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Abstract

In 2005, the Level III neonatal intensive care unit (NICU) at Rush University Medical Center initiated a demonstration project employing breastfeeding peer counselors, former parents of NICU infants, as direct lactation care providers who worked collaboratively with the NICU nurses. This article describes the conceptualization, implementation, and evaluation of this program and provides templates for other NICUs that wish to incorporate breastfeeding peer counselors with the goal of providing quality, evidence-based lactation care.

Keywords

breastfeeding, breastfeeding peer counselors, breast pumping, human milk, lactation care, mother-to-mother support, neonatal intensive care unit

Background

Human milk feedings from the infant's own mother reduce the risk of costly and handicapping morbidities in premature infants during and after the neonatal intensive care unit (NICU) hospitalization.^{1–8} However, mothers of premature infants experience well-documented barriers to providing their milk, including long-term breast pump dependency, inadequate milk volume, difficulty transitioning to at-breast feeding, and lack of support from family and friends.^{9–14} Although NICU nurses and physicians strive to provide evidence-based lactation care for these women, the reality is that this care is highly specialized, labor intensive, and costly. Further complicating this issue is the fact that in the United States, premature infants are born disproportionately to African American and/or low-income women and these mothers are less likely to breastfeed and/or provide their milk.^{15,16} Overcoming racial and income barriers to providing milk necessitates even greater specialty care and resource allocation in today's NICUs.

In 2005, the Rush Mothers' Milk Club, an evidence-based lactation program in the 57-bed, Level III NICU at Rush University Medical Center (RUMC), Chicago, Illinois, began to address this gap in care through the employment of breastfeeding peer counselors (BPCs) as direct lactation care providers. In the Rush model, the BPCs report to a program director who is a doctorally prepared nurse with expertise in lactation and human milk feeding in the NICU. The BPCs also work collaboratively with bedside nurses, neonatologists, and dietitians as a part of the NICU care team.

The purpose of this article is to describe the conceptualization, implementation, and evaluation of the Rush Mothers' Milk Club breastfeeding peer counselor program so that it can be generalized to other NICU settings. In addition, recommendations for future practice opportunities and research priorities for the BPC role are summarized.

The Rush Mothers' Milk Club

The Rush Mothers' Milk Club is the name of the breastfeeding, lactation, and human milk feeding program in the NICU at RUMC. It was established in 1996, with the primary mission of providing evidence-based lactation care to families.¹⁷ This program translates the evidence about human milk into understandable concepts and teaching materials for health care providers (HCPs) and families. From its inception, the focus of the Rush Mothers' Milk Club has been "sharing the science" of human milk and lactation with NICU families so that the families could serve as active participants in their infants' feeding decisions and management plans.^{17,18} However, to accomplish this goal, it was imperative to also

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“share the science” simultaneously with NICU health care professionals (neonatologists, nurses, dietitians, and social workers), so that they could integrate consistent, evidence-based lactation information in their communications with families.¹⁸ Briefly, this professional education was provided by the nurse program director primarily during patient care rounds and inservices and spontaneously as questions arose in the NICU environment. The professional education consisted exclusively of evidence-based principles, technologies, and management plans and purposefully avoided polarizing ideological recommendations, such as restricting pacifiers and bottles. This evidence-based approach was a critical part of the success of the professional education.

The sharing of science about human milk and lactation with NICU families was conceptualized as the responsibility of the entire NICU team, rather than as a service that was provided on a consultant basis by a specific practitioner. The NICU team approach to promoting and maintaining lactation among mothers grew more consistent and focused as the program developed. For example, within 4 months of the program’s start, the lactation initiation rate in the NICU had increased from a baseline of 17% to 73% of all new mothers.¹⁷ Data indicated that this increase was due to mothers changing the initial feeding decision from formula to providing their milk after hearing from a neonatologist that their milk was a “medicine for their babies.”¹⁹ Over the next several months, the lactation initiation rates approached 95% of new mothers, and nearly half of these mothers changed the decision from formula to human milk upon speaking with a RUMC NICU care provider.¹⁹ Data from research published during this time revealed that families reported hearing a single message about the importance of human milk from all of the NICU team—that their milk was a “medicine” that helped protect their infants from complications.¹⁹

Further analyses revealed that the mothers who changed the decision from formula to providing milk were disproportionately African American, low-income women who had given birth to small premature infants.¹⁹ These mothers described being “on their own” when referring to the lack of lactation support and understanding from family members and friends, with one mother using the words, “It’s just me and my pump.”²⁰ These same women reported that they had never known another mother who had breastfed and had never seen a mother use a breast pump or feed an infant at the breast. They were acting on the “science” they had received, but it became clear that they had few resources or support networks from their communities or from public health and nutrition services. Instead, they relied on the NICU team and each other to address the myriad of barriers to the initiation and maintenance of lactation so that they could provide milk for their fragile infants.

