ ) and 100 of the top 200 newspapers ( $p = 0.0165$ ).

### Conclusion

As public health efforts to promote breastfeeding have increased, so has popular coverage of breastfeeding. Over the same time period, breastfeeding rates increased significantly. A spike in newspaper coverage in 2005-6 could be related to the National Breastfeeding Awareness Campaign, which launched in June 2004.

### General Information

**Title:** Infant Feeding Practices in a Level 2 NICU and at 6 to 8 Weeks and 6 Months Post Discharge  
**Authors:** Kathryn R. Buller, RN, BSCN, IBCLC; Douglas Campbell, MD, FRCPC; Michael Sgro, MD, FRCPC; Brenda Stade, RN, PhD; Kirsten McFadyen, RD  
**Affiliation:** Pediatrics, St Michaels Hospital, Toronto, ON, Canada

### Abstract

#### Background

Significant research has demonstrated the benefits of breast milk for premature infants. Little is known about the impact of premature birth on mother's feeding practices.

#### Objectives

This study described feeding practices of mothers of premature infants in a 20-bed Level 2 nursery in an inner city hospital in Toronto, Canada. Factors influencing infant feeding practices were also examined.

#### Methods

A validated questionnaire was administered by researchers to 136 consecutive mothers prior to their infant's discharge home and were followed prospectively. 125 mothers (91.9%) and 112 (82.4%) mothers completed a telephone-administered questionnaire at 6 to 8 weeks and 6 months post-discharge. Chart reviews were completed to gather additional demographic and clinical data.

#### Results

136 mothers with a mean age of 31.8 years ( $\pm 5.44$ ) and 168 infants with a mean gestational age of 32.6 weeks ( $\pm 2.54$ ) and a mean birth weight of 1805 grams ( $\pm 525$ ) participated. 17% of health care professionals discussed breastfeeding with mothers in the prenatal period. 82.4% of mothers provided their infant(s) with breast milk at hospital discharge (61.8% exclusively). At 6 to 8 weeks and 6 months post-discharge, 67.2% and 49.1%

of mothers provided their infant(s) with breast milk (41.6% and 31.2% exclusively). Factors which contributed to mothers providing their infant(s) with breast milk up to 6 months post-discharge included: higher education levels (post-secondary education) ( $p = 0.03$ ), deciding to breastfeed prior to or early in pregnancy ( $p < 0.0001$ ), and staying overnight in the care-by-parent room ( $p = 0.0007$ ).

### Conclusions

Health care providers should be more vigilant about promoting breastfeeding in the early prenatal period so that mothers that deliver prematurely are aware of the benefits of breast milk. It is important for neonatal nurseries to provide the opportunity for mothers to room in with their infants prior to discharge.

### General Information

Title: State Collection of Breastfeeding Data: Who Counts What and How?  
 Authors: Robert Ackatia-Armah, BSc, MPhil; Anne Merewood, MPH, IBCLC  
 Affiliation: Pediatrics, Boston Medical Center, Boston, MA, USA

### Abstract

#### Background

In 2003, a breastfeeding question, "Is the infant being breastfed at discharge?" (Yes/No) was added to the national US Standard Certificate of Live Birth. It is recommended that individual states adopt the 2003 standard, but they can choose to include this question, to leave it out, or to modify the question. As more states modify their birth certificate to include a breastfeeding question, information on questions currently in use is pertinent to Departments of Health across the US, and to other nations wanting to collect breastfeeding data in this way.

#### Objective

To determine how US states collect breastfeeding rate data on newborns, and to review the different questions asked.

#### Methods

Researchers contacted the US National Department of Vital Statistics, and State Departments of Vital Statistics in 25 states, to obtain information on how the states collected breastfeeding data at birth, and the questions asked.

### Results

Of 25 states sampled, 11 included a breastfeeding question on the birth certificate. The questions were "Is infant being breastfed at discharge?" (Yes/No) (4 states); "Is infant being breastfed" (Yes/No) (3 states); "Is infant receiving breast milk at discharge?" (Yes/No/Unknown) (1 state); and "Are you breastfeeding or do you intend to?" (1 state). New Jersey and New York state (outside of NYC) also obtained exclusivity data by asking, "How is the infant being fed?" (Breast Milk, Formula, Both, Neither). Fourteen states did not include a breastfeeding question on the birth certificate. California and Connecticut obtained breastfeeding rates based on data collected for the newborn screen. Ten States and New York City will implement a breastfeeding question by 2009.

