

The Baby-Friendly Hospital Initiative (BFHI): An Early Cross-Sectional Analysis of PRAMS Phase 8 Data on Hospital Practices and Breastfeeding Outcomes in Utah and Wyoming

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Abstract

Objective: Breastfeeding has immediate and long-term benefits for both maternal and child health. This study examines the association between Baby-Friendly Hospital Initiative (BFHI) experiences and breastfeeding outcomes in the Mountain West region.

Methods: A cross-sectional (retrospective secondary data analysis) was performed using the 2016 Pregnancy Risk Assessment Monitoring System (PRAMS) data. The participants were derived from a stratified random sample of 2,013 women living in Utah and Wyoming who recently had a live birth and who were surveyed on BFHI practices. The association between BFHI experiences and breastfeeding duration were assessed using crude and adjusted Poisson regression models, controlling for other BFHI experiences and maternal age, pre-pregnancy BMI, household income, smoking, alcohol, delivery method, and number of days spent in the hospital post delivery.

Results: 82.4% and 82.3% of women from Utah and Wyoming, respectively, reported breastfeeding for 2 months or longer. After controlling for other BFHI experiences and potential confounders, the one shared BFHI experience that was associated with breastfeeding for 2 months or longer vs less than 2 months was starting breastfeeding in the hospital (adjusted prevalence ratio [aPR]=1.49, 95% CI (1.12, 1.98) in Utah and aPR=2.03, 95% CI (1.13, 3.64) in Wyoming. Among women in Utah and Wyoming, only 5 of 7 BFHI steps were significant for breastfeeding duration in at least one state.

Conclusions: There is substantial epidemiological

support for health benefits to both mother and infant for exclusive breastfeeding to 6 months and prolonged breastfeeding until at least 1-year. Our findings suggest that women who initiate breastfeeding in the hospital may be more likely to breastfeed for a longer duration.

Introduction

Breastmilk is the most nutritious food for infant development and studies show that breastfeeding promotes optimal health outcomes for the mother/infant dyad that have lifelong implications. Additionally, the American Academy of Pediatrics promotes sustained breastfeeding practices for at least the first year of life.¹⁻³ Although the U.S. Centers for Disease Control and Prevention (CDC) has reported steady increases in breastfeeding practices in the US, attributed in part to support of the medical community and the Baby-Friendly Hospital Initiative (BFHI),⁴⁻⁷ the prevalence of exclusive breastfeeding is below the Healthy People 2020 targets.²

The Baby-Friendly Hospital Initiative (BFHI) is a joint effort started by UNICEF and the WHO to protect, promote, and support breastfeeding practices.^{8,9} More specifically, the BFHI seeks to increase positive in-hospital experiences such as initiating breastfeeding within 1 hour of birth, feeding on demand, and breastfeeding education and support, while limiting experiences that hinder early initiation and duration of breastfeeding, such as giving pacifiers or giving gift baskets that include formula.¹⁰ Although studies have demonstrated BFHI's success in improving breastfeeding beyond six weeks, only 28% of U.S. annual births take place in Baby-Friendly certified hospitals. Additionally, implementation strategies vary across hospitals, and there is

still widespread use of supplementation and pacifiers.¹¹⁻¹⁴

Furthermore, BFHI implementation in rural hospitals is limited; thus studies that explore BFHI experiences and breastfeeding outcomes in rural regions are needed.^{4,15} Close to 80% of the population in both Utah and Wyoming live in rural areas,¹⁶ and both states have birth rates above the national average, with Utah recording the highest birthrate in 2017.¹⁷ In addition, out of the 591 Baby-Friendly facilities in the nation, there is only 1 located in each of these states.¹⁸ No previous studies that have included an analysis of BFHI experiences between Utah and Wyoming because prior to 2016, the Wyoming PRAMS did not include any questions about BFHI experiences.

Therefore, the purpose of this study was to describe the current state of Baby-Friendly practices in Utah and Wyoming and to assess whether BFHI experiences impact breastfeeding termination and duration among new mothers. The study was approved by the University Of Utah Institutional Review Board (IRB) and determined exempt.