Conceptualization of the NICU Breastfeeding Peer Counselor Role

Central to the Rush Mothers’ Milk Club program was a weekly luncheon meeting facilitated by the nurse program

director, in which mothers of NICU infants met each other, shared experiences, and learned the science of human milk and lactation. In these meetings, more experienced NICU mothers, often the same young women who weeks earlier had planned to formula feed their infants, emerged as lactation role models for the newly delivered mothers. Over the course of their infants’ NICU hospitalization, the experienced mothers had evolved from novice, step-by-step learners into lactation experts who took pride in demonstrating their knowledge and sharing their lactation successes with new, less experienced mothers. A key group facilitation strategy was asking the experienced mothers to explain to the new mothers highly specific NICU pumping strategies, such as how to watch the change in the color of the milk when separating foremilk and hindmilk during pumping. Mothers also shared experiences, such as how to cope with the fear that they were suffocating their small premature infants when feeding at the breast. What evolved from these meetings was a peer relationship, characterized by the more experienced mothers helping the less experienced ones, and the less experienced mothers expressing the desire to become “like” the experienced mothers so they could eventually serve as role models for their peers.

The informal “mother helping mother” model from the luncheon meetings was purposefully extended into the care environment by the NICU nurses. For example, experienced mothers routinely helped new mothers use the breast pump at infants’ bedsides, performed test-weights and creatinins, and volunteered to feed their infants at breast while less experienced mothers observed their positioning techniques. The pairing of more experienced and less experienced mothers in the clinical environment was intended to empower mothers with the fact that not only could they master highly complicated NICU lactation skills, but they eventually would be able to teach these skills to new mothers. As such, the unspoken message from experienced to new mothers was that “you can become like me because I started off like you.” The NICU care providers quickly realized that this type of parent empowerment made their own work easier and more efficient and resulted in high levels of patient satisfaction as well.

Thus, the idea for a formal BPC role within the Rush Mothers’ Milk Club grew out of these mother-helping-mother experiences in the weekly luncheon meetings and the NICU environment. In brief, at the core of BPC practice is the fact that the experienced and new mothers share a relationship based upon a common shared experience, which is often a specific set of barriers to achieving lactation or breastfeeding goals.²¹ The experienced peer becomes a role model who helps the new mother develop strategies to overcome these barriers, especially those associated with cultural considerations and demographic characteristics. In the Rush Mothers’ Milk Club, the common shared experience was that of providing milk for a NICU infant, while simultaneously coping with the emotional rollercoaster ride of the NICU environment. New mothers needed special

strategies and support to manage breast pump dependency, low milk volume, and their own pregnancy-related illnesses, all while coping with the birth of a NICU infant. These mothers found that the traditional advice and experience from friends or family with healthy babies did not meet their needs, and many mothers had no role models for lactation, breastfeeding, or coping with the experience of having an infant in the NICU.

Volunteer Breastfeeding Peer Counselors

The Rush Mothers' Milk Club prepared its first volunteer (unpaid) BPC in 1997. This woman had changed her decision from formula to providing milk at the time of birth and breastfed her 1000-gram infant exclusively for the first 6 months of life. This mother wanted to start a breastfeeding support group in her church, so the Rush Mothers' Milk Club paid for her training as a BPC through La Leche League International. In return, the mother attended the weekly Mothers' Milk Club group luncheons with her infant and shared her experiences with other new NICU mothers.