### Conclusion

Almost half the states sampled collect breastfeeding data based on the birth certificate. However, only 2 (8%) collected information on exclusivity. As increasing numbers of states add this question, obtaining information on exclusivity should be considered.

### General Information

Title: Are GPs Discussing Breastfeeding With Their Pregnant Patients?—A Pilot Study of Postnatal Mothers  
 Authors: Niamh B. O'Brien, MB, BCh, BAC (NUI), DOWH, DCH; Genevieve Becker, IBCLC; Camilla Barrett, IBCLC; Liam Glynn, MB, BCH, BAO (NUI); Deirdre Naughton, Registered Midwife Manager  
 Affiliation: Western Training Programme in General Practice, University College Hospital, Galway, Ireland, County Galway, Ireland

### Abstract

#### Background

The WHO recommends that infants be exclusively breastfed for the first six months of life, and numerous studies have proven the clear health benefits of breastfeeding. Being at the forefront of shared ante- and post-natal care of mothers and babies, general practitioners (GPs) are in an ideal position to promote breastfeeding.

#### Aim

This study aimed to determine if a group of postnatal mothers recalled whether their GP had discussed breastfeeding with them during their antenatal visits.

### Subjects & Methods

The study sample consisted of all suitable postnatal mothers who were maternity ward in-patients on consecutive weeks in October and November 2006. Each participant was asked to complete an anonymous, self-completed written questionnaire. Data were analyzed using SPSS, version 14.

### Results

The overall response rate was 90% (56/62). Almost two thirds of participants had visited their GP more than 6 times antenatally. However, nearly half of the study group did not recall that infant feeding was discussed at any of their antenatal visits. Of those who did have feeding discussed with them, only 56% felt that breastfeeding was recommended. A higher percentage of those with a female GP had been encouraged to breastfeed (68% vs 39% if had male GP), and a higher percentage of those mothers to whom breastfeeding was recommended were breastfeeding at the time of the survey (53% vs 27%). Printed information about breastfeeding given to mothers antenatally did not appear to affect breastfeeding initiation rates.

### Conclusion

This study found that the rate of provision of antenatal breastfeeding information by GPs is less than optimal. We feel that further investigation is warranted, and we plan to expand our study cohort to include a larger group of mothers. We hope that this will help to clarify the possible barriers to GPs promoting breastfeeding.

### General Information

Title: Lactation Care of Mothers With History of Breast Surgery  
 Author: Phyllis Kombol, RNC, MSN, IBCLC  
 Affiliation: Lactation Services, NorthEast Medical Center, Concord, NC, USA

### Abstract

Around the world, many women of childbearing age may need, may choose, or have had breast surgery of some type. In the US (based on 2004 statistics), 1/2 million women of childbearing age have breast surgery each year. This is estimated to translate into the possibility that 10% to 20% of the women who are hospitalized in a mother-baby unit after giving birth may have been affected. The surgeries are of many types (augmentation, reduction, lift, correction of inverted

nipples, biopsies, removal of cysts, abscess drainage, piercings, etc), and the potential results and effects on lactation are also varied. Lactation professionals need to know how to recognize signs that surgery (or other trauma) may have occurred and further assess through history and physical exam. Many women receive conflicting information about expectations related to lactation and how it may be affected by their surgery history. Because the impact on lactation may be significant, the lactation care provider must be able to make appropriate recommendations, based on currently available evidence, for intervention, evaluation, and follow-up care. Lactation professionals may also be called upon to provide anticipatory guidance to women who are considering making surgical decisions, or who have had breast surgery and want realistic recommendations about the possible impact on lactation. This presentation will provide practical guidance for lactation care in these circumstances. The poster session includes before and after pictures, assessment criteria, and recommendations for lactation management based on published research findings.

