

Conference Platform Abstracts

The following research abstracts have been accepted as platform presentations at the upcoming Annual International Conference of the Academy of Breastfeeding Medicine: Research, Knowledge and Advocacy: Capital Ideas in Breastfeeding, November 2-5, 2001, Washington DC. Poster presentations will appear in our next issue.

PL1

Abstract Title: EVALUATION OF BASELINE KNOWLEDGE OF HEALTH CARE PERSONNEL USING "BREASTFEEDING BASICS"

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Background: "Breastfeeding Basics" is an educational program on the World Wide Web targeted to health care personnel. It is composed of 7 modules: introduction (intro), anatomy/physiology (anat), growth and development (gr/dev), international breastfeeding (inter), normal baby (norm), infants with problems (prob), and breast milk and drugs (drug). Each module has a pre-test and a post-test.

Objective: Demographic information and pre-test and post-test scores of groups of health care professionals were compared to help target breastfeeding education.

Design/Methods: Demographic data was compared among groups using Chi Square test and computer scored pre-tests and post-tests were compared using Students T Test and ANOVA.

Results: Of 1376 users of the website, 1051 were health care professionals including: 278 nurse/midwives (nurs), 311 physicians (ph), 211 lactation consultants (lc), 83 residents (res), and 168 students (st). Thirty four percent were required to take the course, 61% had breastfeeding experience. 64% of res and st were required to take the course ($p=0.000$). There was no difference in pre-test scores between res and ph, and they were combined. Lowest mean pre-test scores for all groups were in gr/dev ($69\pm 15\%$) inter ($76\pm 12\%$) prob ($78\pm 12\%$) and drug ($80\pm 13\%$). Users with personal or partner breastfeeding experience scored higher on all pretests ($p<0.01$) except drug. St scored the lowest on intro, norm, and prob. Lc scored the highest on all modules except inter and drug. Only lc scored $>90\%$ on the prob module ($p=0.00$). Individual areas of low scores included breastfed (bf) infants crossing growth percentiles, bf premature infants, effect of breastfeeding on pregnancy spacing, effect of maternal work on breastfeeding decisions in the developing world, the importance of training all staff in breastfeeding support, cause of jaundice in the first week of life, and the effect of alcohol on breastfeeding. The greatest improvement in scores occurred in modules with the lowest pre-test scores; gr/dev (69% to 86%), inter (75% to 86%), prob (77% to 95%) and drugs (80% to 92%).

Conclusions: Breastfeeding education for all health professionals needs to concentrate on gr/dev of breastfed infants, international aspects, and breast milk and drugs. All but lc need information on infants with problems. This educational format is effective in increasing knowledge as measured by improvement in post-test scores.

PL2

Abstract Title: BREASTFEEDING KNOWLEDGE, ATTITUDES, AND CONFIDENCE: HAVE WE IMPROVED?

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Background: Health care professionals have considerable influence over a mother's decision to initiate and continue breastfeeding; however, studies show that physicians and nurses involved in the care of mothers and their infants are inadequately trained in the benefits of breastfeeding and its clinical management.

Objective: To perform a prospective cohort study designed to evaluate the impact of a breastfeeding education program on knowledge about, attitudes toward and confidence managing breastfeeding problems among health care professionals.

Methods: A self-administered survey designed to assess breastfeeding knowledge, attitudes and confidence was distributed to residents, teaching faculty, and private physicians at an urban tertiary care hospital in the departments of Pediatrics, Family Practice, Medicine/Pediatrics, and Obstetrics/Gynecology and to Labor and Delivery nurses in 1995, and again in 2001. Between 1995 and 2001, regularly scheduled educational conferences were offered, a Breastfeeding Help phone-line was established, and the hospital was recognized for following the Texas Ten Step Hospital breastfeeding promotion program.

