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# Initiative to Improve Exclusive Breastfeeding by Delaying the Newborn Bath

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## ABSTRACT

**Objective:** To examine whether delayed newborn bathing would increase rates of in-hospital exclusive breastfeeding and plans to use human milk at discharge.

**Design:** A retrospective, two-group, pre- and postintervention design.

**Setting/Local Problem:** At our facility, the initial bath was completed within 2 hours of birth, and the rate of in-hospital exclusive breastfeeding was low.

**Participants:** Couplets of mothers and healthy newborns ($N = 996$).

**Intervention/Measurements:** Newborn baths were delayed at least 12 hours after birth. Pre- and postintervention data were retrieved from the hospital's electronic medical record and administrative database. Univariate and multivariate analyses were completed.

**Results:** Of 996 mother–newborn couplets, 448 were preintervention couplets and 548 were postintervention couplets. Of all mothers, 63.3% were White, 67.8% were married, and 67.1% gave birth vaginally. Of all newborns, 49.6% were female, and the mean (standard deviation) birth weight was 3.3 kg (0.50). We found no differences in maternal or newborn characteristics by group. Median (25th percentile, 75th percentile) times from birth to first bath before and after the intervention were 1.9 (1.6, 2.3) and 17.9 (11.9, 25.0) hours, respectively ($p < .001$). In-hospital exclusive breastfeeding increased from 59.8% before the intervention to 68.2% after the intervention ($p = .006$). In multivariate modeling, in-hospital exclusive breastfeeding increased for all couplets after the intervention (odds ratio = 1.49, 95% confidence interval [1.14, 1.96]; $p = .004$) and with vaginal versus cesarean birth (odds ratio = 1.60, 95% confidence interval [1.14, 2.25]; $p = .006$). In addition, the postintervention discharge feeding plan reflected an increase in use of human milk.

**Conclusion:** Delaying the newborn bath was associated with increased in-hospital exclusive breastfeeding rates and use of human milk as a part of the discharge feeding plan.

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Skin-to-skin (STS) contact immediately or soon after birth is now considered usual care because of its many benefits. STS contact has been promoted internationally through the Baby Friendly Hospital Initiative (BFHI) as a means to improve breastfeeding initiation, exclusivity, and duration after hospital discharge (Hawkins, Stern, Baum, & Gillman, 2015; Sinha et al., 2015). In a systematic review and meta-analysis of STS contact, breastfeeding-related outcomes included success of first breastfeeding, exclusive breastfeeding from discharge to 1 month after birth, and exclusive breastfeeding between 6 weeks and 6 months after birth (Moore, Bergman, Anderson, & Medley, 2016). In a multistate research study of hospitals that used the *Ten Steps to Successful Breastfeeding* (World Health Organization [WHO], 2018), exclusive breastfeeding rates during hospitalization were 4.5% greater than in hospitals that did not follow the BFHI program (Hawkins et al., 2015).

Increased rates of breastfeeding have benefits for mothers and their newborns throughout their life spans. In multiple reports of improved rates of exclusive breastfeeding in the United States, the potential decrease in lifetime costs associated with maternal and childhood illnesses was estimated to be $13 billion (Bartick & Reinhold, 2010) to $17 billion (Bartick et al., 2013). In addition, researchers identified maternal and newborn/childhood risks



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**In many hospitals, rates of exclusive breastfeeding are less than those set by national standards.**

associated with decreased exclusive breastfeeding and increased use of infant formulas. For example, rates of childhood illnesses, including gastroenteritis, otitis media, and childhood leukemia (Bartick & Reinhold, 2010; Bartick et al., 2016), and maternal illnesses, including breast and ovarian cancer (Bartick et al., 2013, 2016), could be decreased with greater rates of exclusive breastfeeding.

