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Healthcare Providers' Perceptions of Breastfeeding Peer Counselors in the Neonatal Intensive Care Unit

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Abstract

In this qualitative descriptive study we examined the perceptions of 17 neonatal intensive care unit (NICU) healthcare providers (nurses, neonatologists, lactation consultants, and dietitians) about the role of breastfeeding peer counselors who were mothers of former NICU infants and who provided primary lactation care in the NICU. Findings revealed that the healthcare providers respected the peer counselors' lactation expertise and identified three critical elements that contributed to the effectiveness of the peer counseling program: having a champion for the program, counselors being mothers of former NICU infants, and a NICU culture supportive of using human milk. Healthcare providers thought the peer counselors enhanced care of the infant by empowering mothers to provide milk and by facilitating and modeling positive patterns of maternal-infant interactions.

Keywords

breastfeeding peer counselors; neonatal intensive care unit; diffusion of innovations; framework analysis

Lactation care for mothers of infants hospitalized in the neonatal intensive care unit (NICU) is highly specialized and labor intensive (Gonzalez et al., 2003; Isaacson, 2006; Meier, Engstrom, Patel, Jegier, & Bruns, 2010). These mothers encounter numerous barriers to successful lactation not experienced by mothers of healthy term infants (Callen & Pinelli, 2005). For example, most infants hospitalized in the NICU are unable to consume feedings at the breast due to immaturity or illness (Hurst & Meier, 2005; Meier, Engstrom, Mingolelli, Miracle, & Keisling, 2004), so the mothers must initiate and maintain lactation with a breast pump, and they often remain breast pump-dependent for weeks or months. Lactation care for these mothers is a specialty practice area that requires advanced knowledge and skills not included in basic lactation coursework and certification (Meier & Engstrom, 2007; Meier et al., 2010). Lactation care is a multidisciplinary (e.g., medicine, nursing, dietary) programmatic approach to care that is focused on protecting maternal milk

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volume and optimizing the feeding of own mother's milk to the infant, regardless of the feeding method (Meier et al., 2010). Unlike general breastfeeding support that is focused on helping mothers feed their infants at the breast, lactation care in the NICU includes the application of technologies such as breast pumps, creamatocrits, test-weights, nipple shields, milk fractionation, and other diagnostic and therapeutic approaches that make it highly specialized (Meier et al., 2010). Few generalist breastfeeding support personnel have the expertise to apply these specific technologies to the care of mothers with a NICU infant.

The findings of numerous studies demonstrate that healthcare professionals do not have adequate knowledge and skills to assist mothers with the most common lactation-related problems (Grossman et al., 2009; Schmied, Beake, Sheehan, McCourt, & Dykes, 2011; Watkins & Dodgson, 2010). This lack of expertise is widespread in the NICU setting and is compounded by the nature of the NICU environment that necessitates close monitoring and early intervention in the highly complex care of critically ill infants. Attending to infant care frequently decreases the amount of time healthcare providers have available for supporting mothers and families. Nurses in particular are often challenged to find the time to assist mothers with breastfeeding and providing milk for their infants (Cricco-Lizza, 2011). Although nurses are the front-line caregivers of lactation care in the NICU, they must often prioritize their care for the health and safety of the infant. Thus, there is a need to develop effective models for lactation care for mothers in all practice settings, but particularly for those women who require highly specialized lactation care, such as those with NICU infants.

The results of several recent studies point to the need for models of high quality, cost-effective lactation care in the NICU (Colaizy & Morriss, 2008; Meier et al., 2010; Spatz, 2005). Human milk feedings reduce the relative risk of numerous short-and long-term morbidities that are costly and handicapping for NICU infants (Meier et al., 2010). One promising model for increasing the rates of human milk feeding in NICU infants is the teaming of breastfeeding peer counselors with NICU healthcare providers (Merewood et al., 2006; Rossman et al., 2011; Rossman, Greene, Kratovil, & Meier, in press). Breastfeeding peer counseling emerged in the 1980s as a model of community-based support. Typically, peer counselors are mothers who have breastfed their own infants and who desire to help mothers from similar backgrounds or with shared sociodemographics such as geographic location, race/ethnicity, or income level. They have also completed a certification program of basic breastfeeding information, cultural sensitivity, and counseling techniques. Certified peer counselors provide prenatal and postpartum breastfeeding support either through individualized counseling or mother-to-mother support groups, but are not qualified to provide complex lactation care (Rossman, 2007).

We recently studied the teaming of breastfeeding peer counselors with healthcare providers in a NICU in which peer counselors with advanced training specific to the NICU and who were mothers of infants previously cared for in the same NICU were employed to provide direct lactation care to all new mothers. The new mothers valued the information, assistance, and support provided by the peer counselors (Rossman et al., 2011). Additionally, these mothers reported 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 (Rossman et al., 2011).

