

RATES OF BREASTFEEDING INITIATION AND CONTINUATION IN MOSTAR, BOSNIA-HERCEGOVINA AND CHARLESTON, SOUTH CAROLINA, USA

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In a collaborative project between the Medical University of South Carolina (MUSC) and Mostar University Medical School, we sought to compare the rates of breastfeeding initiation at two urban university hospitals on two continents. Specifically, rates of breastfeeding initiation were measured at MUSC and at the Maternity Hospital KB Mostar, Bosnia-Herzegovina, a post-war Croatian hospital. While both hospital have similar live birth rates per year (~2000), the Maternity Hospital is certified Baby Friendly since 1998. At MUSC, the rate of breastfeeding initiation of mothers delivering healthy newborns (defined by admission to normal newborn nursery) was 46% in 1999; the rate of sustained breastfeeding at three months had fallen to below 25%. In comparison, the rate of breastfeeding initiation at the Maternity Hospital during the same period was 85% (0-7 days), 60% at one month, and varied between 20-40% at 3 months. While mothers at both hospitals are encouraged to breastfeed, the rate of initiation was greatest in the Baby Friendly hospital; however by three months the rates of sustained breastfeeding were similar between hospitals. The prevailing reason given for discontinuation of breastfeeding among the Mostar mothers was insufficient milk supply. Upon discharge from the hospital, women in Bosnia-Herzegovina commonly supplement with formula despite health care professionals' recommendations to the contrary. While the number of women available for follow-up in Charleston was too small for statistical analysis, of those contacted, most reported poor milk supply and returning to work as the main causes for discontinuation of breastfeeding. Despite large differences in lifestyle and health care delivery systems, sustained breastfeeding is a global problem. Health care professionals in the U.S. and Bosnia-Herzegovina ascribe to the recommendations of the AAP, UNICEF and WHO of sustained breastfeeding during the first year of life. To achieve this goal on a global level, a mechanism to understand those forces that influence a mother's decision to continue breastfeeding beyond the neonatal period must be in place. Future international efforts must delineate the operative forces that lead to early termination of breastfeeding throughout the world.

THE FEASIBILITY OF A SPECIALTY PRACTICE IN BREASTFEEDING MEDICINE: ONE SOLO PRACTICE IN STRATFORD, CONNECTICUT, USA

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Breastfeeding medicine as a medical specialty is time intensive, and in the United States has been limited to university clinicians and a few private physicians who devote at least half time to primary care. Our objective is to describe the establishment and growth of a private solo specialty practice, limited to breastfeeding medicine, in an urban community in Connecticut. The practice's medical records, financial data, and correspondence were reviewed from January 1996 through June 2000. Results: "Breastfeeding Resources," a private specialty practice, was established in January 1996, in Stratford, Connecticut, by the primary author, a board certified pediatrician who had been in primary care since 1980. The practice was self-financed, with no commercial loans. Contacts were established with physicians, lactation consultants, lay support groups, and insurance companies. Only 60 mother-infant dyads were seen in all of 1996, the minority by physician referral and very few paid by insurance coverage. In 1997, 1998, and 1999, the practice saw 135, 198, and 314 new dyads. In the first 6 months of 2000, the practice had seen 201 new dyads, 65% by physician referral, and 98% covered by insurance. House calls were frequent in 1996-1998, but limited primarily to twins by 2000. The most common diagnoses in 1999 were low milk transfer, 103; delayed competency of infant latch, 93; nipple or breast candidiasis, 83; hyperlactation, 62; and plugged ducts or mastitis, 39. The practice was only able to break even and pay the physician's salary when (1) we were on all major insurance plans in the area, (2) we began charging for both mother and infant as two patients when appropriate, and (3) we began billing for time spent in counseling and education. By the spring of 2000, the physician was able to pay herself and three part-time employees, including a lactation consultant. Conclusion: A solo practice in breastfeeding medicine in the US is feasible but financially challenging.

INTRODUCTION OF BREASTFEEDING IN UKRAINE

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In 1995 Ukraine became the member of international breastfeeding support cooperation. At that time according to the data of Ministry of Health the frequency of breastfeeding was 48-52% till 3 months of age and only 30% till 6 months. According to the state program of breastfeeding support adopted in 1996 about 50% of maternity homes were transformed into rooming in hospitals. Simultaneously there took place a program of teaching breastfeeding management to doctors and medical staff. But because of the absence of financial support the process of teaching was not systematic and gave little effect. Starting from 1997 with the financial support of WHO and UNICEF and active participation of trainer's team prepared by Wellstart international the teaching of breastfeeding management to Ukrainian medical workers was much more effective in all spheres (woman's consultations, maternity houses, pediatric polyclinics). During last years there were held many 40-hour and 18-hour training courses of breastfeeding management. Thirty new well qualified trainers were prepared to work. Programs with practical elements were especially useful. As a result frequency and duration of breastfeeding increased remarkably. Observation of 260 mother child pairs in one of Kiev's maternity homes showed the authentic increase of frequency and duration of breastfeeding: from 3.41+0.19, to 7.32+0.36 months of infant's life. The average duration of breastfeeding of risk-group women and women with lactation dysfunctions became 5.8+0.25.