### Problem Description

At our tertiary care community hospital, we had a goal to reach an in-hospital exclusive breastfeeding rate of 72%. *Exclusive breastfeeding* was defined as no formula supplement from birth to discharge; rehydration solutions and medications were allowed. All breastfeeding mothers were taught breast massage and hand expression or how to use electric breast pumps. Exclusive breastfeeding rates increased slightly after our hospital earned BFHI status, but we struggled to reach our goal. Key stakeholders were interested in exploring new interventions to increase the rates of exclusive breastfeeding beyond those that were addressed in the literature (McFadden et al., 2017) and already in use at our hospital: nursing staff education, lactation support, and community support.

### Available Knowledge

One intervention of interest was to delay the initial bath for healthy newborns for at least 12 hours after birth. We conducted a review of the available literature in September 2015 and found 45 articles on newborn bathing and exclusive breastfeeding. Of these, only one article addressed delayed bathing and exclusive breastfeeding in the United States. During hospitalization, Preer, Pisenga, Cook, Henri, and Philipp (2013) found that after implementation of a delay of 12 hours or more for the initial bath, exclusive breastfeeding rates increased by 7.5%; after multivariate logistic regression analyses, the odds of exclusive breastfeeding were 39% greater. Also, the odds of initiating breastfeeding increased by 166% after implementation of delayed bathing (Preer et al., 2013).

### Rationale for the Intervention

The evidence for the use of delayed bathing to increase breastfeeding initiation and exclusivity has not been firmly established. However, in one report, investigators found that the fatty acid in amniotic fluid may be a sensory cue that guides newborns to the breast for feeding (Contreras et al., 2013). Contreras et al. (2013) also found that suckling responses among newborns were longer when newborns were exposed to their own amniotic fluid. A delay of the initial bath may retain a strong sensory cue for the newborn that may improve the breastfeeding experience for the mother–newborn couplet. Furthermore, STS contact decreased newborn stress during the early period after birth (Takahashi, Tamakoshi, Matsushima, & Kawabe, 2011), which may have improved the ability of newborns to latch to the breast (Svensson, Velandia, Matthiesen, Welles-Nyström, & Widström, 2013). Thus, the combination of STS contact and delayed initial newborn bath may improve breastfeeding initiation and exclusivity.

### Specific Aims

The specific aims of this project were to examine the association between delaying the newborn bath and the rate of in-hospital exclusive breastfeeding and plans to include human milk on the discharge feeding plan. This project was guided by four questions. Does delaying the initial newborn bath for at least 12 hours affect in-hospital exclusive breastfeeding rates? Does delaying the initial newborn bath for at least 12 hours affect any breastfeeding rates? What maternal and newborn factors are associated with in-hospital exclusive breastfeeding? After controlling for birth type, is delayed bathing associated with in-hospital exclusive breastfeeding and breastfeeding in the discharge feeding plan?

## Methods

We used a retrospective, two-group, pre- and postintervention design and collected all data after the intervention. The setting was a family maternity unit in a tertiary care community hospital with 500 beds in northeastern Ohio. The unit included a well-newborn nursery and a 41-bed postpartum unit. Generally, mothers and newborns room-in from birth until discharge, but a nursery is available. Usual STS practices vary based on mode of birth; newborns who are born vaginally receive immediate STS care, and newborns who are born via cesarean begin STS care approximately 30 minutes after birth. If women plan to breastfeed, registered nurses assist the mother–newborn couplets with initial latching at

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the breast when ready. Newborns remain in STS contact during breastfeeding.

The inclusion criterion for newborns was birth at 35 0/7 weeks gestation or later. Study exclusion criteria were newborns admitted to the NICU within the first 12 or more hours of life, newborns discharged from the NICU, and newborns separated from mothers (e.g., maternal transfer to a higher-acuity setting). Only one study was available to help us determine an adequate sample size. Preer et al. (2013) found that a delay in bathing was associated with an 8% increase in exclusive breastfeeding, and for our study, 8% was considered clinically important. In our power analysis assessment, sample size requirements were calculated to detect a 10% difference in exclusive breastfeeding for the preintervention and postintervention groups. For our study, based on use of a two-sided Pearson chi-square test with significance level of .05 and power of 80%, and assuming a baseline exclusive breastfeeding rate of 60%, a minimum sample size of 352 couplets per group was needed to detect a 10% increase in the exclusive breastfeeding rate. Sample size calculations were performed with the use of SAS software (Version 9.3).