Aims

Much of the existing research on breastfeeding peer counselors has been focused on whether peer counselor interventions contribute to increased breastfeeding rates (Anderson, Damio, Young, Chapman, & Perez-Escamilla, 2005; Dennis, Hodnett, Gallop, & Chalmers, 2002;

Kistin, Abramson, & Dublin, 1994). Although mothers appear to benefit from peer counseling services, the peer counselor's role within the healthcare team and benefits to the healthcare team have not been studied. Thus, the purpose of the research featured in this paper was to gain insight into the experiences and perceptions of healthcare professionals who work with peer counselors in the NICU. Understanding the perspectives of healthcare professionals is important because peer counselors must be able to function collaboratively with the healthcare team in an intensive care setting. The specific aims for the study featured here were to describe the perceptions and experiences of NICU healthcare providers regarding: the need for breastfeeding peer counselors in the NICU; the integration of the peer counselors as primary lactation care providers; the nature of the collaboration between professional NICU healthcare providers (bedside nurses, neonatologists, neonatal nurse practitioners, lactation consultants, dietitians) and peer counselors; the qualifications and competence of the peer counselors; and the critical elements that contribute to the effectiveness of peer counselor practice. These aims were based on observations in the field, previous work with peer counselors, and a review of breastfeeding literature, particularly regarding infants in the NICU.

Theoretical Framework

Our study was guided by the diffusion of innovations theory (Rogers, 2003). This theory is focused on the process through which an innovation, or new program, policy, or practice is communicated through certain channels over time among members of a social system. Our study was focused on the attributes of the innovation (the breastfeeding peer counselor program) and the social system (the NICU) within which the innovation was adopted. Relevant attributes or characteristics of innovations include: (a) the relative advantage of the innovation and whether it is perceived to be better than what it superseded; (b) compatibility (e.g., whether the innovation fits with the values and needs of the intended social system); (c) complexity (e.g., the degree to which an innovation is perceived as difficult or easy to comprehend); and (d) observability (e.g., the extent to which the outcomes of the innovation are visible to others).

Relevant attributes or characteristics of the social system in our study were the culture and communication in the NICU that may have facilitated or impeded the acceptance of the breastfeeding peer counselor program and whether the changes from prevailing practices to the new model of care were seen as disruptive or potentially beneficial (Adams, Tranfield, & Denyer, 2011; Greenhalgh, Robert, Macfarlane, Bate, & Kykiakidou, 2004; Rogers, 2003).

Before the formal introduction of the peer counselor program in 2005, bedside nurses and the director of the clinical lactation program (a doctorally prepared nurse with expertise in human lactation and breastfeeding) performed the lactation-related teaching and support for the mothers in the NICU. This included labor-intensive activities critical for the delivery of safe, quality lactation care 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. Due to the critical nature of infants in the NICU and prioritizing of the infant's health and safety needs, most nurses had limited time available for sustaining this level of lactation support to NICU mothers (Cricco-Lizza, 2011; Gonzales et al., 2003).

Methods

A qualitative descriptive design (Sandelowski, 2000) was used. This study was approved by the Institutional Review Board of Rush University Medical Center in Chicago, IL.

Subjects and Setting

Healthcare providers were recruited from a 57-bed tertiary care NICU at a metropolitan medical center in the Midwestern United States. During the study period, six breastfeeding peer counselors who were mothers of infants formerly cared for in the same NICU were employed in the NICU; two were Hispanic, one was African-American, and three were non-Hispanic White. At the time of the study the peer counselors' children ranged from several months to 14 years of age. The peer counselors were available in the NICU every day of the week from approximately 7 a.m. to 9:30 p.m. for individual care with new mothers. Peer counselors carried pagers, and either the peer counselors or the director of the clinical lactation program were available 24 hours a day, 7 days a week for any lactation-related problem or question.

A detailed description of the evolution and development of the breastfeeding peer counseling program in the NICU studied in this research is available from the authors on request, but is briefly summarized here. Peer counselors have been employed in the NICU since 2005. Each peer counselor completed a training course sponsored by La Leche League International, Inc. to become a certified breastfeeding peer counselor. Upon being employed in the NICU, the peer counselors received an individualized 3-month orientation program that provided them with specialized knowledge and skills for NICU lactation care. Orientation and mentoring of the peer counselors were shared by the director of the clinical lactation program, the NICU nurse-lactation consultants, and experienced peer counselors. Since 2009, five peer counselors have also become international board certified lactation consultants. The NICU cost center funds two full-time equivalent peer counselor positions. The remaining full-time equivalent positions are funded by private philanthropic donations and externally funded research projects. The practices performed by the NICU breastfeeding peer counselors in the study featured here are listed in Table 1.

To obtain a range of perspectives and experiences, we selected the sample for this study to include diverse NICU healthcare providers who were actively involved in lactation counseling and management and who interacted professionally with the breastfeeding peer counselors. NICU healthcare providers who had contact with new mothers related to providing milk for their infants and had at least two contacts with the peer counselors were recruited. A combination of maximum variation and snowball sampling was used (Patton, 2002). Seventeen healthcare providers were interviewed: 7 bedside neonatal registered nurses, 2 NICU nurses who were also board-certified lactation consultants, 1 neonatal nurse practitioner, 5 neonatologists, and 2 NICU-based dietitians. The sampling process ensured that participants included a mix of healthcare providers who were employed in the NICU before the introduction of the peer counseling program and those whose employment began after the program was implemented.

