

Breastfeeding Intention Versus Outcomes at Two to Three Weeks Postpartum

A Quality Improvement Project

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Breastfeeding is the optimal nutrition for infants, offering protection from many illnesses for both infant and mother. While breastfeeding initiation rates approach or exceed Healthy People 2020 goals, increasing duration remains a national public health priority. Hospital practices play an important role. An urban, academic hospital in the northeast United States with Baby-Friendly designation initiated a quality improvement (QI) project to learn how infant feeding outcomes at 2–3 weeks postpartum compare to initial breastfeeding intention. A lactation student made telephone calls to a convenience sample of breastfeeding mothers, questioning them about their current infant feeding practices and the breastfeeding support they received. The women participating in this QI project were those deemed most likely to meet their infant feeding goals. All the women gave birth in a Baby-Friendly facility, thus all their nurses had at least 20 hours of breastfeeding education, all medical providers had had at least 3 hours of breastfeeding education, and IBCLCs were available to inpatients 7 days a week. All were encouraged to call the hospital's Breastfeeding Warmline and were provided with a list of outpatient resources. However, just 2–3 weeks postpartum, one-third were not exclusively breastfeeding despite their initial intention.

Keywords: exclusive; duration; hospital; lactation

Breastfeeding is the optimal nutrition for infants, offering protection from many acute and chronic illnesses for both infant and mother. For example, infants who are not breastfed are at greater risk of otitis media, respiratory infection, atopic dermatitis, gastrointestinal disease, obesity, diabetes, cardiovascular disease, and more (Bartick et al., 2017). Mothers who feed their infants formula are at increased risk of breast and ovarian cancer, obesity, cardiovascular disease, diabetes, and increased severity of autoimmune diseases (Bartick et al., 2017). Virtually all health-related professional associations recommend exclusive breastfeeding for 6 months followed by the introduction of complementary foods with continued breastfeeding for at least 1 year.

Increasing breastfeeding rates, intensity, and duration is a national public health priority. The most recent data published by the Centers for Disease Control and Prevention's 2016 *Breastfeeding Report Card* state that in 2013, 81.1% of women initiated breastfeeding, which is only slightly below the *Healthy People 2020* (HP2020) goal of 81.9% (Centers for Disease Control and Prevention, 2016; U.S. Department of Health and Human Services,

2010). As those data were from several years ago and initiation rates have been on a rising trend, rates may currently exceed the HP2020 goal (U.S. Department of Health and Human Services, 2010). The HP2020 target for exclusive breastfeeding at 3 months is 46.2% (U.S. Department of Health and Human Services, 2010). The *Breastfeeding Report Card* reported that 44.4% of infants were exclusively breastfed at 3 months (Centers for Disease Control and Prevention, 2016). Perrine, Scanlon, Li, Odom, and Grummer-Strawn (2012) reviewed data from the 2005–2007 Infant Feeding Practices Study II. They found that only one-third of women who intended to breastfeed exclusively for 3 months or more actually met their infant feeding goals (Perrine et al., 2012).

Hospital practices are known to impact breastfeeding. The Baby-Friendly Hospital Initiative (BFHI) offers a bundled approach to breastfeeding support that has been found to positively impact breastfeeding outcomes (Perez-Escamilla, Martinez, & Segura-Perez, 2016). The BFHI is built around the World Health Organization and United Nations International Children's Emergency Fund's (UNICEF) *Ten Steps to Successful Breastfeeding* (World Health Organization, 2017). Perez-Escamilla and colleagues, in their systematic review, found that there is a dose–response relationship between the number of

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steps adopted by a birth hospital and the likelihood of improvement of such breastfeeding outcomes as exclusive breastfeeding during the hospital stay, any breastfeeding, and duration of exclusive breastfeeding (Perez-Escamilla et al., 2016). Perrine and colleagues also looked at Baby-Friendly practices and feeding outcomes, concluding that increasing Baby-Friendly hospital practices, especially avoiding supplementation of breastfed infants, may help more mothers achieve their exclusive breastfeeding goals (Perrine et al., 2012).