The lactation program director and BPC's teamwork during the luncheons served as the model for the paid BPC program that was subsequently developed. While facilitating the weekly luncheon meetings, the lactation program director shared scientific information with the group, and the volunteer BPC used her own personal experiences to exemplify the research and science. For example, in a discussion of nipple shield use, the lactation program director reviewed findings from a clinical study²² about the features of the nipple shield and its effectiveness with milk transfer. Then, the BPC would follow with, "And, this is how I used the shield. This is how long I used the shield. This is how I stopped using the shield. These are the things that you look for to know your baby is ready to feed without the shield."²³ The combination of evidence and practical tips was very effective in the luncheon meetings and involved sharing of scientific publications and their clinical implications on an array of highly technical lactation and human milk topics.

Over the ensuing years, the Rush Mothers' Milk Club paid the training expenses for 15 volunteer BPCs, who, in return for this training, attended Rush Mothers' Milk Club luncheon meetings, met new mothers, and shared their lactation and breastfeeding experiences. Although this exchange between experienced and new mothers was beneficial for all women, it appeared to benefit the low-income, African American population the most. Gradually, it became apparent that these mothers had special barriers to lactation that many other mothers did not share: unsupportive family members and friends, inability to use a breast pump in the workplace because of the types of employment they maintained (eg, bus drivers, bartenders, hotel maids), and concerns about feeding at breast after NICU discharge. BPCs who had experienced these same barriers became especially effective in providing new mothers with highly specific

problem-solving assistance. Simply said, the activity of sharing the science had expanded to applying the science to the individual mother's family, community, and personal situation.

Within the next several years, the volunteer BPCs began to work more broadly in accomplishing the overall mission of the Rush Mothers' Milk Club program. For example, the program was able to pay BPCs on a "per visit" basis to make post-NICU discharge visits into the home of the new mothers to help them transition to complete at-breast feeds. For these home visits, the volunteer BPCs reserved the Rush Mothers' Milk Club taxi and made visiting arrangements independently with the newly discharged infant and family. Similarly, the volunteer BPCs participated in local initiatives on behalf of the Rush Mothers' Milk Club, including attending the city breastfeeding task force meetings and providing breastfeeding education for young women in a school for pregnant teenagers. Increasingly, the volunteer BPCs were invited speakers at regional and national lactation meetings. These expanded activities and initial successes led to a reconceptualization of the BPC role from one that was volunteer to one that was paid.

Paid Breastfeeding Peer Counselors as a Part of the NICU Care Team

By 2002-2003, the effect of the volunteer BPCs with respect to role modeling for inexperienced mothers was apparent. For example, in one of the program's studies about mothers changing their initial feeding decision from formula to providing milk, mothers commented on the positive effect of seeing a volunteer BPC breastfeeding her toddler who had been born at 25 weeks. One mother said, "There is a mother [the BPC] that brings her baby with her to Milk Club, and she said her baby didn't have any colds or ear infections that first year. That story helped me. It's a success story."¹⁹ Another mother responded, "And, now I'm more of an advocate for breastfeeding. If my baby can grow and a year from now I can bring her to the Milk Club and show people that she grew and that she hasn't had a cold in a year, then I think that will be my best reward."²⁰ These findings indicated that the presence of the volunteer BPC in the Mothers' Milk Club luncheons was a motivating factor, especially for women whose initial intent was to formula-feed.

At approximately the same time, the NICU had expanded to its current 57 beds, and the lactation initiation rate had reached 95%. With these numbers, providing quality lactation care stretched the existing resources of the lactation program director and the NICU staff, and some mothers simply "slipped through the cracks," especially with respect to receiving individualized assistance with protecting their milk volume. A work analysis²⁴ revealed that the lactation director and NICU nurses spent considerable time in labor-intensive activities, such as helping families secure breast pumps, teaching them how to label expressed milk and care

for breast pump equipment, and managing the “flow” of milk among the various NICU refrigerators and freezers. Although these responsibilities were critical for the delivery of safe, quality lactation care, they did not justify the allocation of expensive professional resources. Herein, the conceptualization of the paid BPC role was complete. The former NICU parent would be a role model for new mothers while providing individual assistance with many of the routine, repetitive aspects of lactation care in a busy NICU. These justifications were used in a successful grant application focused on increasing access to care for Illinois children,²⁴ and in January 2005, the Rush Mothers’ Milk Club implemented its paid BPC program.