## Intervention

The hospital's newborn admission policy regarding initial newborn bathing stated that newborns could be bathed any time after 2 hours of birth if vital signs were stable; initial newborn bathing was generally completed by the nursing staff approximately 2 hours after birth. For the intervention, we established a revised departmental standard of care to delay the bath for at least 12 hours, but nurses were encouraged to delay the bath for closer to 24 hours. Nurse educators, leaders, and clinical staff involved in this study completed daily rounds on the units to prepare, encourage, and reinforce the practice change. The leadership team audited charts in real time to determine when newborns were bathed and addressed barriers to delay.

After 2 months, the revised standard of practice was understood by the nursing staff and reinforced in huddles and staff meetings during the intervention period. We honored the requests of parents who wanted early bathing, and newborns of mothers with transmittable blood-borne pathogens (e.g., HIV, hepatitis B) were bathed early for safety reasons. These couplets were included in the analysis to capture actual bathing practices.

**Delaying the initial baths of healthy newborns was associated with increased rates of in-hospital exclusive breastfeeding.**

## Outcomes, Measurement, and Data Collection

To measure exclusive breastfeeding, we calculated in-hospital rates of exclusive breastfeeding and ever breastfeeding. Both metrics were documented in the electronic medical record as dropdown choices and free text in the nursery intake and output flowsheet. Nurses were reminded to document exclusive breastfeeding in the flowsheet with entries on related factors. Documentation was required for the ability to latch, massage breasts, and manually express human milk; any evidence of pumped or expressed breast milk given for artificial nipple feeding; and no formula given in the formula section of the intake and output flowsheet. A data analyst extracted data about newborn feeding. Because in-hospital exclusive breastfeeding cannot be determined until discharge, the combination of the flowsheet and other factors described was used to identify the phenomenon during hospitalization.

We assessed maternal characteristics for their relationships with exclusive breastfeeding, including age, race, marital status, insurance payer, birth type, and discharge feeding plan. Data on discharge feeding plans were retrieved from a flowsheet on which feeding plans were categorized as *only human milk*, *only formula*, *any combination of human milk and formula*, or *uncertain*. We also assessed newborn characteristics for their relationships with exclusive breastfeeding, including sex, temperature before and after the bath, birth and discharge weights in kilograms, and hospital length of stay. Finally, we assessed bathing characteristics, including occurrence (*yes/no*) and length of time from birth to first bath. The data analyst extracted maternal, newborn, and bathing characteristics from an administrative billing database or the electronic medical record retrospectively.

## Analysis

We used frequencies and percentages to describe categoric variables, and we used means and standard deviations to describe continuous variables when normally distributed or medians and quartiles in the absence of a normal distribution. We compared pre- and postintervention groups with the use of analysis of variance tests (normally distributed continuous data), Kruskal–Wallis tests (nonnormally distributed continuous data), or Pearson chi-square tests (categoric data). We built multivariate models to assess the significance of in-hospital exclusive breastfeeding and the discharge feeding plan after adjusting for birth type.