Materials and Methods

Study Design and Population:

This study analyzed cross-sectional population-level data for mothers who had recently given birth to a live infant in Utah or Wyoming in 2016 and who completed the CDC Pregnancy Risk Assessment Monitoring System (PRAMS) Phase 8 questionnaire. The CDC developed PRAMS in 1987 as an ongoing, nationwide surveillance system that is state-specific in its sampling scheme and operated within local health departments to collect data related to behaviors and experiences of mothers pre-pregnancy, during the prenatal period, and in the immediate post-natal period.^{19,20,21} The PRAMS initiative aims to promote safe motherhood, as well as reduce low birth weight and infant mortality.²² The PRAMS questionnaire collects information on an array of topics such as maternal knowledge, attitudes and behaviors about pregnancy, breastfeeding, infant health, physical abuse, stress and social support, maternal use of alcohol and tobacco products, and contraception, among others.²³ The recruitment process involves the random selection of potential participants from a sample of birth certificates indicating a recent live birth between two and six months post-partum.²⁴

Utah oversamples mothers with low education and infants with low birthweight while Wyoming oversamples by maternal race and infant birthweight to ensure that the data is representative of the smaller, higher risk populations.^{25,26} Using birth certificates, new mothers are randomly selected, within stratified sampling scheme, to participate in completing the PRAMS survey.²⁰ Utah and Wyoming select approximately 200 and 140 women each month, respectively, who delivered live births and are at two to six months post-partum.^{20,27} Selected mothers receive an introductory letter by mail, followed by a survey that is mailed a week after the introductory letter is sent, followed by third and fourth survey attempts mailed to non-respondents.²⁰ Next, an interviewer contacts those non-respondents who received the mailed survey.²⁰ The surveys and phone interviews are available and may be administered in English and Spanish to accommodate Spanish-speaking mothers when necessary.²⁸ Mothers who recorded “Hispanic” on birth certificate information received surveys in English and Spanish.²⁹ The expected response rate in Utah and Wyoming is 60% – 65% following the CDC protocol.^{20,28} The actual response rate for UT in 2016 was 65% and 63% for WY. Once the surveys are received by the local health department, responses are grouped to document the self-reported prevalence data.²⁸

Data Sources/Measurement:

Breastfeeding Initiation/Duration Measures

For this analysis, breastfeeding (BF) termination and duration measures were informed via the Utah Phase 8 (2016) and Wyoming Phase 8 (2016) surveys, which included the following questions: “Did you ever breastfeed or pump breast milk to feed your new baby, even for a short period of time?” Respondents with a “yes” answer were then asked, “Are you currently breastfeeding or feeding pumped milk to your new baby?” If response was “no”, the respondents were asked, “How many weeks or months did you breastfeed or pump milk to feed your baby?”

In-Hospital Newborn Care Enhancement Measures

Mothers who reported “yes” to breastfeeding their newborn or giving them pumped breast milk, regardless of the duration, were asked to respond to the following questions with a “yes” or “no” answer about their BFHI experiences: 1) “Hospital staff gave me information about breastfeeding”; 2) “My baby stayed in the same room with me at the hospital”; 3) “I breastfed

my baby in the hospital”; 4) “Hospital staff helped me learn how to breastfeed”; 5) “I breastfed in the first hour after my baby was born?”; 6) “My baby was placed in skin-to-skin contact within the first hour of life?”; 7) “My baby was fed only breastmilk at the hospital”; 8) Hospital staff told me to breastfeed whenever my baby wanted”; 9) “The hospital gave me a breast pump to use”; 10) “The hospital gave me a gift pack with formula”; 11) “The hospital gave me a telephone number to call for help with breastfeeding”; and 12) “Hospital staff gave my baby a pacifier”. The prevalence of BFHI experiences for the study population are found in Table 2 and in Figure 2.

Covariates:

In this analysis, the Phase 8 Utah-PRAMS (2016) and Phase 8 Wyoming-PRAMS (2016) were examined to understand if there is an association between in-hospital newborn care enhancement measures as well as early initiation and continuation of BF after delivery. Key demographic, behavioral and experiential factors were identified as potential confounders through a thorough literature review.^{6,30–33} Final decisions on potential confounding factors to include were informed by confirming that the factor is associated with one of the BFHI experiences and with the outcome variables of interest (BF termination or duration), that the factor is unequally distributed within the study population, and that the factor is not an intermediary step in the causal pathway from BFHI experiences and the outcome variable.^{34,35} The covariates selected for this analysis included maternal age (<20, 20–24, 25–34, 35+), maternal body mass index (BMI) (WHO categories: underweight, normal weight, overweight, obese), household (HH) income (\leq \$28,000, \$28,001–\$57,000, \$57,001–\$85,000, over \$85,000), smoked in previous 2 years (no/yes), drank alcohol in previous 2 years (no/yes), delivery method (vaginal or C-section), and the number of days the baby stayed in hospital post-delivery (<1 day, 1–2 days, 3–5 days, 6–14 days, >14 days, or still in). Table 1 delineates these population characteristics by BF duration status for the Utah & Wyoming PRAMS 2016 analysis.