The initial plan was to recruit 10 neonatal nurses, but only three responses for interviews were received after three individualized e-mails were sent to every nurse who worked in the NICU. Snowball sampling produced four more interviews. Several night nurses responded to the mailing, but were unable to participate because they had not personally worked with the peer counselors. Informational redundancy of the nursing staff was reached after interviewing the seven nurses, which is consistent with literature indicating that informational redundancy can be achieved with small sample sizes in which the aim is to understand perceptions and experiences among a group of relatively homogeneous day staff nurses (Guest, Bunce, & Johnson, 2006). The characteristics of the healthcare providers who participated in this study are shown in Table 2.

Data Collection

Private interviews were conducted using an interview guide (Patton, 2002; Rubin & Rubin, 2005) consisting of semi-structured, open-ended questions. Healthcare providers were asked to share their perceptions of the breastfeeding peer counselor program and their experiences of working with the peer counselors. Questions were framed in the five domains of initial inquiry for this research as well as key aspects of the diffusions of innovations theory. A semi-structured research guide was used to ensure the same basic concepts were explored with each interviewee. Interview guides provided the framework for the questioning by specifying in advance the topics to be explored (Patton, 2002; Rubin & Rubin, 2005). Probes were used as needed to pursue topics in greater depth. Sample questions asked in the interview are presented in Table 3.

Private interviews were conducted in a room near the NICU, in the neonatologist's office, or in the principal investigator's office if the participant preferred. All interviews were digitally recorded, and they lasted an average of 40 minutes (range 22–65). Audio-taped interviews were transcribed verbatim and checked for accuracy. Data collection occurred from June 2010 through December, 2011.

Data Analysis

The framework approach was chosen to analyze the data, as it is designed to facilitate a detailed examination of the nature and range of people's experiences, the needs of the study population, and the elements that affect the successful implementation of a new program or service (Ritchie & Spencer, 1994). The framework approach was developed for qualitative research in the areas of social and public policy, but has been refined over the years and has developed into a versatile analytic approach across a range of healthcare studies in such areas as the meaning of autism for families, communication in labor and delivery, and healthcare-seeking in South Africa (Calzada, Pistrang, & Mandy, 2012; Grobman et al., 2011; Sharkey, Chopra, Jackson, Winch, & Minkovitz, 2011).

The framework approach begins deductively with the original objectives or aims (in this case the attributes of the diffusion of innovations theory) to the study, but also uses inductive analysis to provide a greater understanding of other issues addressed and to reflect the perceptions and experiences of the participants studied (Pope, Ziebland, & Mays, 2000; Ritchie & Spencer, 1994). Although the analytic process in the framework approach is strongly informed by a priori reasoning, it is grounded in and driven by the data and draws heavily on key issues, concepts, and themes raised by the participants. The analytic process is dynamic and open to change, because it is both guided by the diffusion of innovations theory and yet open to information outside of the theory (Ritchie & Spencer, 1994).

The five stages of data analysis used in the framework analytic approach include: (a) familiarization with the material and the listing of key ideas and recurrent themes; (b) identification of a thematic framework from the noted recurrence of particular views or experiences drawn from the research aims and introduced via the semi-structured interview; (c) indexing or systematically applying the thematic framework to each interview transcript; (d) charting or creating a visual display for each issue or theme; and (e) interpreting the data set, which includes within and across case analysis to compare perceptions and experiences. This last element was considered particularly important in this study to capture commonalities and differences across the different types of healthcare providers interviewed. Although the steps are listed linearly, the analysis was a recursive process as categories and themes became more refined as interviews were analyzed and the relevance of and connection between issues became clearer.

For example, when deductively coding the first research aim (whether breastfeeding peer counselors were needed in the NICU) using predetermined attributes from the diffusion of innovations theory, several sub-themes were identified. As more interviews were analyzed, the content and elements of the theme “enhanced care” were identified by looking across all cases and noting the range of perceptions, views, and experiences that had been labeled as part of that theme. Healthcare providers repeatedly referred to how the peer counselors made their jobs of caring for the infants easier (attribute of relative advantage; Table 4). Inductive coding of the research aims revealed the value the healthcare providers’ placed on the peer counselors’ lactation expertise and their personal experience as former NICU mothers. The sub-themes were then summarized and condensed into three themes that addressed healthcare providers’ perceptions and experiences of the peer counseling program. A numerical display was then created to tabulate the comparison of themes across healthcare provider specialties (Table 5).

Although all of the interview transcripts were coded by the principal investigator, an expert in qualitative research independently coded six interviews from providers in three disciplines. Differences were discussed until consensus was reached.

Findings

Healthcare providers’ perceptions of the breastfeeding peer counselors were focused on three themes: the peer counselors enhanced care in the NICU, the peer counselors’ integration into the culture of the NICU, and having a champion for the breastfeeding peer counseling program. These themes were common to all healthcare providers regardless of their specialty, years in practice, or whether they had been employed before or after implementation of the peer counselor program. The high level of congruence of healthcare providers might be considered unusual, but the culture of this unit is driven by the healthcare providers’ perceived need for lactation care in the NICU, the acceptance in this particular unit that this role could be delegated to a peer counselor with the bedside nurse as the resource for mothers’ needs, and a strong leader who has historically championed the provision of human milk in the NICU. NICU healthcare providers (bedside nurses, neonatologists, nurse practitioners, and dietitians) seldom had the time needed to provide mothers with high quality, specialty lactation care due to the high acuity and rapid changes in health status of critically ill infants. Peer counselors helped to fill that gap by providing lactation support for the healthcare providers who recognized that the relationship between the peer counselor and the new mother extended well beyond lactation issues. Although minor communication issues between nurses and peer counselors were noted, there was no variation in the themes among the healthcare providers.