Our hospital is a large, urban academic medical center located in the Northeastern part of the United States. The facility is a major perinatal center with over 5,000 births each year. We earned Baby-Friendly designation in 2015, thus all our nurses have had at least 20 hours of breastfeeding education and our physicians and advanced practice providers have had at least 3. We offer inpatient lactation care provided by IBCLCs daily, as well as a breastfeeding warmline, prenatal breastfeeding class, and a class for inpatients taught by IBCLC, a free breastfeeding support group, and a robust list of outpatient resources for postdischarge support. While we strive to provide excellent support throughout the hospital stay, we did not know how our patients were faring after discharge. We were fortunate to have a nutrition student from Drexel University who was completing Drexel's Pathway Two program for lactation interns with us for 6 months as part of Drexel University's Co-op program. During her time with us, she served as a Lactation Consultant Assistant (LCA) and conducted a quality improvement (QI) project deemed exempt by the hospital's institutional review board. In this QI project, she made telephone calls to a convenience sample of patients who had been discharged approximately 2 weeks prior. The LCA asked permission to make a follow-up phone call while she met with patients during their hospital stay, most often as she was arranging for a breast pump for them. All the patients had expressed their intention to breastfeed and were breastfeeding during their hospital stay.

Method

In her role as LCA, the student assisted patients in obtaining an insurance company-approved breast pump. During the course of conversation, she invited women to participate in a QI project in which she would call the patient by phone 2–3 weeks postdischarge to ask about their breastfeeding status. If they agreed, they signed a consent form and provided a contact number. During the first 2 weeks of recruitment, she collected

the demographic data during the call, but quickly realized that she then had no demographic information on those lost to follow-up. Thereafter she obtained demographic data from the patients at the time of consent. Demographic data collected included race and ethnicity, maternal age, highest level of education, insurance type, parity, and prior breastfeeding experience. Participants self-reported their demographic information by completing a paper form.

The LCA made three attempts to call mothers, leaving a final message with callback instructions if she did not reach the patient by the third attempt. One mother returned the call. Calls lasted 3–7 minutes.

Questions asked included discussions about breastfeeding that may have occurred prior to birth, participants' initial feeding intention, how they fed their baby during the hospital stay, and how they were currently feeding the baby. The questions are listed on Table 1. If there was a discrepancy between initial intention and current status, The LCA asked if there were any resources that they felt would have helped them to meet their feeding goals. She asked how soon after hospital discharge the baby was seen by a pediatric healthcare provider and about advice and support received after hospital discharge. If the pediatric provider recommended supplementing with formula, she asked if they also provided a referral for breastfeeding support. She also asked if they received a breast pump through their insurance, and if they did, was it ordered during the hospital stay or prior to the birth.

Table 1. Questions Used in the QI Project

Did anyone talk to you about breastfeeding prior to arrival at the hospital?
How did you intend to feed your baby?
How did you feed your baby while in the hospital?
How are you currently feeding your baby? (2–3 weeks postpartum)
Did you have or were you given any resources to support breastfeeding?
How many days after discharge did your baby see a pediatrician?
Did you receive any advice or encouragement for breastfeeding or supplementation?
Did you receive a pump through your insurance?

Note. QI = quality improvement.

Results

Sixty women consented to participate in the QI project, with 43 completing follow-up, a response rate of almost 72%. Of those lost to follow-up, almost half were on Medical Assistance managed care and fewer than 25% had private insurance.

Of those completing the phone interview, 56% self-identified as White, 23% as African American, 9% Asian, and 11% as other, including Hispanic/Latina and South East Asian/Indian. The majority (81%) had private insurance, 16% had a Medical Assistance managed care, and one participant did not have insurance. The majority (72%) had completed some education beyond high school. Most ($n = 37$, 86%) were between ages 25 and 39 ($n = 17/39.5\%$, ages 25–31; $n = 20/46.5\%$, ages 32–39), with 3 (7%) in the 18–24 and over 39 groups. No participants were younger than 18 years of age.

Twenty-nine (67%) were first-time mothers, thirteen (30%) had previous breastfeeding experience, and one (2%) had previous children but no prior experience with breastfeeding. Of the 43 participants, 40 indicated that they intended to exclusively breastfeed at the time of consent; however, at the time of the follow-up phone call, only 27 (63%) were breastfeeding exclusively. Of the 40 who indicated that they intended to exclusively breastfeed, 25% began supplementing during the hospital stay. Most reported that they did so at the recommendation of a healthcare provider for medical reasons such as hyperbilirubinemia, weight loss, or hypoglycemia. Only 1 woman had stopped breastfeeding. The remaining 15 were continuing to breastfeed, but were supplementing.

Of those continuing to breastfeed, most stated they were supplementing with formula because of fear about their milk supply, insufficient sleep, and nipple pain. When asked about breastfeeding support received, all but one mother reported that they felt they had been encouraged to breastfeed in the hospital. Two women expressed that they felt they received *too much* support for breastfeeding, which they interpreted as pressure that led them to ignore signs that their baby was not getting enough milk. One mother stated,

The message that everything is okay is crap . . . Everyone in the hospital said she was fine, and when we got home, I didn't have enough milk and the baby didn't gain weight. There are all these things people tell you not to do, like supplement, and use a pacifier and then they say you have to.