Study Size, Methods, and Statistical Analysis:

The total number of participants between both states included 2,013 women who completed the state-specific PRAMS survey. The total number of participants between both states included 2,013 women who completed the state-specific PRAMS survey. An overview

of the sample selection process is illustrated in Figure 1. In Utah, the total number of recorded live births that occurred in 2016 was 50,486 and of those 1,400 women completed the Utah-PRAMS.³⁶ The Utah analysis excluded 43 women (3%) who did not respond to the ever breastfed question, and 28 women (2%) whose delivery did not occur in the hospital within the state of Utah in 2016. In Wyoming, the total number of recorded live births that occurred in 2016 is 7,384 and of those, 613 women completed the Wyoming PRAMS survey.³⁷ The Wyoming analysis excluded 28 women (4.6%) who did not respond to the ever breastfed question, and 12 women (2%) whose delivery did not occur in the hospital within the state of Wyoming in 2016. The weighted response rate was 63% in Wyoming.²⁶ After exclusions, a total of 1,901 women (n=1328 from Utah and n=573 from Wyoming) were included in the analysis.

Descriptive population characteristics were used to compare mothers from Utah and Wyoming according to BF initiation, termination or duration. Prevalence ratios (PR) were calculated with 95% confidence intervals (CI) to evaluate the relationship between BF termination or duration and mother’s BFHI experiences, using unadjusted and adjusted Poisson regression. Analyses were completed using SAS version 9.4 (SAS University ed.) and STATA 15.1 (Stata Corp, LLC). Survey data were weighted according to PRAMS methodology such that the sample was representative of all mothers who delivered during 2016 in Utah and Wyoming.

Results

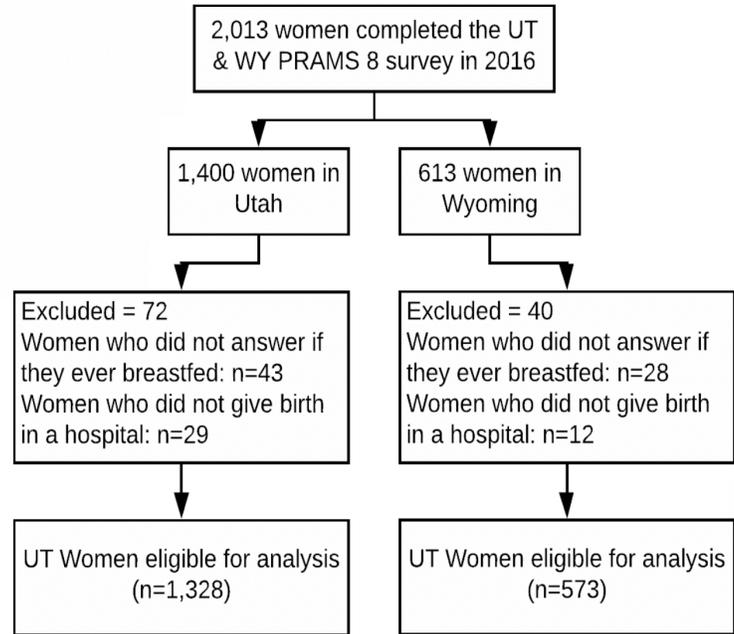
Participants from Utah were 15–45 years old, while participants from Wyoming were 15–43. The average age of participants from both states was 28 years old. Participants from both states completed the survey on an average at 16 weeks postpartum. The interquartile range for Utah was 13–20 weeks with a range of 10–32 weeks, while in Wyoming the interquartile range was 13–18 weeks with a range of 10–37 weeks. The percentage of survey respondents who reported BF initiation was 93.4% in Utah and 90.5% in Wyoming. 69.5% of mothers in Utah and 68% in Wyoming reported they were still BF at the time of survey completion. Exclusive BF was reported by 59.9% in Utah and 70.4% in Wyoming. The average number of weeks mothers

breastfed was 12.8 weeks in Utah versus 12.3 weeks in Wyoming.