Implementation of the Breastfeeding Peer Counselor Program

The initial BPC job description (Figure 1) was created based on the above-mentioned conceptualization and was approved and graded by the RUMC human resources department. Similarly, an 11-page orientation checklist (available upon request),²⁵ which operationalized the various components of the job description, was developed by the lactation director with input from the 2 NICU nurses who were also international board certified lactation consultants (IBCLCs). The orientation period was initially established to last approximately 3 months and progressed from tasks with which the BPC was already comfortable, such as teaching mothers to label milk expression containers, to more complicated assessments and skills. It was decided that the newly hired BPC would not be left alone in the NICU during her official orientation without immediate access to the program director or a designated NICU care provider. The reasons for this decision were twofold. First, as with any newly created role, personal mentoring on the part of the lactation program director was thought to be critical for NICU staff acceptance. Second, access to the lactation program director ensured that the BPC transitioned comfortably from former parent to NICU care team member. Thus, the program director personally oriented and mentored the first paid BPC in the RUMC NICU. As additional BPCs were employed for the program, the orientation and mentoring was shared by the program director, the NICU nurse-IBCLCs, and the experienced BPCs.

Recruitment of Paid Breastfeeding Peer Counselors

Studies of the BPC role have revealed that the “shared experience” is at the core of the peer relationship.²¹ Therefore, a qualification for the Rush Mothers’ Milk Club BPCs is that their infants were hospitalized in the RUMC NICU. Although only 1 BPC was recruited at the program’s inception, strategic planning was focused on the eventual building of a BPC

team that had combined experiences with a variety of NICU lactation barriers, successes, and failures. Thus, an additional criterion became a mother’s having a special lactation barrier(s), having overcome the barrier, and being able to articulate her experiences in a way that she could help other mothers. Similarly, instead of limiting the range of candidates to mothers who were “passionate” about breastfeeding, the decision was made to also include mothers who decided to pump their milk for their infants rather than feed at breast. Simply stated, the goal was to recruit BPCs who reflected the variety of lactation needs and solutions that were common among mothers of infants hospitalized in the RUMC NICU.

The first paid BPC had worked with the Rush Mothers’ Milk Club program as a volunteer for nearly 5 years after she gave birth at age 17 to a 25-week small premature infant. Her personal experiences included never having known or seen another person breastfeed; having received a medroxyprogesterone injection early post-birth, which compromised her milk supply; and overcoming numerous barriers among her family members to breastfeeding in public and beyond the first year of life. Although she was a gifted role model and practitioner for all NICU women, she was especially effective with young mothers who lacked the support of family and friends. This BPC’s compelling story combined with her quick grasp of lactation principles and sensitivity to individual mothers’ needs were the major reasons that the program was so successful from the outset. The NICU care providers, having known her as a mother with a NICU infant, quickly came to accept her as a skilled and sensitive support figure for new families.

Subsequent BPCs were added as funds were allocated by the NICU cost center (2.0 full-time equivalents [FTEs]), private philanthropic donations (2.0 FTEs), and externally funded research projects (2.5 FTEs). With the addition of each peer counselor, planning began for desired qualifications in the subsequent BPCs to be hired so that families’ lactation needs were met. For example, the multiple birth rate in the RUMC NICU was nearly 25%, so a mother with twins or triplets was sought. Nearly 25% of the RUMC NICU families spoke only Spanish and most had immigrated from Mexico, so the addition of bilingual BPCs conversant with these culture-specific lactation barriers was important.

Certain potential candidates emerged during their infants’ NICU stay, and they were contacted several weeks after infant discharge to determine their interest in the position. One example was a mother who had previously delivered a healthy term infant during a home birth, breastfed for 2 years, and then became a La Leche League leader. When her 26-week premature infant was born and cared for in the RUMC NICU, she consistently commented on “how different” it was to breastfeed a premature infant and how she needed to adjust her expectations. In addition, she eagerly shared her story about how she could not have