We evaluated in-hospital exclusive breastfeeding and the discharge feeding plan using logistic regression. We analyzed the type of discharge feeding plan (only human milk, only formula, or any combination of human milk and formula) using proportional odds logistic regression. We evaluated the time to first bath using gamma regression to account for the skewed nature of the timing and exponentiated parameter estimates to display odds ratios from the logistic models. Mean estimates from gamma regression models are presented. As a sensitivity analysis, multivariate models were rerun with generalized estimating equations to account for correlation between newborns from the same mother. We identified no significant differences, so these data are not presented. To evaluate whether in-hospital exclusive breastfeeding and use of human milk at discharge differed between intervention periods by birth type, logistic regression models with time period and birth type and their interactions were fit. We calculated odds ratios to depict changes in rates across time periods within birth type. We performed analyses using SAS software (Version 9.4) and assumed a significance level of .05 for all tests.

### Ethical Considerations

The hospital's Pediatric Institute Research Committee and institutional review board approved this study as minimal risk. Maternity unit leaders and educators supported this study.

## Results

In total, 996 healthy mother–newborn couplets, including 15 mothers with multiple births, were included in the analysis: 448 before intervention (January–February 2016) and 548 after the intervention (July–August 2016). The mean age of mothers was 30.3 years (standard deviation [*SD*] = 5.5). Of mothers, 63.3% were White, 67.8% were married, and 67.1% had vaginal births (see Table 1 for other maternal characteristics). Of newborns, 50.4% were male, mean birth weight was 3.3 kg (*SD* = 0.50), and mean discharge weight was 3.1 kg (*SD* = 0.47). There were no significant differences in the characteristics of mothers or newborns between groups (see Table 1).

We found no differences between groups related to the rate of baths for healthy newborns. The median (25th percentile, 75th percentile) time to the initial bath before the intervention was 1.9 (1.6, 2.3) hours and after the intervention was 17.9 (11.9, 25.0) hours ($p < .001$). After adjusting for birth type, newborns in the postintervention group had their first baths a mean of 4.82 (95% confidence interval [CI] [4.31, 5.39]) hours later than did newborns in the preintervention group ($p < .001$). Of all mothers, 90.6% breastfed their newborns during the hospital stay, and there were no differences between groups. The in-hospital exclusive breastfeeding rate increased from before the intervention to after the intervention, from 59.8% to 68.2% ($p = .006$). There were no group differences in healthy newborn temperatures before the initial bath; however, newborn temperatures after the initial bath in the preintervention group were less often in the normothermic range than in the postintervention group ($p < .001$; see Table 2).

We created multivariate models to show the association between in-hospital exclusive breastfeeding and the intent to exclusively breastfeed after discharge (discharge feeding plan) by overall couplets and by couplets based on birth type (vaginal vs. cesarean) among those with complete information on all variables ($n = 915$). The odds of in-hospital exclusive breastfeeding increased by 60% after intervention (odds ratio [*OR*] = 1.60, 95% CI [1.14, 2.25]; $p = .006$). The odds of intent to use human milk at discharge increased by 80% in mothers who experienced vaginal birth (*OR* = 1.80, 95% CI [1.28, 2.52]; $p < .001$); however, there were no differences in plans to use human milk at discharge among mothers who experienced cesarean birth (*OR* = 1.04, 95% CI [0.65, 1.66]; $p = .88$). In a multivariate model to measure the associations among in-hospital exclusive breastfeeding, birth type (vaginal vs. cesarean birth), and time period (group), birth type was not associated with in-hospital exclusive breastfeeding; however, newborns in the postintervention group were 49% more likely to be exclusively breastfed ($p = .004$; see Figure 1).

We assessed the discharge feeding plan with two multivariate models. In the first model, the feeding plan was categorized as two types: *only human milk* versus *any other feeding method*. After controlling for birth type, postintervention discharge feeding plans involving only human milk increased by 38% ($p = .022$) from preintervention plans. In the second model, we categorized the discharge feeding plan as three types: *only human milk*, *only formula*, and *any*