Figure 1 outlines the prevalence of each of the BFHI in each state, with “Baby breastfed in the hospital” having the highest prevalence in each state (95.0% in Utah and 95.1% in Wyoming) and staff giving breast pump for breastfeeding having the lowest prevalence (35.5% in Utah and 24.0% in Wyoming).

17.7% of participants from Wyoming reported BF <2 months and 82.3% breastfed for 2 months or longer compared vs. 17.6% <2 months and 82.4% in Utah. In both states, women who breastfed for 2 months or longer versus <2 months tended to be older, of normal weight, higher income, non-alcohol consumers, non-smokers, having a vaginal delivery, and fewer days in the hospital (Table 1).

Figure 1. Flow diagram explaining the final cohort of women in the analysis.



Flow model of participant exclusions from analysis.

Figure 1: Flow diagram explaining the final cohort of women in the analysis

Table 1. Population Characteristics by Breastfeeding Duration (<2 vs. ≥2 months: Utah and Wyoming PRAMS Phase 8, 2016

Characteristics	Utah			Wyoming		
	Utah Overall	Breastfed <2 months 17.6%	Breastfed ≥ 2 months 82.4%	Wyoming Overall	Breastfed <2 months 17.7%	Breastfed ≥ 2 months 82.3%
Age, mean (SE)	28.8 (0.2)	28.0 (0.5)	28.9 (0.2)	28 (0.3)	26.2 (0.7)	28.4 (0.3)
Age (Category), (%)						
<20	6.2	13.4	4.5	8.1	12.9	6.7
20–24	19.2	20.4	18.9	20.3	33.2	16.8
25–34	58.3	47.6	60.8	58.8	43.1	63.0
35+	16.3	18.7	15.8	12.8	10.8	13.5
BMI, (%)						
Underweight	5.4	6.1	4.9	3.8	4.7	3.3
Normal Weight	50.9	33.9	55.5	50.6	34.6	54.8
Overweight	25.2	31.2	23.7	25.9	32.2	24.3
Obese	18.6	28.8	15.9	19.8	28.5	17.7
Household Income, (%)						
≤\$28,000	24.9	39.1	20.5	37.0	56.1	30.9
\$28,001–\$7,000	31.6	24.8	33.6	20.7	17.7	21.4
\$7,001–\$85,000	23.3	20.1	25.0	15.8	15.5	16.1
>\$85,000	20.2	16.0	20.9	26.6	10.8	31.5
Drank Alcohol, (%)						
No	67.2	56.3	69.6	33.2	31.1	33.1
Yes	32.8	43.8	30.4	66.8	68.9	66.9
Smoked, (%)						
No	85.9	78.0	88.0	71.6	66.5	74.0
Yes	14.1	22.0	12.1	28.4	33.5	26.0
Delivery Method, (%)						
Vaginal	79.3	70.0	81.1	72.3	75.2	74.5
C-section	20.7	30.0	18.9	27.7	24.8	25.5
Hospital Length of Stay, (%)						
<1 Day	5.1	2.3	5.4	4.9	8.6	3.6
1–2 Days	65.1	59.4	66.0	70.0	67.8	72.1
3–5 Days	22.1	26.9	21.5	18.4	17.8	17.4
6–14 Days	4.3	4.7	4.2	4.0	1.5	4.5
>14 Days	3.1	6.6	2.4	2.6	4.3	2.3
Still in	0.3	0.1	0.4	0.1	0.0	0.1

Weighted frequencies and mean (standard error [SE]) were calculated accounting for the stratified survey sampling.

Table 1: Population characteristics by breastfeeding duration

Unadjusted analysis of each BFHI experience and the association on breastfeeding duration for each state was assessed. In Utah, findings indicated that 8 of 12 the experiences—feeding baby in hospital, giving gift with formula, giving breast pump, engaging in skin to skin in the first hour, BF in the first hour, feeding only breastmilk, baby staying in the room, and giving pacifier by staff — were associated either positively or negatively with BF duration (PR=1.59, 95% CI (1.23, 2.04), PR=0.88, 95% (CI 0.83, 0.93), PR=0.89, 95% CI (0.83, 0.96), PR=1.15, 95% CI (1.04, 1.27), PR=1.2, 95% (CI 1.09, 1.33), PR=1.20, 95% CI (1.12, 1.29), PR=1.15, 95% CI (1.03, 1.29), and PR=0.87, 95% (CI 0.82, 0.92) respectively) (Table 2). In Wyoming, findings indicated that 4 of 12 the experiences—feeding baby in hospital, staff giving breastfeeding help telephone number, feeding only breastmilk in the hospital, and giving pacifier by staff — were associated either positively or negatively with BF duration (PR=1.69, 95% CI (1.08, 2.65), PR=1.23 95% (CI 1.06, 1.43), PR=1.22, 95% CI (1.07, 1.39), and PR=0.88, 95% (CI 0.80, 0.97) respectively).