Figure 1. Breastfeeding Peer Counselor Job Description

RUSH UNIVERSITY MEDICAL CENTER	
Job Description	
TITLE: Certified Breastfeeding Peer Counselor, Neonatal Intensive Care Unit (NICU)	DIVISION: College of Nursing and Women and Children's Nursing
REPORTS: Director for Clinical Research and Lactation, NICU	COST CENTER: 4814; Fund No. 56217 JOB CLASS NUMBER: 8400 JOB GRADE: FLSA STATUS: Hourly
 General Summary: Under the supervision of the Director for Clinical Research and Lactation (Director), the Certified Breastfeeding Peer Counselor for NICU will provide routine lactation information and services to mothers whose infants are cared for in the NICU at RUMC, and women in the high-risk antepartum setting. She will also make home visits to selected mothers following discharge of the infant from NICU.	
Principal Responsibilities:	
1. Contacts each new mother whose infant is admitted to NICU within 48 hours, and outlines primary features of the Mothers' Milk Club Program.	1.1 Reviews patient census list, and verifies which mothers to contact with the Director, the charge nurse, or other designee. 1.2 Contacts mother either personally or by telephone. 1.3 Explains key components of the Rush Mothers' Milk Club program, and answers mothers' initial questions as appropriate. 1.4 Provides each mother with a copy of <i>Welcome to the Rush Mothers' Milk Club</i> brochure, <i>Breastfeeding your Premature Baby</i> booklet, and other written materials, as appropriate.
2. Explains and demonstrates breast pump use, and the maintaining of <i>My Mom Pumps for Me!</i> milk volume records.	2.1 Reviews principles of milk synthesis and removal. 2.2 Insures that each mother is using the proper breast pump, collection equipment, and milk expression schedule. 2.3 Provides each mother with a copy of <i>My Mom Pumps for Me!</i> and demonstrates its use. 2.4 Refers each mother for at-home breast pump rental. 2.5 Provides each mother with appropriate written materials about milk volume.
3. Instructs and demonstrates proper technique for milk collection and storage.	3.1 Explains the importance of proper handwashing and cleansing/sterilization of milk collection equipment. 3.2 Demonstrates the use of <i>My Mom Pumps for Me!</i> milk labels to insure that milk is properly identified for each infant. 3.3 Explains the difference among: colostrum, fresh, frozen, and hind milk, as appropriate and specific to the mother. 3.4 Demonstrates the use of color-coded dots to identify colostrum, fresh, frozen, and hind milk. 3.5 Insures that each mother is given an insulated bag with instructions for transporting milk to the NICU. 3.6 Insures that each mother has received written instructions for milk collection, storage, and transport to the NICU.
4. Coordinates and participates in weekly Mothers' Milk Club luncheons	4.1 Insures that each mother is aware of weekly Mothers' Milk Club luncheons, and that she receives a personal invitation to attend. 4.2 Informs mothers about availability of the Milk Club taxi for transport to weekly meetings, and coordinates transport arrangements with the NICU secretary. 4.3 Attends weekly meetings and shares breastfeeding science and experience with other mothers.
5. Participates in discharge planning process to facilitate breastfeeding after NICU discharge.	5.1 Attends weekly discharge planning rounds, and participates in the breastfeeding management plan. 5.2 Identifies women who would benefit from a post-discharge home visit for purposes of breastfeeding management. 5.3 In consultation with the Program Director, plans for either referral to a community-based lactation professional, or for a personal home-visit using the Milk Club taxi. 5.4 Makes post-infant discharge home visit as appropriate.

(continued)

Figure 1. (continued)

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| <p>6. Introduces the topic of breastfeeding and the Rush Mothers' Milk Club program to women who are hospitalized in the antenatal unit.</p> | <p>6.1 In consultation with the charge nurse for the antepartum unit, identifies and contacts women for whom high risk delivery is possible.</p> |
| <p>7. Participates in the management of the Women and Children's Nursing breast pump rental program.</p> | <p>6.2 Provides introductory information on the Rush Mothers' Milk Club, shares written materials, and answers mothers' questions, as appropriate.</p> <p>6.3 Invites ambulatory mothers to the weekly Mothers' Milk Club luncheons.</p> <p>6.4 Visits these women at least twice weekly until their infants are born.</p> <p>7.1 Identifies women who qualify for subsidized breast pump rental through the Women and Children's Nursing pump rental program.</p> <p>7.2 Coordinates the completion of rental documents with the NICU secretarial staff.</p> <p>7.3 Assists in the use of electronic database for pump rental management.</p> <p>7.4 Telephones or personally speaks with women who are renting pumps through this program on a weekly basis.</p> <p>7.5 Assists in strategies that optimize pump rental returns.</p> <p>7.6 Serves as a liaison with WIC agencies to insure that eligible women have appropriate breast pumps during and after their infants' hospital stay.</p> |
| <p>8. Coordinates the services of volunteer breastfeeding peer counselors for the NICU.</p> | <p>8.1 Identifies and helps recruit mothers of NICU infants to serve as breastfeeding peer counselors.</p> <p>8.2 Helps mentors these women into the role of breastfeeding peer counselor.</p> <p>8.3 Coordinates volunteer breastfeeding peer counselors' schedules so that at least one woman attends the Friday luncheon meetings.</p> |
| <p>9. Serves as a liaison between the Rush Mothers' Milk Club and local, regional, and national organizations that promote and sustain breastfeeding.</p> | <p>9.1 Attends regular meetings of the State and City breastfeeding task forces, African American Breastfeeding Alliance, and other groups, as appropriate.</p> <p>9.2 Represents the Rush Mothers' Milk Club as a speaker for local, regional, national, and international meetings.</p> |