Another participant, a nurse practitioner, stated that she “wishes there were more black and white instead of gray” in terms of advice from lactation consultants about supplementation for weight loss.

Discussion

It is well documented that those who are White, well educated, older, and of greater economic means are more likely to breastfeed and have greater breastfeeding durations than others (Chantry, Dewey, Peerson, Wagner, & Nommsen-Rivers, 2014). Women participating in this QI project were predominantly those deemed most likely to meet their infant-feeding goals. All gave birth in a Baby-Friendly facility in which nurses and medical providers had breastfeeding education, and IBCLCs were available to inpatients 7 days a week. All mothers received written information about breastfeeding, including how and when to call for help. All were encouraged to call the hospital's Breastfeeding Warmline and were provided with a list of outpatient resources in their area, including IBCLCs and support groups. However, just 2–3 weeks after discharge, one-third were not exclusively breastfeeding despite their initial intention to do so. Of the 16 supplementing with formula at the time of the follow-up call, all but 1 began supplementing while in the hospital. Of the 15 who began supplementation during the hospital stay, 10 (66%), stated they were advised to do so for medical reasons, most often because of infant weight loss, low blood sugar, or jaundice.

The *Healthy People 2020* goal is to reduce formula supplementation to less than 14% in the first 2 days of life. While pediatricians have become more knowledgeable about breastfeeding, their confidence that breastfeeding actually “works” has decreased in recent years (Feldman-Winter et al., 2008). The American Academy of Pediatrics was recently awarded a grant from the CDC to design and implement lactation education beginning in medical school for upcoming pediatric and general practice providers as well as continuing education for existing providers (American Academy of Pediatrics, 2018). Perhaps increasing provider education of lactation will decrease early supplementation.

Inhospital supplementation is a known risk factor in premature weaning (Tender et al., 2009). Inhospital supplementation often leads to perception of low milk, which is likely to play a significant role in postdischarge breastfeeding. Decreasing inhospital supplementation may lead to longer durations and more exclusive breastfeeding after discharge. To that end, using a supplementation protocol for all providers to follow, such

as the *ABM Clinical Protocol #3: Supplementary Feedings in the Healthy Breastfed Neonate*, Revised 2017, may help (Kellams, Harrel, Omage, Gregory, & Rosen-Carole, 2017).

The hospital might also consider oral glucose gel or pasteurized donor human milk for treatment of hypoglycemia, and provide written feeding plans for in-hospital and postdischarge use. A next step would be to assess providers' rationales for supplementation of breastfed infants, as well as mothers' preferred methods of support.

Implications for Practice Interventions

There is no consensus as to the best practices to improve breastfeeding exclusivity and duration (Meedya, Fernandez, & Fahy, 2017). Reaching mothers proactively with phone calls or text messages, and/or providing a social media support program, may be effective. Mothers may be willing to communicate through channels with which they are familiar and comfortable—such as texting, Instagram, and even a secure, Health Insurance Portability and Accountability Act (HIPAA) compliant video chat when a face-to-face consultation is needed.

The mothers involved in this QI project gave birth at a Baby-Friendly hospital, were mostly of the upper middle class and had access to outpatient support, but supplementation was high and breastfeeding duration just 2–3 weeks postpartum was short. This gives insight to the fact that existing resources are not being utilized, not effective, or are simply not enough to help new mothers swim against the tide as they struggle to meet their infant-feeding goals.

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Impact of Federal Transfers on State-Level Infant Mortality Rates

BMJ Open has published an article titled, "Research Impact of federal transfers upon US infant mortality rates: a secondary analysis using a fixed effects regression approach." The article features the results of a study that used a fixed effects regression model to estimate the impact of federal transfers on state-level infant mortality rates during the years of 2004–2013. Programs that are funded by a combination of federal and state funds and are impacted by federal transfers include Medicaid, the Children's Health Insurance Program, the Supplemental Nutritional Assistance Program, Temporary Assistance for Needy Families, the Healthy Start Program and the Special Supplemental Nutrition Program for Women, Infants and Children. After controlling for differences across states, the researchers found that increases in per capita federal transfers are significantly associated with lower infant, neonatal and postneonatal mortality rates, and they conclude that benefits should be carefully considered when state officials are deciding whether to accept or reject federal funds: <https://bmjopen.bmj.com/content/8/9/e021533>

Source: USBC