Table 2. Breastfeeding Duration (≥2 months vs < 2 Months) by BFHI Experiences: PRAMS Phase 8, 2016; Utah, n=1125 and Wyoming, n=509

BFHI Experiences	Unadjusted PR(95% CI)			Utah Model 1 PR(95% CI)			Model 2 PR(95% CI)			Unadjusted PR(95% CI)			Wyoming Model 1 PR(95% CI)			Model 2 PR(95% CI)		
	PR	(95% CI)		PR	(95% CI)		PR	(95% CI)		PR	(95% CI)		PR	(95% CI)		PR	(95% CI)	
Baby breastfed in hospital	1.59	(1.23 2.04)		1.49	(1.13 1.97)		1.49	(1.12 1.98)		1.6925	(1.08 2.65)		1.61	(1.02 2.53)		2.03	(1.13 3.64)	
Staff gave breastfeeding help phone #	1.08	(0.99 1.17)		1.04	(0.95 1.13)		1.04	(0.94 1.14)		1.23	(1.06 1.43)		1.31	(1.11 1.55)		1.18	(1.01 1.39)	
Staff gave gift w/formula	0.88	(0.83 0.93)		0.92	(0.86 0.98)		0.93	(0.87 0.99)		0.95	(0.86 1.04)		1.01	(0.92 1.11)		1.00	(0.92 1.10)	
Staff gave breast pump	0.89	(0.83 0.96)		0.97	(0.89 1.06)		0.98	(0.89 1.07)		0.98	(0.87 1.09)		0.99	(0.86 1.13)		0.98	(0.86 1.13)	
Skin-to-skin within 1st hour	1.15	(1.04 1.27)		1.00	(0.88 1.14)		1.02	(0.89 1.18)		0.99	(0.89 1.11)		0.90	(0.77 1.04)		0.93	(0.79 1.08)	
Staff gave breastfeeding info	1.13	(0.95 1.35)		1.09	(0.92 1.30)		1.04	(0.87 1.23)		0.96	(0.83 1.11)		0.76	(0.63 0.92)		0.78	(0.64 0.96)	
Breastfed within 1st hour	1.20	(1.09 1.33)		1.06	(0.93 1.20)		1.06	(0.93 1.21)		1.10	(0.96 1.23)		1.07	(0.91 1.27)		1.06	(0.90 1.26)	
Staff helped learn to breastfeed	0.90	(0.88 1.00)		0.93	(0.87 0.99)		0.94	(0.87 1.00)		1.00	(0.88 1.10)		0.96	(0.85 1.08)		0.99	(0.87 1.11)	
Fed only breast milk in hospital	1.20	(1.12 1.29)		1.11	(1.03 1.20)		1.07	(0.98 1.15)		1.22	(1.07 1.39)		1.15	(1.00 1.33)		1.16	(1.00 1.34)	
Baby stayed in hospital room	1.15	(1.03 1.29)		1.03	(0.89 1.19)		1.12	(0.95 1.31)		0.97	(0.85 1.10)		0.73	(0.60 0.88)		0.76	(0.65 0.90)	
Staff said to feed on demand	1.07	(0.98 1.17)		0.97	(0.89 1.06)		0.98	(0.89 1.08)		1.15	(0.97 1.35)		1.13	(0.94 1.36)		1.05	(0.87 1.26)	
Staff gave pacifier	0.87	(0.82 0.92)		0.92	(0.87 0.98)		0.95	(0.89 1.02)		0.88	(0.80 0.97)		0.90	(0.82 0.99)		0.92	(0.83 1.01)	

Prevalence ratios (PR) were calculated with 95% confidence intervals (CI) using unadjusted and adjusted Poisson regression with robust error variance, accounting for the stratified survey sampling.