Breastfeeding Peer Counselors Enhanced Care in the NICU

Attribute of relative advantage—All of the healthcare provider participants thought that having breastfeeding peer counselors in the NICU presented a distinct advantage over not having peer counselors. The peer counselors made the healthcare providers’ jobs easier and provided unique support to the parents due to the peer counselors’ shared experience of being a NICU parent.

Nurse perspectives: Nurses described peer counselors as a “blessing” to the nurses; they “lightened the nurses’ load,” and “nurses totally rely on them.” Nurses reported that although they had either clinical experiences and/or education relevant to assisting mothers of healthy term infants with breastfeeding, they lacked the in-depth lactation expertise needed by breast pump-dependent mothers of NICU infants. All of the nurses emphasized that their priority was the health and safety of the infants and, as a result, they frequently did not have the time to help mothers pump or breastfeed. Nurses described using the peer

counselors as a resource when they were busy with other aspects of patient care and thought that calling the peer counselors was always in the best interests of the mothers.

The nurses knew that all of the peer counselors were mothers of infants who previously had been cared for in the NICU. Thus, when a nurse requested a peer counselor to visit a mother, the nurse had observed that in addition to helping the mother with pumping and/or breastfeeding, the peer counselor would completely focus her time and care on the mother and create an emotionally supportive environment through the shared experience. Nurses who were employed before the advent of the breastfeeding peer counselor program were “thankful” for the peer counselors’ ability to provide this individualized support because “it frees up the nurses and eases the mom’s frustrations.” These nurses explained that in the past, when they had tried to help a mother, they had often felt rushed and frustrated because they were not able to spend enough time with her. Having peer counselors available alleviated the nurses’ tension and anxiety related to providing lactation care in addition to caring for the infants.

Nurses also valued the peer counselor’s NICU lactation expertise and took advantage of opportunities to learn from them. Several nurses said that they listened as the peer counselors talked to mothers and would then ask the peer counselor questions about what had been discussed. Nurses also suggested that an in-service led by the peer counselors on such topics as setting up and using a breast pump, transitioning to at-breast feeds, and positioning, could be helpful.

Other provider perspectives: The other NICU specialty healthcare providers (neonatologist, neonatal nurse practitioner, dietitian) had fewer direct interactions with the breastfeeding peer counselors. Yet all of the healthcare providers reported that the peer counselors made their job easier. Like the nurses, these providers did not have the lactation expertise or the time to spend with mothers to educate them about providing milk as well as provide emotional support. A neonatologist approached the question of whether the peer counselors were needed and the attribute of relative advantage as follows:

With the constraints that are put more and more on, not everybody can do everything and I think one of our nurse practitioners said, “Why do we have dietitians? Why do we have peer counselors?” I’m like, “Do you want to do it all?” You can’t and they bring such a unique perspective and that’s been a benefit to the entire NICU.

In this NICU, neonatal nurse practitioners do not typically provide direct lactation care for mothers. They liaise through the bedside nurses or peer counselors for all lactation care. Although the neonatal nurse practitioner in the abovementioned quote did not see the peer counselors as necessary, the neonatal nurse practitioner who was interviewed for this study addressed the attribute of relative advantage for the nursing staff in the following statement:

It really is a burden on the nurse to have the knowledge base to help the mother to know strategies and to work with her with those strategies of how to get milk going especially in that low birthweight population because that can be the hardest ones to get milk started in and, especially, to have them continue pumping while the baby is in the hospital, increase your supply, pump safely, in a sanitary way, all of those things surrounding that, which here, is entrusted to the peer counselors. So, I think it takes a burden off the bedside nurse.

Attribute of compatibility—The healthcare providers perceived the breastfeeding peer counseling program as compatible with the values of family-centered care in the NICU

because the peer counselors shared the science of human milk and lactation with the family and ensured that every mother was fully supported in her decision to provide milk.

Nurse perspectives: Nurses noted that the peer counselors gave the mothers undivided attention as characterized by one nurse's statement: "It's not like a nurse who has three patients. When that peer counselor is working with that mother, that's the only person around. They're very focused." The ability to focus attention solely on the mother meant that the peer counselors could provide each mother with individualized lactation care and support by sitting and talking with her, often several times a day if the mother requested or needed this amount of time.

Nurses also commented on the peer counselors' ability to include and support other family members. For example, peer counselors taught the mother's partner (or mother or sister) how to clean the pumping supplies or label the containers of expressed milk. In this way, the peer counselors reached out to and involved family members in lactation care and taught them how they could also support the mother. The peer counselors emphasized that by helping the mother, the family members were also helping to support the baby.

