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CASE REPORT

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Breastfeeding on the US-Mexico Border

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INTRODUCTION

Increasing the number of breastfed babies is one of the greatest contemporary public health challenges in the U.S. The Centers for Disease Control and Prevention announced in May 2008 that the percentages of infants who were breastfed in any way (even if it was just one time) have increased over the last decade from 60% to 77%. However, we are still lagging far behind the Healthy People 2010 goal of having 50% of all mothers breastfeed through 6 months of age of their babies, and more than 25% of all babies to be breastfed through their 1st year of life [1].

BACKGROUND

There are many factors affecting breastfeeding (Table 1). Breastfeeding rates are higher among high-income women (74%) compared to low-income women (57%) and among older women (30 years and older) compared to younger women. The percentage of Mexican-American infants who had ever breastfed is as high as 80%, similar to the breastfeeding rate of non-Hispanic white infants (79%). However, there has been no increase in the rates of breastfeeding for either of these groups since 1993 [2].

Studies have found that for Mexican-American and Hispanic mothers, the intention to breastfeed increased among mothers with prenatal care and those advised to breastfeed by their physicians. Breastfeeding is higher among married mothers, mothers with a partner and mothers whose husband was in favor of breastfeeding [3-6]. Breastfeeding rates were higher if the mother spent more time with her baby in the hours immediately after delivery and initiated breastfeeding within 10 hours after birth. Non-smoking mothers and those whose own mother breastfed also showed higher rates of breastfeeding [5-7]. Mothers born outside of the U.S. or born in Mexico, mothers who finished school in Mexico and mothers with college education were more likely to breastfeed [4, 5, 7-10].

In contrast, the likelihood to breastfeed decreased if the mother had a previous cesarean delivery, had less schooling, did not receive prenatal care and if the father of the baby was Hispanic [3, 4, 7]. Breastfeeding studies have demonstrated that mothers less acculturated to the U.S. environment are more likely to breastfeed exclusively at discharge [11-14]. In addition, mothers of Mexican descent breastfeed longer if they have lived in the U.S. for less than 5 years [15].

A survey conducted among the population participating in the Texas Women, Infants and Children's nutrition program, which is 67% Hispanic, revealed that the most common reason for moth-

ers not to breastfeed was "I did not want to breastfeed" (61%). The three most common reasons for discontinuing breastfeeding were, "I did not think my baby was getting enough milk," "I was not producing enough milk," and "I was going back to work or school outside the home" [16].

PURPOSE

We report the results of a breastfeeding study conducted in the Border Area of El Paso, Texas. This study was a part of the American Academy of Pediatrics' national study on breastfeeding promotion in physicians' office practices (BPPPOP III), aiming to design a resident physician curriculum on breastfeeding. The national study sites included Jacobi Medical Center in Bronx, NY, Medical University of South Carolina in Charleston, NC, Metro Health Medical Center in Cleveland, OH, Texas Tech University School of Medicine in Amarillo, TX, Medical College of Georgia in Augusta, GA, White Memorial Medical Center in Los Angeles, CA, St. Louis University in St. Louis, MO, Bellevue Hospital in New York, NY, and Texas Tech University Health Sciences Center in El Paso, TX.

CONTEXT

The breastfeeding study in El Paso was conducted in the unique atmosphere of the cities of El Paso, Texas and Ciudad Juárez, México. As of January 2007 the estimated population in the El Paso-Juárez metro area was 2,242,425 people of which approximately 20% children and almost 40% women of childbearing age. In El Paso more than 76% of the population is of Hispanic origin and 64% of the individuals self-designate themselves as Mexican Americans [17].

The breastfeeding prevalence rates at hospital discharge have been roughly estimated at about 70% by local hospital officials. A local study at Thomason Hospital showed that only 32% of the new mothers breastfed exclusively at discharge [18]. The rates at hospital discharge do not reveal the complete story about breastfeeding, especially for El Paso's low income population with limited education. The 2007 WIC Infant Feeding Practices Survey revealed that 31% of mothers in Texas never breastfed, 13% breastfed 1 to 3 months, 10% breastfed 4 to 6 months, and less than 5% were still breastfeeding their 12-month-old infants [16].

Methodology

The study was conducted over three calendar years, from July 2006 to June 2008. The study population included low income,

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inner city mothers and infants (mostly Mexican American and Mexican) living in El Paso, TX. During the study period, a total of 600 randomly selected medical records were reviewed for breastfeeding rates at hospital discharge and at 6 months well newborn visit. Only healthy term infants greater than 37 weeks gestational age were included in the review. Infants diagnosed with any disease, e.g. galactosemia, or infants whose mothers were HIV positive or had gestational diabetes were excluded from the study.