Model 1: Adjusted for other BFHI experiences.

Model 2: Adjusted for other BFHI experiences and maternal age (<20, 20-24, ^25-34, 35+), maternal BMI (WHO categories: underweight, ^normal weight, overweight, obese), HH income (≤\$28,000, \$28,001-\$57,000, ^\$57,001-\$85,000, over \$85,000), smoker, drinks, delivery method (^vaginal or C-section), #days bb stayed in Hospital (<1 day, 1-2 days,

^3-5 days, 6-14 days, >14 days, still in).

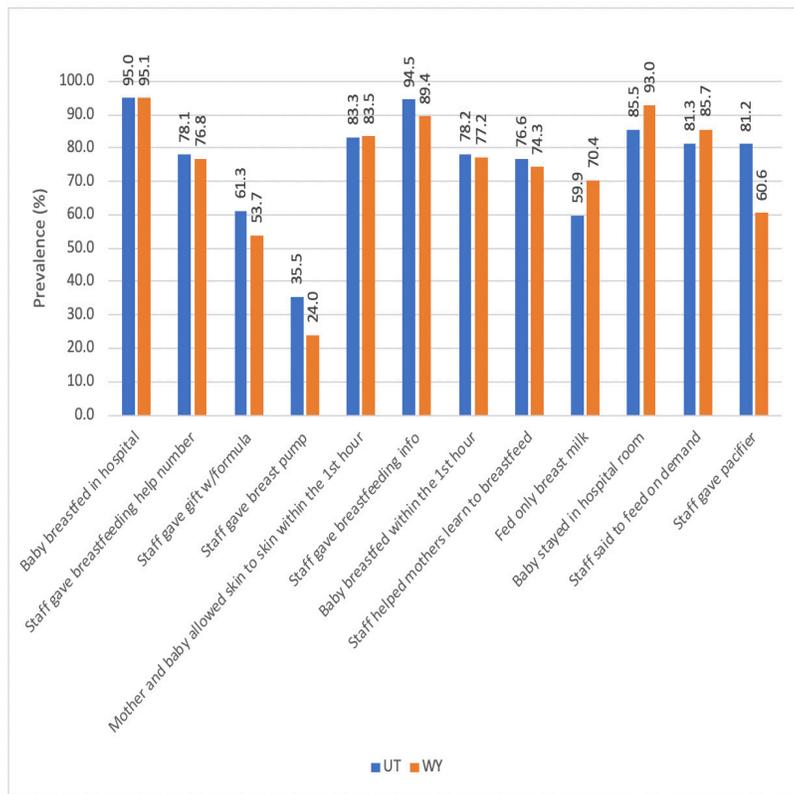
BFHI, baby friendly hospital initiative; PR, prevalence ratio; CI, confidence interval; ^, referent group.

Table 2: Unadjusted analysis of each BFHI experience and the association on breastfeeding duration for each state

After adjusting for other BFHI experiences and confounding factors (maternal age, maternal BMI, HH income, alcohol use, smokers, delivery method and hospital length of stay), the only BFHI experience significant for BF duration (≥ 2 months versus less) for both states was starting breastfeeding in the hospital: adjusted prevalence ratio [aPR] = 1.49, 95% CI (1.12, 1.98) in Utah and aPR=2.03, 95% CI (1.13, 3.64) in Wyoming. In Wyoming only, staff giving BF help telephone number or exclusive feeding of breastmilk in the hospital were significant predictors of longer BF duration, aPR=1.18, 95% CI (1.01, 1.39) and aPR=1.16, 95% CI (1.00, 1.34), respectively, while staff giving breastfeeding information or having baby stay in the hospital room with mother were associated with shorter BF duration, aPR=0.78 (95% CI: 0.64, 0.96) and aPR=0.76 (95% CI: 0.65, 0.90), respectively. Conversely, in Utah, staff who gave a gift that included formula were more likely to report early BF termination (<2 months), aPR=0.93, 95% CI (0.87,0.99)], this was not the finding for Wyoming.

Figure 2: Prevalence of Baby-friendly Hospital Initiative Steps: Utah and Wyoming

PRAMS



Mothers who indicated that they had breastfed their baby were asked yes or no questions about different hospital experiences that they may have had when their baby was born. Response rate was ≥84%.