Other provider perspectives: The majority of healthcare providers credited the peer counselors with the high rate (95%) of human milk feedings in the NICU. One neonatologist observed: "I'm sure they're absolutely necessary and I know they're getting their job done because our babies are being fed a tremendous amount of breast milk and mothers feel supported in terms of their breastfeeding practice." Another neonatologist agreed:

The peer counselors are creating a tremendous amount of enthusiasm amongst our parents to want to breastfeed. A lot of what they do, they're not out there rah, rah, rahing, we're great type stuff. They're not out for self-advertisement. But there are 17-year-old, urban teenagers (a peer counselor) sitting with 33-year-old professional lawyers and they're all talking about the same thing. What do they have in common? They're moms. They're post-partum and they're breastfeeding and they have or have had a kid in the NICU. They don't care about whatever your socioeconomic or professional life is or whatever your age is. They have something in common to talk about.

Attribute of observability—The peer counselors maintained a visible presence to NICU staff and parents as they rotated through the various NICU rooms visiting mothers, answering questions, and providing them with necessary supplies such as storage containers, tubing, and labels.

Nurse perspectives: A nurse who had worked in the NICU before the peer counselors were hired remarked that she noticed the culture in the NICU change when the mothers started asking for the peer counselors. This nurse and others alluded to the fact that because the peer counselors had "all been through this kind of roller coaster ride" with their own babies, that helped them "bond" with the new mothers; the mothers would ask for lactation help from the peer counselors instead of the nurses. As she observed:

So I call them (peer counselors). When they come and they talk to my parents, you know what? The parents feel that their questions have been answered. They feel less frustrated and that is the best response, that you have a happy parent.

Other provider perspectives: The attribute of observability was evident also in this neonatologist's comparison of the rate of human milk fed infants in the NICU in this study to that in other NICUs:

As high as 95% of all of our kids... are receiving breast milk and it's my perception that it's the peer counselors that should be given a significant degree of credit for that. That's just a remarkable finding in an urban academic center. Nobody comes close. My understanding is that it's kind of like 50% or 60% in the rest of the world.

Attribute of complexity—The peer counselors were easy to reach by pager if they were not already on the unit.

Nurse perspectives: The following three quotations from nurses indicate the lack of complexity of the breastfeeding peer counseling program for the nursing staff:

It's really nice to be able to say, "Let me page (a peer counselor)," and she'll come and talk to you about this and answer your questions and help get you setup with a pump and these sorts of things.

The peer counselors are responsive when I need them to be at the bedside. They are always receptive to assisting us.

They always will come and do whatever they need to do. I don't even monitor it. I'm just like, "Okay, there's the mom."

Social system - communication—Although there were minor communication issues between the healthcare providers and the peer counselors, the peer counselors were called upon for support, either because the mothers asked for them (observability) or because the nurse needed the help.

Nurse perspectives: Although the nurses were positive about the peer counselors and called upon them readily, one nurse thought that peer counselors should not encourage parents to hold their infants without first checking the infant's health status with the nurse. As she noted:

I think it would be helpful to touch base with nursing before presenting that idea to a mom. Just a little like 30-second check-in would be great because frankly I let my parents hold as soon as I think a kid is stable enough to do it. It's really hard when you've now had this idea put into a mom's head that they can hold their baby...but I know that they're (baby) very, very sick. Now, I have to be the bad guy who is like, "Actually, no. You can't hold your kid today."

Other provider perspectives: The two NICU nurse lactation consultants who were also bedside NICU nurses, still spent part of their time providing direct patient care in the NICU, also helped with lactation care and support in the NICU, and were available for complicated lactation problems that were beyond the scope of practice for the breastfeeding peer counselors. The lactation consultants acknowledged there was a learning curve associated with the beginning of the breastfeeding peer counselor program. One lactation consultant stated: "Sometimes our very enthusiastic, brand new, trained counselors crossed a line and then we had to remind them in a tactful, professional manner to stay within their scope of practice." She went on to explain that this was for the peer counselor's own safety and protection so they could never be accused of giving wrong advice to a mother. The lactation consultants stated that over the years, as the program has grown, the peer counselor responsibilities have been refined. Both nurse lactation consultants thought that the current group of peer counselors had a strong knowledge and theory base and had the "integrity" to practice within their scope of practice.

Breastfeeding Peer Counselor Integration into the Culture of the NICU

Social system - culture—The healthcare providers emphasized that the prevailing culture in the NICU was one in which parents were told that mothers' milk is a medicine that reduces the risk of complications of prematurity for their infant. This message was communicated to parents through a team approach, with all healthcare providers and peer counselors presenting the same information. The healthcare providers thought that to maintain the high rate of human milk feedings in the NICU, specialized lactation care was necessary. The breastfeeding peer counseling program was created to fill that need.

The healthcare providers placed such a high value on the peer counselors' role in the NICU that all of those interviewed said they would not want to practice in a NICU without peer counselors. To all of the neonatologists, the peer counselors were so "embedded" in the system that the lactation care for mothers provided by the peer counselors had become an expectation. The neonatologists stated that although they typically discussed the importance of human milk with hospitalized mothers before delivery and encouraged mothers to provide milk, they left postpartum lactation education, counseling, technical assistance, and support to the peer counselors. All of the neonatologists saw the peer counselor's care of the mothers as automatic; one neonatologist remarked: "I don't even think about it anymore. It's just kind of part and parcel of what goes on in our nursery and I know they will see every mother within 24 hours of her delivery." In this NICU, the healthcare providers accepted the peer counselor program as part of the culture of the NICU.