Qualifying Skills and Knowledge:

1. Certification as a Breastfeeding Peer Counselor through LaLeche League or other agency.
2. Mother of infant(s) cared for in the Rush Neonatal Intensive Care Unit
3. Ability to communicate effectively with women and families from a variety of ethnic, cultural, and economic backgrounds.
4. Ability to work collaboratively with Rush NICU physicians, nurses, social workers, and other health care providers.

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 Neonatal Intensive Care Unit
 Rush University Medical Center
 Developed January, 2012

Funded by a Grant from the Illinois Children's Healthcare Foundation, Hinsdale, IL

successfully breastfed her premature infant without help from the pump, in-home test-weights, a nipple shield, and the use of supplemental bottles. These experiences gave her credibility with new NICU mothers whose friends and family members advised them to avoid these technologies and breastfeed "naturally." Finally, to send the strong message that providing milk is a family commitment—not exclusively that of the mother—a male BPC, the father of a 24-week premature infant, was added to the roster of paid BPCs.

Transitioning to the Breastfeeding Peer Counselor Role

NICU staff member reactions. The NICU health care professionals quickly embraced the BPC role, largely due to the personal aptitude and charisma of the first BPC and to the intensive orientation and mentoring she received by the lactation program director. The NICU nurses were especially happy to have the BPCs' assistance with teaching mothers how to label milk containers, use and care for breast pump

equipment, sort and move milk containers among the NICU's several rooms, and help mothers feed their infants at breast. The neonatologists eagerly embraced the one-on-one relationships that they saw emerging between the BPC and new family members, recognizing that this support extended well beyond lactation issues. The neonatologists and nurses actively sought lactation and human milk advice from the new BPCs, often with questions that were beyond the BPC scope of practice, such as the safety of specific maternal medications with providing milk. The BPCs sought assistance from the program director or from one of the nurse-IBCLCs, rather than simply saying that they did not have the answer. Thus, the BPCs were perceived as accountable by the NICU team. NICU family members began to ask specifically for the BPC when they had a lactation problem, unaware that this was not a standard role in other NICUs.

As subsequent BPCs were added to the team, occasional episodes of staff-BPC friction occurred, but these were very infrequent. Most of the time, these incidents involved an element of territoriality, with concerns that the BPC was practicing outside her or his scope of practice. However, with few exceptions, these incidents occurred because family members specifically sought the advice and support of the BPC instead of the specific designated health care team member. For example, one incident involved a mother from Mexico who had formed a peer relationship with one of the Latina BPCs. When she suffered spousal abuse and was admitted to the emergency room for observation, she paged and requested the BPC to come and stay with her. The social worker for this mother was upset that the BPC went to stay with the mother rather than referring the mother's request to the professional social worker for intervention. The social worker was convinced that the BPC did not have the training and skills to provide the therapeutic help the mother needed. However, the mother was adamant that she wanted to be with the BPC rather than the social worker.

Similarly, the BPCs were frequently sought out by families if they had received guarded prognoses from neonatologists and subspecialists about their infants. In most instances, this was to seek support and information because the families knew that the particular BPC had confronted a similar scenario with her or his infant (eg, a severe intraventricular hemorrhage). As these situations arose, the lactation program director helped the BPCs develop an action plan that allowed them to remain supportive and share their personal experiences, while being careful not to provide or contradict medical information.