**Table 1: Characteristics of Mother–Newborn Couplets in the Study ($N = 996$)**

| Characteristic | Total | Preintervention ($n = 448$), $n$ (%) | Postintervention ($n = 548$), $n$ (%) | $p$ |
|---|---|---|---|---|
| Mothers | | | | |
| Age in years, mean (*SD*) | 30.3 (5.5) | 30.4 (5.5) | 30.2 (5.5) | .54[a] |
| Race | | | | .29[b] |
| White | 630 (63.3) | 278 (62.1) | 352 (64.2) | |
| Black | 244 (24.5) | 108 (24.1) | 136 (24.8) | |
| All others/unknown | 122 (12.2) | 62 (13.8) | 60 (11.0) | |
| Marital status | | | | .42[b] |
| Married | 675 (67.8) | 311 (69.4) | 364 (66.4) | |
| Single/divorced | 306 (30.7) | 129 (28.8) | 177 (32.3) | |
| Missing/unknown | 15 (1.5) | 8 (1.8) | 7 (1.3) | |
| Payor | | | | .47[b] |
| Government/self-pay | 48 (4.8) | 24 (5.4) | 24 (4.4) | |
| Private/commercial | 948 (95.2) | 424 (94.6) | 524 (95.6) | |
| Birth type | | | | .16[b] |
| Cesarean | 324 (32.9) | 136 (30.6) | 188 (34.8) | |
| Vaginal | 662 (67.1) | 309 (69.4) | 353 (65.2) | |
| Newborns | | | | |
| Sex | | | | .19[b] |
| Female | 494 (49.6) | 212 (47.3) | 282 (51.5) | |
| Male | 502 (50.4) | 236 (52.7) | 266 (48.5) | |
| Birth weight in kg, mean (*SD*), $n = 995$ | 3.3 (0.50) | 3.3 (0.50) | 3.4 (0.50) | .34[a] |
| Last weight in kg, mean (*SD*) | 3.1 (0.47) | 3.1 (0.48) | 3.2 (0.47) | .40[a] |
| Length of stay in days, median (P25, P75) | 2.0 (2.0, 3.0) | 2.0 (2.0, 3.0) | 2.0 (2.0, 3.0) | .52[c] |

*Note*. P25 = 25th percentile; P75 = 75th percentile; SD = standard deviation.
[a]Analysis of variance. [b]Pearson chi-square test. [c]Kruskal–Wallis test.

*combination of human milk plus formula*. After adjusting for differences in birth type, the postintervention group had significantly greater odds of any human milk being included in the discharge feeding plan (see Table 3).

## Discussion

In our study, rates of in-hospital exclusive breastfeeding increased from before the intervention to after the intervention, and newborn postbath temperatures were more often in the normothermic range after the intervention. After controlling for birth type (vaginal vs. cesarean), we found that newborns in the postintervention period were more likely to experience exclusive breastfeeding during hospitalization and that mothers were more likely to have discharge feeding plans that included human milk (exclusively or in addition to formula).

Guidelines on postnatal care from the WHO (2013), the Agency for Healthcare Research and Quality (AHRQ; 2014), and the Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN; 2018) indicate that the initial newborn bath should be delayed for up to 24 hours after birth. However, the rationale for this delay was not specified by the WHO or AHRQ; each cited the other in their guidelines. In the AWHONN (2018) neonatal skin care practice guideline, rationale for delaying the first bath was related to newborn thermoregulation, which was substantiated by our research and discussed in previous reports. In one

**To promote exclusive breastfeeding, maternity care units should revise standards of practice to include delayed bathing of healthy newborns for 12 hours or more.**

report, authors speculated that a delay in bathing may increase exclusive breastfeeding by decreasing separation of mother and newborn and newborn stress, which can lead to hypothermia and potentially impede the ability to breastfeed (Preer et al., 2013). In two other reports, early bathing of full-term (Bergström, Byaruhanga, & Okong, 2005) and late-preterm newborns (Medoff Cooper et al., 2012) was associated with hypothermia, which led researchers to recommend that the bath be delayed. Although we did not assess many physiologic variables of the healthy newborns in this study, a delayed bath led to a greater likelihood of postbath normothermia, which shows the association between delayed initial bathing and thermoregulation in newborns.