Results: 139 of 475 surveys were returned with 63% of questions answered correctly as compared to only 58% in 1995 ($p,0.001$). Knowledge significantly improved for nurses ($p<0.001$) and for residents ($p=0.003$) but not for practicing

physicians ($p=0.151$). Overall attitudes toward breastfeeding were positive, but there were no significant differences in attitudes when stratified by patient care role. All groups felt more confident of the abilities to manage common breastfeeding problems. A positive correlation was found between knowledge, attitude, and confidence level for both nurses and residents. No relationship was seen for practicing physicians. Despite having an equivalent knowledge base as the residents, the practicing physicians were significantly more confident. No difference was seen in knowledge or attitudes between individuals with and without prior breastfeeding experience. Improvement was demonstrated on questions related to management of mastitis, thrush, and jaundice. Areas that continue to require attention include the effect of supplemental feedings on milk supply, which medications are contraindicated while breastfeeding, and the use of breastpumps.

Conclusion: Overall attitudes toward breastfeeding are positive. Knowledge about breastfeeding can be improved if an ongoing commitment to education is made and with education, individuals feel more confident in their abilities.

PL3

Abstract Title: THE EFFECT OF PHYSICIAN-DIRECTED BREASTFEEDING EDUCATION IN THE IMMEDIATE POSTPARTUM PERIOD ON BREASTFEEDING INITIATION

Authors: LaDonna M. Crews, MD, Department of Pediatrics, University of South Alabama, Mobile, AL

As a result of failure to meet the proposed health goals of breastfeeding initiation and continuation at six months, particularly in the southeast region of the United States, increased emphasis has recently been placed on physician-directed education for promotion of breastfeeding. The purpose of this study is to evaluate the effects of a physician-directed educational intervention in the immediate postpartum period on breastfeeding initiation rates.

Methods: A randomized, controlled study with blinded allocation was conducted from December 1999 to April 2000 at a university hospital which serves a predominantly inner-city population. Mothers who delivered healthy infants with an estimated gestational age between 36-42 weeks were consented to complete a questionnaire addressing demographics, prenatal care history, and prior experience with breastfeeding. In addition, current intended feeding method was established. The principal investigator performed a scripted discussion with mothers randomized to the intervention group regarding the benefits of breastfeeding to the mother and infant as well as lactation management skills.

Results: Four hundred twelve mothers delivered infants at the institution during the study period. Eighty nine percent (368) met criteria for participation. Three hundred fifty-seven (97%) completed the study with 171 women in the intervention group and 186 women in the control group. No demographic differences were found between the two groups. Follow-up phone conversations were completed at two weeks for 320 women (90% of the total participants). No significant increase in breastfeeding initiation was observed despite the additional education for the intervention group.

Conclusion: Postpartum educational intervention is not effective in increasing breastfeeding initiation rates, and the effect of intervention during early pregnancy needs exploration.

PL4

Abstract Title: ATTITUDES REGARDING BREASTFEEDING IN HEALTH TEACHERS OF THE PUERTO RICO DEPARTMENT OF EDUCATION

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It is recognized that the formal education of children and adolescents in breastfeeding is vital to provide correct knowledge and develop positive attitudes to promote change towards breastfeeding as the cultural norm. The purpose of this study was to identify the attitudes towards breastfeeding and support for breastfeeding in public in a group of Health teachers in the Department of Education. The study design was correlational descriptive. A self-administered questionnaire was used (Cronbach's $\alpha=0.83$) for 125 Health teachers. Descriptive and inferential statistics (chi square and t test) were used for data analysis. 89.6% of the participants were women, 47.1% had 39 years of age or less, 76.4% were married, and the median of years in the profession was 12.5. Only 8.8% had breastfed exclusively, 46.1% used artificial feeding exclusively, and 45.1% combined artificial milk and breast milk. A moderate/negative attitude towards breastfeeding was shown by 53.1%. 60.3% stated they agreed or totally agreed that in order to breastfeed the mother must follow a specific diet, 36.0% agreed or totally agreed that breast milk should alternate with artificial milk, and 100% of participants do not support breastfeeding in public. No significant difference was found in the attitude towards breastfeeding and the gender, the age, years in the profession, and the type of milk given their children. Results demonstrate the need for training teachers

in the Department of Education, on a priority basis, in the field of human lactation in view of their importance for health promotion.