### General Information

Title: WIC Supporting ILCA: How a State WIC Program Gained 50+ IBCLCs  
 Authors: Sandy L. Arnold, BS, IBCLC; Darlene Matz, RN, BSN, IBCLC; Carole Peterson, MS, IBCLC  
 Affiliation: Community Health Services/WIC Program, Bloomington Hospital, Bloomington, IN, USA

### Abstract

Some lactation professionals and supporters see the WIC Program as a "formula give-away" program that does not support breastfeeding. The Indiana WIC Program has made strides in training WIC Staff all over the state and encourages them to attain the IBCLC credential. The Indiana State WIC Breastfeeding Coordinator and Committee have done extensive work to obtain grants and bring trainings to WIC Staff across the state and are debunking the myth that this credential is "too difficult" for WIC Staff to attain. The Indiana State WIC Program has held 6-day Lactation Management courses, Cram Courses, etc, to help train WIC Staff across the state. The entire state is divided into nine regions, each of which has a Regional Breastfeeding Coordinator. The Regional Breastfeeding Coordinators are required to hold the

IBCLC credential and support WIC staff in their respective regions on lactation management issues, perform trainings, assist in communication in the community, etc.

### General Information

Title: Maternal/Infant Lactation Characteristics (MILC) Study: A Comparison of Single Electric Pumping Devices  
 Author: Jimi Francis, PhD, IBCLC  
 Affiliation: Biochemistry, University of NV-Reno, Sparks, NV, USA

### Abstract

#### Objective

The benefits of breastfeeding are recognized by health care practitioners and consumers alike. Many women are opting to express their milk when separated from their infants. As technology advances, new products are put on the market. Three new single electric breast pumps are evaluated: Avent Isis IQ Uno (AIU); the Medala Swing (MSW); and the Whittlestone single electric (WSE). All three of these pumps are purported to be more effective than other similar pumping devices. This study compares time to milk ejection, milk volume pumped, and milk flow rate for each of the three pumps.

#### Methods

Sixty term breastfeeding women were randomly assigned one of the three pumps using a random number generator at day 3 postpartum. The participants were given the assigned pump and instructed in its use as per the manufacturer's instructions. For 60 days, each participant completely expressed one breast one time each morning alternating breasts daily, recorded pumping time in minutes, and volume in mls using the calibrated container provided. For the first 7 days of the study, the participants were observed pumping in their home by an IBCLC and time to milk ejection was observed and recorded. Infants were weighed weekly throughout the 60 days.

#### Results

Average pumping time across pumps was 14.6 minutes with the mean for each pump as follows: AIU 18 minutes, MSW 14 minutes ( $\pm 3.1$ ), and WSE 12 minutes. Mean pumped volumes were 65 mls for the AIU, 80 mls for the MSW, and 85 mls for the WSE. Mean time to milk ejection were 94 seconds for the AIU, 87 seconds for the MSW, and 68 seconds for the WSE.

### Conclusions

Some of the differences noted were statistically significant. These differences in pumping times, milk volume, and time to milk ejection may represent beneficial changes in pump technology.

### General Information

Title: Negligible Exposure of Infants to Budesonide Via Breast Milk  
 Authors: Anette Fält, BSc; Thomas Bengtsson, MSc; Ann Gyllenberg, RN; Bengt Lindberg, MD; Kerstin Strandgården, MSc  
 Affiliation: Clinical Development, AstraZeneca R&D, Lund, Sweden  
 Presented by: Elena Pizzi, PharmD  
 Affiliation: AstraZeneca Pharmaceuticals, Wilmington, DE, USA

### Abstract

#### Objective

Infants are exposed to a number of drugs that pass from maternal plasma to breast milk. This study assessed budesonide concentrations in breast milk and plasma of asthmatic women on maintenance treatment with budesonide (Pulmicort® Turbuhaler®) and estimated the systemic exposure of breast-fed infants.

#### Methods

Breast milk and plasma samples were collected pre-dose and up to 8 h after morning inhalation of budesonide from 8 mothers on maintenance treatment with budesonide (Pulmicort® Turbuhaler®; 200 or 400 µg bid). Pharmacokinetic parameters were calculated from plasma and breast milk concentrations. A single blood sample was taken from infants 1.0-1.5 h after the first breast feed following drug administration (expected C<sub>max</sub>). Infant exposure was estimated based on the average breast milk budesonide concentration and a breast milk intake of 0.15 L/kg/day.

#### Results

Budesonide breast milk concentrations followed those in maternal plasma, with the breast milk concentration always lower than that in plasma. The mean milk/plasma ratio based on AUC was 0.46. Measured budesonide concentrations in plasma samples from 5 infants were below the limit of quantitation (0.02-0.04 nmol/L). The estimated daily infant dose based on the average breast milk

concentration was 0.3% of the daily maternal dose. The estimated average plasma concentration in the infant was about 600 times lower than the average maternal plasma concentration, assuming 100% infant oral bioavailability (compared with 10% oral bioavailability in adults).