Nurses agreed with the neonatologists' assessment of the breastfeeding peer counselors being embedded in the culture of the NICU. All of the nurses except one who was studying for her lactation consultant examination readily called on the peer counselors for any lactation-related questions. One nurse commented: "I think it is ingrained in you that if you have a mom with a breastfeeding question...you page one of the counselors. It's just what you do." The majority of the nurses said they would rather page the peer counselors than give the mothers inaccurate information or advice.

Social system - communication—A multidisciplinary approach to lactation care had been embraced in this NICU with the peer counselors collaborating and consulting with the various NICU specialties about the best approach to use human milk in a manner that optimized infant outcome. Healthcare providers emphasized the team approach to care, as exemplified by this neonatologist's statement: "I think we work as a team of people who all have different things to do...The peer counselors do breastfeeding things and provide that one of a kind perspective that helps families be successful." Nurses were affected most by the peer counselor practice as indicated by two nurses: "I'm not threatened by them (peer counselors). They're not taking my role over. They're just part of the team." "We really have a great respect for each other since we have the same goal of helping the families."

The healthcare providers across disciplines respected the efficiency and the effectiveness of the breastfeeding peer counselor program. The peer counselors were described as "self-sufficient" and "operating under the radar," meaning that the peer counselors took the initiative to begin lactation education care without a request from a healthcare provider and that they had consultation systems in place for solving problems beyond their scope of practice. Healthcare providers across all disciplines also noted that the peer counselors provided a consistent and accurate message about the value of human milk to the mothers and families. In addition to attributing the NICU's high rates of human milk use to the peer counselors, several of the neonatologists praised the peer counselors for their ability to maintain the mothers' enthusiasm for long-term pumping throughout the NICU hospitalization.

A Champion for the Program

Social system - culture and communication—When asked during the interview about the critical elements for success of the breastfeeding peer counselor program in the NICU, the key person who emerged for all of the healthcare providers was the nurse director of the clinical research and lactation program. The healthcare providers referred to her as a champion of the breastfeeding peer counselor program, a visionary, and a transformational leader. According to the healthcare providers, this champion understood the nuances of the NICU culture and had actively guided the development and implementation of the peer counseling program over the past 15 years.

The healthcare providers credited the program director with nurturing a culture of collaboration and teamwork among disciplines in the NICU. The healthcare providers actively embraced the breastfeeding peer counselor practice in part because of the sensitivity of the program director's implementation of the program and her commitment to improving the quality of care in the NICU. The changes implemented in the NICU due to the addition of the peer counselors were not viewed as disruptive, but were thought of as beneficial to the healthcare providers' practice and the care of the family.

A testimony to her role as champion is that all of the healthcare providers employed before the peer counselor program credited the program director with changing the culture of the NICU to one in which the predominant message received by all mothers and families was that mother's milk is a "medicine" that reduces the risk of complications of prematurity. Before the creation of the peer counselor role, the program director worked with the healthcare providers "one-on-one" by teaching them the value of human milk and helping them develop an understanding of the science. As one neonatologist explained: "She spent time and effort one-on-one with staff and with nurses and with docs and with parents. She could convince the world that this (providing milk) is the right thing to do. She was in the unit all the time."

As human milk feedings increased in the NICU, the first breastfeeding peer counselors were introduced slowly "like a ripple under the water" (in the words of a nurse lactation consultant) causing minimal disruption to prevailing practices in the NICU. In a short time they were perceived as helpful. As one lactation consultant observed:

When the first peer counselor came onboard my frustration level wasn't as high because I wasn't trying to multitask and be in two or three places at once...Instead of me being called by the nurses it was the peer counselor being called.

Because of the non-threatening and supportive manner in which the program director introduced the peer counselor program into the NICU, the healthcare providers embraced working as a team with the peer counselors and could not now envision practicing in a NICU without peer counselors.

Healthcare providers employed after the peer counselor program was implemented in the NICU also viewed the program director as a champion of the peer counselor program. A dietitian who consulted with her peers at other NICUs remarked:

I've heard from the worst end of the spectrum where there's nobody there and the majority of their kids are on formula...to other institutions where there are a couple of lactation consultants but it doesn't seem like they can get to everyone. So, we're very unique in that there is someone here (peer counselors) that's going to visit every mom and provide them with help and be there and be available. That's a testament to (the program director).

Attribute of compatibility—Another element critical to the success of the peer counseling program identified by the majority of the healthcare providers was the personal experience of the peer counselors. Through their personal experience, the peer counselors themselves added a unique level of communication, care, and support in the NICU that the healthcare providers respected and appreciated.

Twelve of the healthcare providers, including all but one of the nurses, knew that the peer counselors were mothers of formerly very low birthweight infants cared for in the NICU who had personally experienced the challenges associated with providing milk for and breastfeeding their infants. According to the nurses, the peer counselors were able to identify with and understand the emotional turmoil the new mothers were experiencing because of their own experience of having had an infant in the same NICU. All of the nurses recognized that during the first weeks after birth, new mothers of very premature infants needed an opportunity to express their concerns and have their questions answered. These nurses stated that the peer counselors conveyed compassion for the mother's experience and helped them cope with having an infant in the NICU. In addition, nurses witnessed mothers "bonding" or making a connection with the peer counselors. Nurses believed this connection had occurred because the peer counselors "knew how to talk to these parents" because of their personal experience and the mother-to-mother support they provided. In speaking about the peer counselor's personal experience, one neonatologist observed: "They truly are that bridge where people can say, 'I have had the same experience as you.' I think that's priceless. It just allows parents to get through some really tough times."