Breastfeeding peer counselor reactions. Without exception, each of the BPCs reported that the major difficulty in transitioning to a paid BPC position was to change the relationship they had established with NICU professionals during their time as parents of infants in the NICU. As the first BPC said, "These people used to be my baby's doctors and nurses, and now they are my peers!"²⁶ Only 1 of the BPCs had any

previous hospital work experience, and this was as a patient care technician in a surgical unit. The majority of other BPCs came from non-health care backgrounds, including secretaries, factory workers, receptionists, and stay-at-home mothers. Thus, personal mentoring for each BPC was critical to her or his success. The mentoring was highly individualized to the specific BPC so that she or he could become more effective with new families and/or staff members. Although the lactation program director provided the initial mentorship for the program's first BPCs, the senior BPCs assumed much of the responsibility for mentoring the new BPCs as the program developed.

Professional Development

Although the initial BPC job description was a foundation for providing basic NICU lactation care, it was not intended to confine BPC practice to rote activities. From the program's outset, when a BPC asked a complicated lactation question, it was considered unacceptable to reply, "That's outside your scope of practice. You don't need to know that." As such, the RUMC BPCs were supported in their efforts to secure additional knowledge and skills through several mechanisms. First and most important, weekly updates of all NICU infants and their mothers, led by the lactation program director and the NICU nurse-IBCLCs, were purposefully educational, from both a lactation and a clinical perspective. Special efforts were made to teach the BPCs the physiology, biochemistry, and anatomy of maternal and infant conditions and how these conditions affected lactation performance and the feeding of human milk. Appropriate journal articles were provided, and the weekly meetings took the form of a combination of journal club-patient care review.

After 6 to 12 months of successful BPC employment, the program funded the BPC to attend a 5-day didactic training program. At the completion of the week-long program, each BPC became certified as a lactation educator (CLE). These credentials increased the confidence among the BPC team and heightened their esteem among the NICU care providers, who also celebrated these BPC accomplishments. In fact, the NICU staff overall was proud that they had provided the environment and support that allowed their former parents to excel in this capacity. Several of the BPCs have enrolled in college, and the first was successfully credentialed as an IBCLC in 2009, the second in 2010, and 3 more in 2011. Thus, 5 of the 7 current BPCs are IBCLCs and 1 is in school for her BSN.

Serving as Research Assistants

The Rush Mothers' Milk Club is home to several externally funded research projects that address health outcomes and cost of human milk feedings for very low birth weight (VLBW) infants as well as improve breast pump technologies for

NICU mothers. The research team, which consists of NICU nurses, neonatologists, dietitians, economists, and other specialties, works within a collaborative practice-research model such that all team members do both practice and research. Thus, it seemed logical to extend this model to the BPCs. In 2006, a BPC served as the first research assistant for an externally funded study, a task that involved implementing the randomization plan, teaching mothers how to measure and record milk volume, collecting completed data, and entering data into the computer.²⁷ This early experience with BPCs' serving as research assistants indicated that they could combine the roles of a parent, lactation care provider, and researcher in a manner that was consistent with the rest of the NICU clinical-research team. This lack of conflict was probably related to the fact that true equipoise existed with respect to the research question and that all parents received informed consent and were incented for their participation in the study.

In subsequent research, the BPCs served as milk preparation technicians for a randomized trial of donor milk products, a task that involved the precise measurement and preparation of infant feedings of own mothers' milk, donor milk, and donor fortifier.²⁸ Other specific research activities completed by the BPC team have included completion of "coming to volume" records daily for the first 14 days post-birth¹⁴; collecting and collating data from mothers about expenses they have incurred while providing milk for their infants; phoning mothers to arrange for enrollment into a follow-up study after NICU discharge; performing creatinemia measures; and monitoring and distributing study incentives, such as parking passes and gift cards. One non-IBCLC BPC enrolled in computer courses and currently manages the Rush Mothers' Milk Club National Institutes of Health research database. Regardless of funding source (research vs clinical funds), all BPCs provide clinical care and serve as research assistants.

Scheduling and Other Logistics

Because all BPCs are parents of young children, some with special needs, the ability to schedule work within the team has been critical to the success of the program. Typically, a BPC is available most weekdays between 7 AM and 9 PM, often with overlap between 4 PM and 7 PM when the NICU is the busiest with families. On weekends, a BPC is available between 5 and 8 hours daily. Weekend services ensure that all mothers are visited by a BPC within 24 hours after giving birth, that all research procedures are implemented per protocol, and that breast pump rental is not delayed for mothers who are being discharged home after giving birth to a NICU infant. The BPC office has a direct telephone line on which families can leave messages, and each BPC carries a pager while at work. A member of the lactation team is available 24 hours a day, 7 days a week, for any lactation problem or question.