### Conclusion

Maintenance treatment with budesonide (Pulmicort® Turbuhaler®) 200 or 400 µg bid in asthmatic women results in negligible systemic exposure to budesonide in breast-fed infants.

### General Information

Title: Breastfeeding in China: Lessons From the 2006 People-to-People Breastfeeding and Lactation Support Delegation  
 Author: Doraine F. Bailey, MA, IBCLC  
 Affiliation: ILCA, Raleigh, NC, USA

### Abstract

People-to-People Ambassador Programs and ILCA collaborated to organize a delegation of IBCLCs to travel to the People's Republic of China in September 2006. The delegation met with a variety of Chinese health professionals in Beijing, Shanghai, and Guilin. The PRC was among the first nations worldwide to fully institutionalize the UNICEF/WHO "Baby Friendly Hospital Initiative" in all birthing hospitals in 1995. The "One-Child" policy and the strong cultural value placed on breastfeeding have promoted a strong desire for pregnant women to have extensive prenatal teaching. The majority of prenatal care is provided within the obstetric hospital, and hospital stays typically last 3-5 days for a vaginal birth. Post discharge, mothers receive home visits from public health staff. The new mother is encouraged to rest and avoid being chilled during the first month postpartum. In part, this practice arises from Traditional Chinese Medicine, which identifies child-birth and pregnancy as "cooling" and "depleting" to both blood and energy. Taking hot soups, remaining indoors, and avoiding cold foods or beverages help postpartum recovery and breastfeeding. Clinical lactation management services are provided for the most part by hospital nurses or midwives. Annual lactation updates are provided through WHO and the Government public health service. Although some staff may have additional training in lactation, there are no IBCLCs in the PRC outside of Hong Kong. The China Medical Doctors Association would like to grow professional lactation counseling in

the PRC. As China continues to modernize, the culture of breastfeeding is beginning to be undermined by aggressive formula manufacturers who are seeking to break into this lucrative market. Recent concerns have been poor controls over indigenous formula manufacture, revisions to laws enacting the Code of Marketing of Breast-milk Substitutes, and marketing activities targeting pediatric providers.

### General Information

Title: Breastfeeding Experiences Among Adolescent Mothers Who Used Breast Pumps  
 Authors: Karen Wambach, PhD, RN, IBCLC; Wilaiporn Rojjanasrirat, PhD, RN, IBCLC; Susan Dana, RN, MSN, IBCLC; Lauren Aaronson, PhD, RN; Ginger Breedlove, PhD, CNM; Elaine Domian, PhD, ARNP  
 Affiliation: School of Nursing, University of Kansas, Kansas City, KS, USA

### Abstract

#### Background

Breastfeeding rates among adolescents are low compared to adults, in part due to demands of school and teenage social life. Breast pumps are used by nursing mothers when separated from their infants and for other mechanical or physical problems. Adolescent mothers' experience with breast pump use has been minimally described in previous research, but is necessary to better understand the demands of breastfeeding and how the pump may facilitate breastfeeding.

#### Aims/Method

This study documented breastfeeding and breast pump experiences among 15-18 year old mothers (N = 74) who were part of the experimental condition in a breastfeeding promotion and support clinical trial. Data from three points in the four weeks following birth were analyzed.

#### Results

Forty-five pumps were distributed; 29 received the pump within one week postpartum, and 16 before one month. Reasons for pump distribution included return to school/work (28), breast discomfort (6), and participant request (10). Data suggested these teens pumped adequate milk volumes and stored their milk for later use. Overall, most teens in the experimental group used



formula supplementation and pacifiers during the first postpartum week and reported significant difficulty in caring for their infants at night. Breastfeeding concerns, reported at seven days, included sore nipples (10), engorgement (9), cracked nipples (4), and feeling physically tired/uncomfortable (8). At three weeks, there were no significant differences in breastfeeding problem scores between those with and without pumps. However, follow-up data indicated those using pumps had significantly longer durations of breastfeeding than those without ( $t(66) = 6.63, p < .01$ ). Reasons for weaning during the first three weeks included sore nipples/pain, low milk supply, and leaking.