Other critical elements each mentioned by one or two healthcare providers included the availability of 24-hour lactation support for mothers, funding for the program, and the uniqueness of the program. The program included a weekly luncheon—often referred to as part scientific discussion and part support group—during which families learned the science of human milk and lactation and met other NICU families. A free taxi service to and from the NICU was available for mothers to attend these weekly luncheons. The program also included pump rentals and home visits by peer counselors after the infant's discharge.

Discussion

The findings of our study demonstrate that healthcare providers in the NICU saw breastfeeding peer counselors as an important asset and could not envision practicing in a NICU that prioritized the use of human milk without the peer counselors. Although the bedside nurses and lactation consultants had the most direct contact and interactions with the peer counselors, all healthcare providers offered similar descriptions of working with peer counselors. By providing approximately 75% of the daily lactation care in the NICU, the peer counselors created an environment that allowed the providers to attend to other aspects of health care for the infant.

The breastfeeding peer counselor program, as described in this NICU-based practice model, filled a specific need in the NICU. Previously, NICU nurses and neonatologists had tried to provide comprehensive, evidence-based lactation care, but came to realize that this care is highly specialized, labor-intensive, and always took "second place" to critical lifesaving interventions. The model presented here is a NICU-based practice in which certified peer counselors, with advanced lactation training specific to the NICU, assume responsibility for direct lactation care. The peer counselors reported to a doctorally-prepared nurse with expertise in human milk and lactation, and worked collaboratively with bedside nurses, neonatologists, and dietitians as a part of the NICU care team.

The peer counselors enhanced care for infants in two ways. First, the counselors empowered mothers to provide milk for their hospitalized infants through sharing their personal experiences and addressing barriers to long-term breast pump-dependency (Rossman et al., 2011). Thus, the initiation rates as well as the average daily NICU dose of human milk for very low birthweight infants was optimized (Meier et al., 2010). Second, by providing each mother and her family with individualized and personal attention, and by promoting healthy coping strategies to deal with the emotional stress of having an infant hospitalized in the NICU, the peer counselors created an environment that facilitated and modeled positive patterns of maternal-infant interactions (Rossman et al., 2011).

The findings in this study point to the relevant attributes (e.g., advantage, compatibility, complexity, observability) and characteristics of the social system necessary for the diffusion of innovations. According to Rogers (2003), the relative advantage of the breastfeeding peer counselor program should be perceived to be better than the practices it supersedes. In the research reported here, all of the healthcare providers felt that the peer counselors made their jobs easier and enhanced the quality of care provided to the infant and family. Regarding compatibility, the peer counselors' filled a specific need by addressing the discrepancy between the high value placed on the provision of human milk and the inadequate provider expertise and time to provide appropriate lactation care. Providers saw the peer counselor program as easy to comprehend (rather than as complex) as the peer counselors were easily reached by pager and their schedules were posted daily in a central location. Providers referred to the visibility of the peer counselor program to others when they noted that mothers asked for lactation care from a peer counselor instead of healthcare providers. Several of the healthcare providers compared the high rates of human milk use to other NICUs, and most providers attributed these high rates to the peer counselors. Relevant characteristics of the social system were the program director's sensitivity to the culture of and communication in the NICU as she nurtured the development of a collaborative team by using open communication, trust, mutual respect, and empowerment (Boos, Okah, Swinton, Wolff, & Haney, 2010; Ohlinger, Brown, Laudert, Swanson, & Fofah, 2003; Thomas, Sherwood, Mulhollem, Sexton, & Helmreich, 2004).

During the early implementation of the peer counseling program, rare episodes of staff-peer counselor friction were reported. Most of the time, these incidents involved an element of territoriality, with concerns that the peer counselor was practicing outside her scope of practice. Yet, with few exceptions these incidents occurred because family members specifically sought the advice and support of the peer counselor instead of the designated healthcare team member.

By the time this study began, the peer counselor program had been in place for 5 years and was accepted as a desired part of the working environment of the NICU. Thus, few concerns of this nature were raised by the healthcare providers, and most involved territoriality issues between the bedside nurses and the peer counselors. NICU nurses often position themselves as protectors of their infants and limit maternal-infant interactions and caretaking opportunities (Heermann, Wilson, Wilhelm, 2005; Lupton & Fenwick, 2001). Nurses typically claim ownership only of the infant (Lupton & Fenwick, 2001), but in this study nurses were also claiming the mothers to whom they referred as "my" mother perhaps to distinguish that they were the primary caregiver rather than the peer counselor.