PL5

Abstract Title: BREASTFEEDING: CHANGING THE CULTURE OF A NEONATAL INTENSIVE CARE UNIT

Authors: Kathleen Marinelli, MD, IBCLC. Connecticut Children's Medical Center, Hartford, CT; Department of Pediatrics, University of CT School of Medicine

Background/Aims: Historically, most NICU's in the United States have had lower rates of initiation and decreased duration of breastfeeding than comparative well-newborn populations. The purpose of this study is to report the process of evolving from a non-breastfeeding to a breastfeeding culture in a Level III NICU over an 11-year period.

Methods: Data on initiation of breastmilk expression/breastfeeding in the NICU, feeding method on discharge, use of formula supplements, as well as pertinent demographic data was collected yearly 1989-2000 from the Connecticut Children's Medical Center Neonatal Database. In 2000, data was expanded to include method of feeding (e.g. breastfeeding, alternative methods, use of supplemental nursing system). Changes in lactation support services over that time period included formation of a NICU Lactation Committee, hiring a part-time LC, formation of a formal Lactation Support Service, initiation of a mother's support group, opening a rental depot, and educational endeavors for staff and patients.

Results: Initiation of breastmilk expression/breastfeeding increased in the entire NICU population steadily from 20% in 1989 (n=519) to 69% in 2000 (n=471). The in-hospital initiation rate in the equivalent well-baby population in 1999 was 62%. Improvements in initiation rates were seen in both clinic and private populations, with a proportionately larger increase in the clinic population (7-fold increase vs. 2.5-fold). Mothers providing breastmilk at discharge from the NICU rose from 5.7% in 1989 to 59% in 2000 (28.6% of those initiating in 1989 compared to 84% of those initiating in 2000). Of those babies discharged from this NICU, the proportion of babies receiving breastmilk alone compared to breastmilk plus formula supplements or formula alone also rose dramatically (4.5% in 1989 vs. 34% in 1999). In the sub-group of babies born \leq 1500 gms, initiation of expression rose from 10.6% in 1989 (n=64) to 74.6% in 2000 (n=59), with continuing to provide breastmilk at discharge increasing from 1.7% to 40%.

Conclusions: Although U.S. NICU's have often had low rates of breastfeeding, the implementation of relatively modest educational and support services can increase breastfeeding/breastmilk provision to levels seen in the healthy term population. These results demonstrate that in this highly technical environment, the culture of feeding practices can be changed.

PL6

Abstract Title: BECOMING BABY FRIENDLY IN QUEBEC: AN ASSESSMENT OF THE IMPLEMENTATION LEVEL OF THE BABY FRIENDLY HOSPITAL INITIATIVE IN THE MONTRÉGIE REGION'S HOSPITALS

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Background: The Montérégie Breastfeeding Promotion Program has adopted the Baby Friendly Hospital Initiative (BFHI) as its main strategy to promote breastfeeding (BF) in the region.

Objective: The present study is part of a process to review the program's planning and evaluation based on Green's Precede-Proceed theoretical model. An assessment of the implementation of the BFHI in each of the Montérégie hospitals was conducted in order to determine the most appropriate regional and local actions to further enhance BF promotion.

Methods: The study examined the implementation level of the 10 Steps to Successful Breastfeeding and the International Code of Marketing of Breastmilk Substitutes in the 9 Montérégie hospitals measuring the perspective of mothers, professionals and external observers. Fifteen mothers and 10 professionals from each hospital were interviewed using a questionnaire. The observation of maternity was guided by a standardized form filled out by 2 trained observers.

Results: The results from an analysis combining data from all Montérégie hospitals will be presented. The key points put forward by the results indicate that professional training level (Step 2) is very advanced (61 % of questioned professionals had received 18 hours or more of BF training) and professionals' and mothers' knowledge of local community organizations and their referral practices (Step 10) is adequate. On the other hand, supplementation and rooming-in practices (Steps 6 and 7) as reported by mothers, professionals and observers are far from the established BFHI standards. Interestingly, important drawbacks were

documented in both professionals' and mothers' knowledge of the basic elements assuring BF success and adequate milk production (Step 3 and 5).