### Conclusion

Our results found breastfeeding problems consistent with other published reports, and suggest the breast pump is a useful tool for providing support to adolescent mothers and to help prevent early weaning.

### General Information

Title: The Differential Impact of Lactation Consultants and Peer Counselors on Breastfeeding Rates Among WIC Participants Across the State of Maryland  
 Author: Amy K. Resnik, MS, RD, CSP, LDN, IBCLC; Susan Gross, PhD, RD, LDN; Joy Nanda, PhD; Marycatherine Augustyn, PhD; Linda Kelly, BA; David Paige, MD, MPH  
 Affiliation: Maryland WIC Program, Baltimore, MD, USA; Johns Hopkins University School of Public Health, Baltimore, MD, USA

### Abstract

Breastfeeding rates among Maryland's WIC participants are below Healthy People 2010 goals. This analysis examined breastfeeding rates in the Maryland WIC Program by differential breastfeeding support—Peer Counselor Only (PC); Peer Counselor with Lactation Consultant (PCwLC); Lactation Consultant Only (LC); and a Comparison Group (CG). Data were analyzed for 31,656 infants enrolled in the Maryland WIC Program.

Most participants were non-Hispanic African Americans averaging 26 years old, participated in the medical assistance program, and registered by second pregnancy trimester. Infants averaged 31 days old at WIC certification.

Breastfeeding prevalence at the time of infants' WIC certification was 30%. Exclusive breastfeeding rate in this population was 4.8%. Forty-seven percent of PC group infants compared to 25% in the PCwLC group, 26% in the LC group and 23% in the CG were breastfeeding at certification ( $p < 0.001$ ). Exclusive breastfeeding rate was 5.5% for the PC group, 5.4% for the PCwLC group, 3.9% in the LC group, and 4.3% of the CG ( $p < 0.001$ ). Multiple logistic regression analysis, controlling for ethnicity, PC-only exposed infants were almost twice as likely to breastfeed (OR 1.97; 95% CI: 1.83, 2.11) compared with CG infants. The odds of any breastfeeding for PCwLC-exposed infants was 9% greater (OR 1.09; 95% CI: 1.01, 1.18) than CG infants. Breastfeeding rates for LC-exposed infants were similar to CG infants. Multiple regression analysis, controlling for ethnicity, showed that the odds of exclusive breastfeeding among PC-only exposed infants was 38% greater (OR 1.38; 95% CI: 1.19, 1.60) than CG infants. The odds of exclusive breastfeeding for PCwLC-exposed infants was 19% greater (OR 1.19; 95% CI: 1.03, 1.37) than CG infants. LC-exposed infants had exclusive breastfeeding rates similar to CG infants. Peer counselors, following a best practices protocol developed by lactation consultants, were the strongest factor in strengthening breastfeeding support and improving breastfeeding rates.

### General Information

Title: Mommy vs Moo: A Study of the Effect of the Visual Appearance of Infant Nutrition Upon Women  
 Author: Emily Whelchel  
 Affiliation: San Jacinto Christian Academy

### Abstract

My project investigated the ability of women to determine the quality of infant nutrition using only visual clues. 20 adult women were interviewed.

Each subject was shown infant bottles with breast milk, infant formula, and cow's milk labeled with unique identifiers. They were asked to rank them in regard to quality. They were then shown similar bottles which were labeled with the names of the fluids and asked to rank them in terms of quality. Four samples of breast milk were used and creatinocrits were performed on them. Information collected on each subject included age, number of children, what their children

were initially fed, their birth order, their exposure to children as a young woman, and their level of education.

I created spreadsheets and graphs to analyze my data and I came up with some interesting results. The subjects chose: 41% breast milk, 38% infant formula, and 21% cow's milk. 61% of the subjects breastfed their children, while 39% either did not have children or simply fed their children infant formula. No women fed their children cow's milk. Women with advanced college

educations preferred breast milk, while women with high school and some college educations preferred infant formula. Older women tended to prefer breast milk more than younger women did. Women that had more experience with children as young women chose cow's milk more than women that had low experience did.

I have concluded that we need more breast milk education. Best appearance does not necessarily translate into best nutrition.

#### ***Answers to Independent Study Questions***

1. A	4. D	7. B	10. C	13. C	16. D
2. C	5. C	8. D	11. C	14. D	17. A
3. B	6. C	9. C	12. D	15. A	18. C