THE EFFECT OF ARTIFICIAL NIPPLE EXPOSURE ON BREASTFEEDING: A RANDOMIZED, CONTROLLED TRIAL

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Background: Artificial nipples, such as pacifier use and supplemental feedings with a bottle, have been associated with declines in breastfeeding duration in observational trials. To enhance breastfeeding practices, WHO has discouraged pacifier use and bottle-feeding. **Objective:** To evaluate the effects of two types of artificial nipple exposure on breastfeeding duration: 1) cupfeeding as compared to bottle-feeding for the provision of supplements, when indicated; and 2) early (3-5 days) versus late (> 4 weeks) pacifier introduction. **Methods:** 700 healthy breastfed newborns (36-42 wk, BW \geq 2200 GMS), were randomly assigned to one of 4 intervention groups: bottle/early pacifier (n=169), bottle/late pacifier (n=167), cup/early pacifier (n=185), cup/late pacifier (n=179). The cup or bottle-feeding intervention was invoked only for infants with medical indications or whose mothers requested supplemental feedings; cup (n=251), bottle (n=230), (no supplement, n=216). Data were collected via chart reviews and maternal interviews at delivery, 2, 5, 10, 16, 24, 38 and 52 weeks postpartum. Intervention effects on breastfeeding duration were evaluated with Kaplan Meier and Cox survival analyses. **Results:** Study groups did not differ by maternal race, parity, employment, smoking, breastfeeding experience and goal, mode of delivery, age, or education. Participants were 29.5 \pm 5.3 years old and well educated (14.3 \pm 2.1 years). Eighty one percent were married, 86% White and 39% primiparous. The Table displays intervention effects on breastfeeding duration.

Breastfeeding Duration	Supplemental Feeding Intervention			Pacifier Intervention		
	Bottle (n=230) Mean (95% CI)	Cup (n=251) Mean (95% CI)	P Value	Early (n=354) Mean (95% CI)	Late (n=346) Mean (95% CI)	P Value
Exclusive (dys)	14 (11,21)	21 (14,25)	.29	21 (17,27)	28 (25,30)	.04
Full (dys)	37 (28,49)	45 (35,49)	.87	56 (42,63)	49 (42,60)	.70
Any (dys)	140 (112,157)	105 (90,150)	.50	140 (120,157)	163 (140,180)	.18

Conclusions: In infants who received supplements, cup as compared to bottle-feeding did not affect breastfeeding duration. Early pacifier use significantly shortened exclusive, but did not affect full or overall breastfeeding. These data fail to support a significant clinical effect of bottle-feeding or early pacifier use on breastfeeding duration. Funded by a grant from the Bureau of Maternal and Child Health (MCJ 360752).

HUMAN MILK REDUCES OUTPATIENT INFECTIONS IN VERY LOW BIRTH WEIGHT INFANTS

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Background: It has been previously shown that human Milk reduces infections in very low birth weight (VLBW) infants (birth weight <1500 gms) in the special care nursery. Whether human milk continues to protect these vulnerable infants during their first year of life has not been previously studied. **Objective:** To determine if human milk reduces outpatient infections in VLBW infants. **Methods:** Thirty-nine VLBW have been enrolled in a prospective study examining the effect of human milk on the rate of infection during the first year of life. Twenty-four infants received human milk after their discharge from the special care nursery (SCN) and 15 received only formula. Background data was collected on all infants. All mothers were given a daily calendar on which they recorded any signs or symptoms of infections, outpatient pediatric visits, hospitalizations, feeding and daycare information. Calendar information was collected at one month post discharge during a home visit, and at the infants' three, seven, and twelve month (corrected ages) Neonatal Follow-up Clinic visits. To date, 7 and 12 month visits have been completed by thirty-four and twenty-three infants respectively. **Results:** There were no differences in birth weight, gestational age, gender, maternal age or Hollingshead SES between the groups. The upper respiratory infection (URI) rates are shown:

# Days with URI at:	Human Milk	Formula	p
1 mo	0.6 \pm 2	4 \pm 5	=0.05
3 mos	7 \pm 7	15 \pm 15	=0.06
7 mos	18 \pm 15	38 \pm 26	<0.025
12 mos	42 \pm 28	61 \pm 34	ns

Parental tobacco use, number of siblings and attendance at day care were similar between the groups. **Conclusion:** We conclude that human milk reduces upper respiratory infections in VLBW infants during their first year of life. Breastfeeding should be enthusiastically supported in the special care nursery and after discharge.

IMPACT OF AN EDUCATIONAL INTERVENTION FOR THE PROMOTION OF BREASTFEEDING AMONG HEALTH PROFESSIONALS IN PUERTO RICO

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Previous studies among health professionals in Puerto Rico have shown profound deficiencies in knowledge about breastfeeding. The objective of this study was to evaluate the impact of an educational intervention directed at developing knowledge among health professionals for the routine management of human lactation and breastfeeding. The effect of the intervention was evaluated through pre- and post-tests administered to 127 health professionals in 3 groups (group 1 - 49, group 2 - 38, group 3 - 40). Less than 8% of the participants in the 3 groups demonstrated adequate knowledge regarding breastfeeding in the pre-test. After the educational intervention, however, over 88% of the participants demonstrated an adequate level of knowledge. A positive impact was thus shown to be produced by the educational intervention in changing levels of knowledge. Further studies are needed to ascertain whether these changes are maintained through time.