Conclusion

In summary, the findings from this study suggest that in NICUs with high rates of human milk use, breastfeeding peer counselors with personal NICU experience and with specialty NICU lactation training can enhance the quality of care for infants and their families and are

well-accepted by healthcare providers. The practice model featured here is an exemplar for NICU practitioners interested in employing breastfeeding peer counselors. Although the visionary leader was important in the development of this unique program 15 years ago, the work completed by the program (e.g., job description, orientation program, policy and procedures) can serve as a template for other NICUs and in-patient settings that strive to provide high quality, evidence-based lactation care.

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Table 1**Breastfeeding Peer Counselor Responsibilities**

1. Introduction to Providing Milk
Introduce Rush Mother's Milk Club to women in the antepartum unit Within 24 hours contact each new mother whose infant is admitted to the NICU
2. Explain and Demonstrate Breast Pump Use and Milk Storage
Secure appropriate hospital grade electric pumps for mothers Educate mothers about use of breast pump (frequency and duration) Explain and demonstrate proper techniques for milk collection and storage Teach mothers to collect, label, store and transport milk to the NICU
3. Protect Maternal Milk Volume
Implement the "Coming to Volume" Assessment Tool in first 14 days post-birth Explain and demonstrate use of My Mom Pumps for Me! milk volume diaries Conduct daily checks of the fit of breastshields during the NICU hospitalization
4. Assist with Transition Home from NICU
Teach mothers how to use breastpumps in the home Participate in discharge planning to facilitate breastfeeding after NICU discharge
5. Maintain and Manage Lactation Programming
Participate in weekly Mother's Milk Club meetings Assist in the management of the Women & Children's Nursing Breast Pump Rental Program Maintain the human milk storage program for NICU infants
6. Involvement with Research and Advocacy
Participate in data collection and entry for research projects in the NICU Act as a liaison between the Rush Mother's Milk Club and local, regional, and national breastfeeding organizations

Note. NICU = Neonatal intensive care unit

Table 2**Healthcare Provider Characteristics**

Specialty	Before BPCs	After BPCs
Neonatology	<i>n</i> = 3	<i>n</i> =2
Range of years in practice	25–31 yrs	2–6 yrs
Neonatal nurse practitioner	N/A	<i>n</i> =1
Range of years in practice	N/A	3.5 yrs
Registered nurse	<i>n</i> =4	<i>n</i> = 3
Range of years in practice	10–36 yrs	5 yrs
Lactation consultant	<i>n</i> =2	N/A
Range of years in practice	16–35 yrs	N/A
Dietician	N/A	<i>n</i> =2
Range of years in practice	N/A	3–4.5 yrs

Note. BPC = Breastfeeding peer counselor; N/A = Not applicable

Table 3**Sample Questions**

Aim and Diffusion of Innovation	Question (Relevance to diffusion of innovation)
Need for BPCs in NICU <ul style="list-style-type: none"> • Advantage • Compatibility • Complexity 	How has your workload changed since the BPCs came? Could you describe some of those changes? If employed after the BPCs, how does having BPCs in the NICU affect your workload? (Are the BPCs an advantage or disadvantage to your practice; Does their practice fit with the values in the NICU; Is working with them complex?)
Integration of the BPCs as primary lactation care providers <ul style="list-style-type: none"> • Culture 	If employed before the BPCs, how were you prepared for them, or if hired after, what were you told about what the BPCs do? (Do the BPCs fit within the NICU healthcare team and how important is that?)
Nature of the collaboration between HCPs and BPCs <ul style="list-style-type: none"> • Communication 	How would you describe communication about lactation issues between you and the BPC? (Is there multidisciplinary communication and how important is that?)
Qualifications and competence of the BPCs <ul style="list-style-type: none"> • Complexity 	Do you think the BPCs are adequately prepared for their job? Why/Why not? (Explain in your own words what the BPCs do)
Critical elements that contribute to the effectiveness of BPC practice <ul style="list-style-type: none"> • Advantage • Compatibility • Complexity • Observability • Communication • Culture 	Is there anything about your NICU that you think makes the BPC program work or not work effectively? What would make it work in other NICUs? (Questions may incorporate all elements of the diffusion of innovations theory relevant to this article)

Note. BPC = Breastfeeding peer counselor; NICU = Neonatal intensive care unit; HCP = Healthcare provider

Table 4

Example of Diffusion of Innovation Coding

Sub-Theme	Advantage	Compatibility	Complexity	Observability
Peer Counselors focus on mothers	Provide relief to nurses; mother-to-mother support	Peer counselors have time to support every mother who wants to provide milk	Peer counselors reachable by pager if not on unit	Open unit – interactions with mothers observable to all; mothers ask for peer counselors
Healthcare Providers focus on infants	Make it easier to prioritize care for health and safety of infant	Understanding that peer counselors will follow up on message to mothers that their milk is a medicine for their baby		95% infants receiving mother's milk

Table 5

Thematic Agreement by Healthcare Provider Specialty

Specialty (<i>n</i> =17)	Enhanced Care	Integration in NICU Culture	Champion
Neonatologist (<i>n</i> =5)	5	5	5
Nurse (<i>n</i> =7)	7	7	7
NNP (<i>n</i> =1)	1	1	1
Dietician (<i>n</i> =2)	2	2	2
Lactation Consultant (<i>n</i> =2)	2	2	2

Note. NICU = Neonatal intensive care unit; NNP = Neonatal nurse practitioner