Conclusions: The results will help redefine the general and specific program objectives at the regional level. The program's local committees, made of hospital- and public health clinic-based professionals, physicians in private practice and community organizations representatives, will be able to use the results to prioritize local actions that will promote BF in their area and help the Montérégie institutions and organizations work towards becoming Baby Friendly.

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PL7

Abstract Title: USING THE ELECTRONIC BIRTH CERTIFICATE TO DETERMINE EXCLUSIVE BREASTFEEDING RATES AT HOSPITAL DISCHARGE IN NEW JERSEY

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Exclusive breastfeeding for approximately the first six months is recommended for nearly all babies in the United States, with few exceptions, and has been promoted by numerous organizations. National, statewide and local objectives to increase breastfeeding in the United States have been set and targets have been derived from multiple systems of breastfeeding surveillance. The one most quoted and used for the objectives set for Healthy People 2010 is the Mothers' Survey conducted by Ross Division of Abbott Laboratories. However, this surveillance system tracks *any* breastfeeding, does not report exclusivity, and does not measure breastfeeding rates for diverse populations.

Methods: Exclusive breastfeeding rates were measured from electronic birth certificates (ENC) data in New Jersey for all delivery hospitals in the state from 1997 through 2000. Three categories of infant feeding were recorded: exclusive breastfeeding, combination feeding (breastfeeding with the use of supplements), and exclusive formula feeding as reported in the 24 hours prior to hospital discharge. Breastfeeding rates were analyzed according to hospital, minority status, socioeconomic status, income, parity, as well as many other variables, using SAS software and logistic regression models. Four-year trends were also analyzed.

Results: There was extreme variability in exclusive breastfeeding rates per hospital (range 3.5% to 73.6% of all mothers who exclusively breastfed at a given hospital). Additionally, hospitals with the highest proportion of minorities have the lowest exclusive breastfeeding (Pearson's R=0.72). The hospital had an effect on exclusive breastfeeding even after controlling for maternal characteristics such as race, ethnicity, age, parity, education, income, etc. using logistic regression analysis. The trends over the last four years demonstrate an overall increase in the percent of women in New Jersey initiating breastfeeding for all populations, however the trends for exclusive breastfeeding remain unchanged for all ethnic groups. Non-Hispanic Blacks and Hispanics continue to have the lowest exclusive breastfeeding rates.

Conclusion: The New Jersey breastfeeding promotion plan has been modified to include strategies to increase exclusive breastfeeding in hospitals and to improve cultural competency of health care providers who work in delivery hospitals.

PL8

Abstract Title: LEGISLATIVE & POLICY STRATEGIES TO REDUCE BARRIERS TO BREASTFEEDING

Author: MaryAnn O'Hara, MD, MPH, MSt. University of Washington, Seattle, WA

Background: Fear of harassment and lack of workplace support for breastfeeding impede women's ability to breastfeed. After years of effort and many challenges, a diverse coalition of people recently secured the passage of legislation to reduce these barriers in Washington (WA) State.

Objective: To help others decide whether and how to impact health policy or legislation related to breastfeeding.

Presentation Methods: 1) Overview of the status of state and federal laws related to breastfeeding, and 2) Present an in-depth case analysis of lessons learned in Washington State.

Results in WA: In 2001 the Washington State Legislature passed HB1590. The new law clarifies that indecent exposure legislation does not pertain to breastfeeding and encourages businesses to support lactation among employees. The new law results from the persistent efforts of a core group of advocates in conjunction with growing collaboration with health professionals, public health officials, business leaders, legislators, and mothers.

Conclusions: Legislative approaches to reduce barriers to breastfeeding can succeed. The exact approach needs to be tailored to the local setting, especially the most important and feasible issues to address. A key factor for success, both with the legislation and to facilitate future efforts to promote breastfeeding, is building respectful relationships with diverse stakeholders, ranging from potential opponents, to the media, to