In-hospital exclusive breastfeeding rates in the preintervention period were significantly lower than in the postintervention period, which was similar to the findings of Preer et al. (2013). However, researchers in two other studies did not find that delayed bathing had a positive effect on exclusive breastfeeding. Brogan and Rapkin (2017) concluded that their inability to replicate Preer et al.'s results was likely due to the already high exclusive breastfeeding rates, high levels of STS contact after birth, and well-supported (not socioeconomically disadvantaged) mothers at their study site. Similarly, exclusive breastfeeding rates were high before the intervention in the study conducted by Suchy et al. (2018), which may have

**Table 2: Breastfeeding, Feeding Plan, and Temperature Between Pre- and Postintervention Groups**

| Variable[a] | Total | Preintervention ($n$ = 448) | Postintervention ($n$ = 548) | $p$ |
|---|---|---|---|---|
| Any breastfeeding, $n$ (%) | | | | .78[b] |
| No | 94 (9.4) | 41 (9.2) | 53 (9.7) | |
| Yes | 902 (90.6) | 407 (90.8) | 495 (90.3) | |
| Exclusive breastfeeding, $n$ (%) | | | | .006[b] |
| No | 354 (35.5) | 180 (40.2) | 174 (31.8) | |
| Yes | 642 (64.5) | 268 (59.8) | 374 (68.2) | |
| Hours from birth to first bath, median [P25, P75] | 7.2 [1.9, 21.7] | 1.9 [1.6, 2.3] | 17.9 [11.9, 25.0] | <.001[c] |
| Bath performed, $n$ (%) | | | | .12[b] |
| No | 67 (6.7) | 24 (5.4) | 43 (7.8) | |
| Yes | 929 (93.3) | 424 (94.6) | 505 (92.2) | |
| Discharge feeding plan, $n$ (%)[a] | | | | .050[b] |
| Formula | 119 (11.9) | 59 (13.2) | 60 (10.9) | |
| Human milk | 652 (65.5) | 277 (61.8) | 375 (68.4) | |
| Human milk and formula | 222 (22.3) | 112 (25.0) | 110 (20.1) | |
| Uncertain | 3 (0.30) | 0 (0.0) | 3 (0.55) | |
| Temperature before bath, $n$ (%) | | | | .61[b] |
| At least one ≤ 36.5 °C | 39 (3.9) | 16 (3.6) | 23 (4.2) | |
| All > 36.5 °C | 957 (96.1) | 432 (96.4) | 525 (95.8) | |
| Temperature after bath, $n$ (%) | | | | <.001[b] |
| At least one ≤ 36.5 °C | 303 (32.7) | 172 (40.8) | 131 (25.9) | |
| All > 36.5 °C | 624 (67.3) | 250 (59.2) | 374 (74.1) | |

*Note.* P25 = 25th percentile; P75 = 75th percentile.
[a]Intent to exclusively breastfeed after discharge. [b]Pearson chi-square test. [c]Kruskal–Wallis test.