The data collection form included compound numbers by mother's ethnic group and infant feeding method. The categories of infant feeding included (1) exclusive breastfeeding, (2) combination feeding - both breastfeeding and formula feeding, (3) exclusive formula feeding, (4) other feeding, such as adding water, tea, or any other substances besides breast milk or formula, and (5) unknown. Data were reported as overall breastfeeding rates at hospital discharge and at 6-month newborn well visit aggregated by racial/ethnic group and feeding method category. Chi-square statistical analysis was used to compare the differences between the aggregate groups and to determine any statistical significance ($p = 0.05$) in breastfeeding rates at hospital discharge and at 6 months newborn well visits over the three study years.

RESULTS

Our study of breastfeeding rates in the El Paso area revealed that the overall breastfeeding rates decreased from the time of discharge to the time of the 6-month well child visit, while the percentage of formula-fed infants increased (Table 2).

The percentages of infants exclusively breastfed or receiving mixed and exclusive breastfeeding at hospital discharge decreased by the time of the 6-month well visit, and that decrease was continued over the period of the study. The difference in decrease was statistically significant over the three study years ($p = 0.01$). At the time of the 6-month newborn well visit, the percentage of infants exclusively breastfed remained stable at about 10% during the study period, while the percentages of Formula-fed infants continuously increased by the time of the 6-month well visit over the three years of the study ($p = 0.01$). The results of our study showed that the breastfeeding rates in the El Paso area are significantly below the national averages and this important finding deserves the immediate attention of the local physicians and all medical practitioners.

DISCUSSION

Breastfed babies enjoy multiple benefits, including better response to infection and higher intelligent quotient. Ultimately, the mother's milk is the most appropriate food for the baby. The goal would be most babies to be exclusively breastfed for at least 6 months, and preferably up to their first birthday, in addition to offering solid and other foods.

At the national level, breastfeeding is reported somewhat differently: if a baby was breastfed only once in his/her life, it is included in the "breastfed" category, which apparently distorts the rates of breastfeeding, and creates disparity in reporting. A closer look at our local breastfeeding rates shows a very different picture. According to the Centers of Disease Control and Prevention, 80% of Hispanic mothers breastfeed. However, locally we found that only 64% of the Hispanic mothers reported breastfeeding at discharge from the hospital and only 13% of them were still breastfeeding their babies after 6 months.

El Paso's breastfeeding rates are dismal and do not appear to be improving over time. In our local population with low income and low education achievement, such low breastfeeding rates are predictable, since mothers who breastfeed are mostly those with higher income and more education. In our community only 21% of WIC mothers have had some college education, and less than 5% of the WIC mothers have a college degree [16]. In the general El Paso population only 23% of the individuals have graduated from high school and 28% have some college or associates degree. The local median per capita income is only \$15,756 [17, 19]. In this context, our low breastfeeding rates do reflect our socioeconomic situation.

Our study revealed low breastfeeding rates among the mothers in the El Paso area. There are many steps that the local physicians could take to increase the breastfeeding rates and with that to improve the wellbeing of the infants in El Paso:

1. Encourage all mothers to breastfeed for at least 6 months.
2. Encourage mothers to breastfeed right after giving birth.
3. If you see a mother breastfeeding convey your approval and support by nodding or smiling.
4. Refer mothers who need help with breastfeeding to a lactation consultant (www.ibcle.org) or a La Leche League leader (www.llli.org). Most hospitals in the region have lactation consultants on staff.
5. Before prescribing medication to a breastfeeding mother consult Dr. Thomas W. Hale's "Medications and Mothers' Milk" book. This book is available at (www.hale-publishing.com) and updated regularly.
6. Do not keep formula samples or other items provided by formula companies in your office, especially visible to patients.
7. Write orders (pediatricians and OB's) about mothers, especially breastfeeding mothers, not receiving formula samples in the hospital and at discharge. For more information visit www.banthebags.org.
8. Encourage your employees to breastfeed by providing a comfortable place with a breast pump at work.

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Table 1 Factors affecting breastfeeding among Hispanic and Mexican-American mothers

Higher Intention to Breastfeed	Lower Intention to Breastfeed
1. Married mothers and mothers with a partner or mothers who are planning to get married	1. Mothers who delivered by C-section
2. Husband in favor of breastfeeding	2. Mothers with less schooling
3. Mothers who spent more time with baby after birth (within 10 hours)	3. Mothers with no prenatal care
4. Mothers whose mother breastfed	4. Mothers who were not told to breastfeed
5. Non-smoker mothers	5. Mothers whose husband or partner is Hispanic
6. Mothers born outside of the U.S.	
7. Mothers with more education and mothers who finished college	
8. Less acculturated mothers	
9. Mothers who have lived in the U.S. less than 5 years	

Table 2 Breastfeeding rates in El Paso, Texas (compound data for mothers of all ethnicities)

Year	Exclusive Breastfeeding		Mixed Breastfeeding		Formula	
	At Discharge	At 6-month Well Visit	At Discharge	At 6-month Well Visit	At Discharge	At 6-month Well Visit
2006	18%	10%	68%	16%	14%	74%
2007	17%	8%	64%	13%	19%	79%
2008	16%	11%	51%	17%	33%	72%

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