Figure 2: Prevalence of Baby-Friendly Hospital Initiative Steps: Utah and Wyoming PRAMS

Discussion

This population-based study provides a representative, preliminary description of the current state of breastfeeding for mothers who delivered a live birth in Utah and Wyoming during the first year (2016) Phase 8 PRAMS. It offers a first ever look at how BFHI experiences impact breastfeeding termination and duration in these rural mountain west states. We found approximately equal prevalence of breastfeeding duration in both states, with approximately 82% of postpartum women reporting breastfeeding for 2 months or more. Additionally, we found that, in relation to BF duration, only women who started breastfeeding in the hospital, had increased likelihood of BF ≥2 months, with Utah having a 49% increase and Wyoming having a 103% increase after adjusting for other BHFHI experiences and confounding factors. Wyoming, however, also showed that staff giving breastfeeding help telephone number, and those who fed only breastmilk in the hospital also significantly increased the likelihood of breastfeeding 2 or more months (18% and 16%), respectively. Interestingly those with increased risk of early breastfeeding termination (< 2 months) were those given

breastfeeding information by staff and those who had their babies room-in with them 24/7 (22% and 24%), respectively. Those to whom staff gave a pacifier, did not show significant association with breastfeeding duration in either state; however, these were significant risks for early termination for the first multivariate analysis model that controlled only for other BFHI experiences and not the other confounders included in the fully adjusted model. In Utah, those who were given formula were 7% more likely to terminate breastfeeding before 2 months.

Our results regarding starting breastfeeding in the hospital, giving only breast milk, and providing help telephone numbers are consistent with other research.¹¹ Our results showed that giving pacifiers did not significantly impact breastfeeding duration. Although this finding may be counter-intuitive, it is supported by large RCTs that also showed no impact.³⁹ Our findings that showed negative impacts from rooming-in and provision of staff help are contradictory to other findings,¹² and may be due to reverse causation (i.e., women who require infant to be in the room with them or who need help from staff breastfeeding may be women who are having greater difficulties breastfeeding and thus it is not the BHFHI but rather the difficulty breastfeeding that drives the association).

The limitations present in our study should be considered when interpreting our findings. Reporting biases are likely because data were not available for race/ethnicity or pre-term delivery, both of which are known to impact breastfeeding initiation and duration.³¹ Similarly, there was no information on the hospitals where the infants were born, and subsequently, no information on the status of the hospital's Baby-Friendly designation. Possible recall bias may exist in that women who breastfed longer may differ significantly in their recollection of BFHI experiences than those who did not. Additionally, the impact of parity as a potential confounder was not addressed in our analysis. Further, generalizability is limited as the study focuses exclusively

on the Mountain West region. However, for states with limited access to BFHI designated hospitals, our findings may be more relevant.

Despite these limitations, there are several strengths of the study. First, we utilized weighted data to represent all mothers who gave birth from 2016 in Utah and Wyoming. The sample size of the study was also reflective of these populations with weights to ensure the inclusivity of at-risk women. Furthermore, this is the first time Wyoming has included the BFHI experiences question in their PRAMS survey. Thus this study has the unique strength of being the first to compare these two very similar populations.

Conclusion

In conclusion, our results demonstrate the importance of initiating and exclusively breastfeeding in the hospital as well as providing help telephone numbers for women about breastfeeding prior to discharge. More specifically, our findings indicate that small rural hospitals may be able to improve breastfeeding duration by implementing these specific BFHI recommendations. Additionally, our results suggest that giving a gift pack with formula in the hospital is associated with stopping breastfeeding before two months for

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both states, but providing a pacifier is not associated with breastfeeding duration. There is strong epidemiological support for the health benefits to both mother and infant for exclusive breastfeeding to 6 months and prolonged breastfeeding until at least 1-year, and along with the U.S. Preventive Services Task Force (USPSTF), the WHO and UNICEF we also strongly promote and encourage this practice.^{1-3,38}

Acknowledgements

Data were provided by the Wyoming and Utah Pregnancy Risk Assessment Monitoring Systems (PRAMS) directed by the Utah and Wyoming Departments of Health in coordination with the US Health and Human Services Department and Centers for Disease Control and Prevention. This study is not representative of the official views of the entities listed.

Sources of Funding:

Dr. Rogers received supportive funds from the National Cancer Institute of the National Institutes of Health (NIH) [grant number K01CA234319]. This report does not represent the official views of the CDC, Utah Department of Health, or the NIH.

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