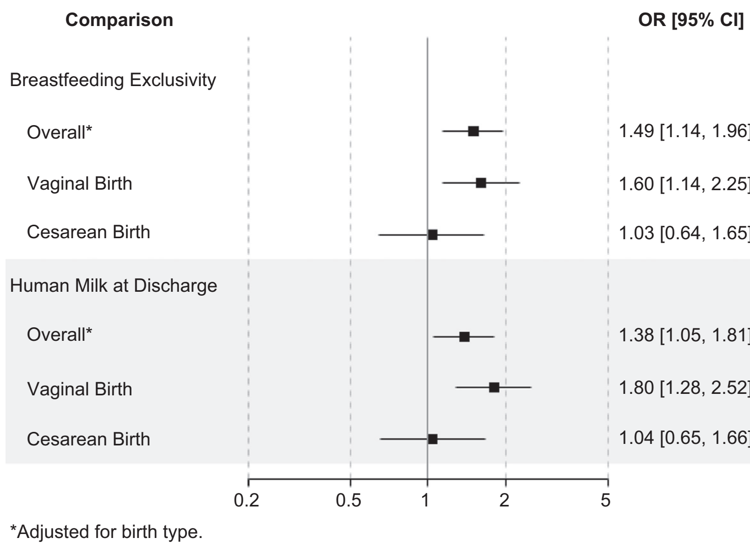


**Figure 1.** Odds of in-hospital exclusive breastfeeding and intent to exclusively breastfeed after discharge (Human Milk at Discharge) by all couplets and by birth type ($n = 915$). Analysis included only couplets with complete information on all variables. CI = confidence interval; OR = odds ratio.

minimized the likelihood of significant findings in the postintervention and maintenance periods. Our exclusive breastfeeding rate was lower than the rates in either of these studies before the intervention, which increased the likelihood of a statistically significant increase after the intervention.

Our results provide new information on the benefits of delayed bathing after hospital discharge. Although our findings need to be replicated in other studies, they reinforce the connection between delayed bathing and greater likelihood of newborn breastfeeding that may extend into the postdischarge feeding plan and practice.

With this study, we reinforce the work of others regarding the effect of delaying the initial baths of healthy newborns on in-hospital exclusive breastfeeding. Although diffusion of the practice change in the postintervention period took time to achieve, nurses were able to embrace the change and incorporated it into the standard of care for mother–newborn couplets. Hospitals should consider current policies regarding the timing of healthy newborn care and alter the timing of the initial healthy newborn bath as needed to meet the recommendations of the WHO, AHRQ, and AWHONN.

## Limitations

This study has some limitations. Although the sample size was large, the design involved two time periods rather than a single time period. This methodology could lead to an internal threat to the validity of the findings; however, no environmental, leadership, structural, or process changes were implemented during the data collection periods. Another limitation was the potential for inconsistent documentation of newborn feeding by multiple caregivers. The discharge feeding plan was communicated by mothers during hospitalization; we did not calculate actual postdischarge breastfeeding rates. Future research is needed to learn

**Table 3: Multivariate Models of Intent to Exclusively Breastfeed After Discharge (Labeled Discharge Feeding Plan)**

| Factor, Postintervention Compared With Preintervention | *OR* [95% CI] | *p* |
|---|---|---|
| Discharge feeding plan (2 types)[a] | 1.38 [1.05, 1.81] | .022 |
| Discharge feeding plan (3 types)[b] | 1.35 [1.03, 1.77] | .027 |

*Note.* Discharge feeding plan: mothers verbalized their plans to use human milk after hospital discharge. Data were collected on the day of discharge as part of the discharge orders. CI = confidence interval, *OR* = odds ratio.
[a]Only human milk and any other feeding method. [b]Only human milk, only formula, and any combination of human milk plus formula.

more about exclusive breastfeeding after hospital discharge when mothers no longer have the support provided during the hospital stay.

This study was conducted at a Baby Friendly hospital in a mid-sized community. Results may not be generalizable to hospitals that serve families with different socioeconomic statuses and demographic characteristics or those without Baby Friendly status. Finally, the bathing method used at the time of this study was a sponge bath rather than immersion. It is unknown if different methods of bathing would affect in-hospital exclusive breastfeeding rates. Diffusion of the intervention was initially slow, which may have decreased the potential to improve exclusive breastfeeding rates during the postintervention period.

## Conclusion

Based on the results of a retrospective, two-group, pre- and postintervention design, we found that delaying the initial healthy newborn bath for more than 12 hours after birth led to a greater rate of in-hospital exclusive breastfeeding, especially among mothers who gave birth vaginally. Furthermore, mothers of newborns in the delayed initial bath group were more likely to have discharge feeding plans of only human milk or that included human milk.

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