Evaluation of the BPC Program

Two studies have reported the outcomes of the RUMC BPC program, focusing separately on mothers' perceptions and on NICU HCPs' perceptions of lactation care provided by the BPCs.^{29,30} Overall, the findings indicate that mothers perceive the BPCs to be competent, knowledgeable, and especially resourceful in helping them find solutions to their specific lactation questions and problems. Similarly, the HCPs felt that the BPCs were integrated into the fabric of the NICU and practiced within a complementary role that allowed them to work as a member of the NICU team. The details of these studies have been published and are summarized briefly here.

In the first study,²⁹ 21 mothers of VLBW infants who had received lactation care from the BPCs reported that the shared experience of having an infant in the NICU formed the basis of the peer relationship and served as a powerful motivator to initiate lactation, even if the mother had not planned to breastfeed. The new mothers valued the information, assistance, and support provided by the peer counselors. In addition, these mothers reported that the peer counselors gave them hope and a sense of empowerment by sharing their own NICU lactation experiences. The shared experience and resulting connection between the peer counselor and new mother superseded relationships based on demographics such as age, socioeconomic status, race, or ethnicity.

In the second study,³⁰ HCPs (neonatologists, nurses, dietitians, and nurse-IBCLCs) who worked with the BPCs in the NICU thought that the BPCs were an important asset and enhanced the quality of care for infants and their families in the NICU. The HCPs emphasized the team approach to lactation care through collaboration and consultation with the BPCs. The HCPs respected the BPCs' lactation expertise as well as their ability to create an emotionally supportive environment for the mothers and families through the shared experience of being the mother of an infant in the NICU.

A cost-effectiveness evaluation of the BPC role is under way as a part of a larger, externally funded study.³¹ However, the BPC role as practiced within the described model of the Rush Mothers' Milk Club has many economic advantages. First, the BPC can perform most of the basic and specialized lactation care in the NICU in a manner that is highly satisfactory for both families and NICU staff members. Second, the NICU nurse is still the primary resource for the family for care needs but can seek help from the BPC for more complicated lactation scenarios or when her other responsibilities necessitate that she delegate to the BPC. Thus, the mother receives a consistent message from both the nurse and the BPC about her lactation concerns and questions. Third, much of the lactation care in the NICU, such as teaching families how to label, store, and transport milk correctly, does not require the highly specialized skills of a NICU nurse or lactation consultant. In combination with printed materials that

standardize and reinforce patient teaching,²⁴ BPCs can assume these responsibilities in an economical manner while still retaining quality and high patient satisfaction.

Implications for Practice and Research

The practice and research outcomes with BPCs in the Rush Mothers' Milk Club program can serve as examples for other NICUs and in-patient settings that strive to provide quality lactation care. For example, the recent Joint Commission core perinatal measure that prioritizes exclusive breastfeeding during the maternity hospitalization will require education and support of families and HCPs in a manner similar to the processes described in this article. BPCs could play a pivotal role in the successful implementation of this initiative by sharing evidence and personal experiences that equip mothers to request fewer formula supplements, while responding to family members' concerns that infants aren't "getting enough." In fact, a model for postpartum BPC care of low-risk mothers and infants was reported at Boston University Medical Center.³² In the Boston program, BPCs assisted the IBCLCs with positioning, milk transfer, and engorgement. Similarly, BPCs in the delivery room could work in a nurse-BPC team to ensure that all mothers receive early skin-to-skin care and breastfeeding assistance.

Conclusion

We conclude that our BPC model of lactation care in the Rush Mothers' Milk Club program provides quality, cost-effective lactation care that is characterized by high maternal and staff satisfaction. In addition, these former NICU parents can evolve into skilled research assistants whose responsibilities include data collection, entry, and management as well as participant recruitment and retention. Our experiences and research can be used to support the expanded use and study of the hospital-based BPC model in other practice settings that prioritize the delivery of quality lactation care.

Declaration of Conflicting Interests

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