PRAMS Perspectives

A Pregnancy Risk Assessment Monitoring System Report - February 2013

# Breastfeeding in Utah: Initiation, Continuation, and Barriers

## Background

Although evidence of the benefits is well-distributed among health providers and policy makers, breastfeeding remains an indicator the health community should strive to improve. Breastfeeding has been referred to as the "First Immunization" for infants by the American Academy of Pediatrics.[1] Exclusive breastfeeding for the first six months of life provides health benefits to the infant that cannot be matched by nutritional supplement. These benefits include: preventing gastrointestinal illness and respiratory infection; reducing the risk of obesity, diabetes, asthma, SIDS, otitis media, allergies, and urinary tract infection; and improving cardiovascular health.[1, 2] Breastfeeding also contributes to the mother's health with: reduced risk of postmenopausal breast and ovarian cancer; higher bone density; more timely return of the uterus to pre-pregnancy state; reduced bleeding and increased weight loss in the postpartum period; and an increased length of time between pregnancies.[1, 2]

### What is PRAMS?

Data in this newsletter were obtained from the Utah Pregnancy Risk Assessment Monitoring System (PRAMS). PRAMS is an ongoing, population-based, risk factor surveillance system designed to identify and monitor selected maternal experiences that occur before, during, and after pregnancy and early infancy experiences. Each month, a sample of approximately 200 women two to four months postpartum is selected. The sample is stratified based on maternal education and birth weight so that inferences and comparisons about these groups can be made. The results are weighted for sample design and non-response.

Women are asked questions about prenatal care, breastfeeding, smoking and alcohol use, physical abuse, and early infant care. PRAMS is intended to help answer questions that birth certificate data alone cannot answer. Data will be used to provide important information that can guide policy and other efforts to improve care and outcomes for pregnant women and infants in Utah.

The PRAMS data reported here represent all live births to Utah residents during 2009-2010. A total of 4,220 mothers were selected to participate in the project and 3,234 mothers responded, for a response rate of 77%. Survey results are weighted for non-response so that analyses can be generalized to the entire population of Utah women delivering live births.

The U.S. Department of Health and Human Services has recognized the value of breastfeeding and emphasizes its importance in the Healthy People 2020 goals for the country. The goals include an increase in the proportion of infants who are ever breastfed (initiation) from the current 74% to 81.9%. Furthermore, the goals call for an increase in the proportion of infants who are breastfed at six months from 43.5% to 60.6%, and an increase in infants still being breastfed at one year from 22.7% to 34.1%. Also included are goals for exclusive breastfeeding of 46.2% for infants at 3 months and 25.5% at six months.[3]

Because there are concerns about early formula supplementation, and one study's result that nearly half of breastfed babies in 2007 were supplemented with formula while still in the hospital,[4] Healthy People 2020 has also included a goal to reduce the proportion of breastfed newborns who receive formula within the first two days of life to 14.2% from the current rate of 24.2%.[3]

The Healthy People 2020 goals also encourage employers and hospitals to further support breastfeeding mothers. The goals call for an increase in the proportion of employers that offer worksite lactation support programs from 25% to 38%, and an

## Background (continued)

In examining the barriers that impact a woman's decision to initiate or continue breastfeeding, current literature sheds light on several issues. Certain demographic characteristics or behaviors have a measurable impact on a woman's intent to breastfeed and her success in continuation of breastfeeding. Women who are older, have a higher level of education, higher socioeconomic status, are married, have private health insurance, sought prenatal care in the first trimester, are nonsmokers, and are white have higher levels of breastfeeding initiation.[5, 6] In contrast, women who were enrolled in WIC and Medicaid had reduced rates of initiation and continuation.[6] Breastfeeding intention as well as breastfeeding education and support are also predictors in both initiation and continuation.[6] Furthermore, women who underwent a Cesarean section had lower levels of breastfeeding initiation.[7]

Beyond the reasons for initiation are those for early cessation. Many women experience personal barriers in the continuation of breastfeeding. Many women who stop breastfeeding complain of sore breasts and nipples, an insufficient supply of breast milk, the infant's refusal of the breast, or concerns that the infant is not satisfied by breast milk.[6, 8] Women are also influenced by the world around them. Success in breastfeeding can depend upon the hospital's approach to breastfeeding, the perception of society on breastfeeding, and personal and professional support systems.[1, 6]

The Maternal and Infant Health Program at the Utah Department of Health is committed to achieving the goals of Healthy People 2020, and to promoting a healthy and supportive environment for Utah's mothers and babies with regard to breastfeeding.

## Methodology

The data found in this newsletter focus on identifying characteristics of Utah women who initiate breastfeeding, those who continue breastfeeding, and reasons women give for discontinuing or not initiating at all. Utah PRAMS and birth certificate data from 2009-2010 were used to determine the prevalence of breastfeeding within the population. Chi-square analysis was used to identify breastfeeding initiation and continuation by selected maternal characteristics, as well as the identification of barriers to initiation and duration of breastfeeding. The CDC's Breastfeeding Report Card for 2011 was also used to obtain data on breastfeeding exclusivity and formula supplementation.

Because the PRAMS survey is completed between two and four months postpartum, there may be some recall bias from mothers when answering the questions. Furthermore, because breastfeeding continuation rates are routinely reported at six months postpartum, and Utah PRAMS participants receive the survey between two and four months postpartum, Utah's rates cannot be compared to national continuation rates.

## Results

Utah is ahead of the national average for most breastfeeding indicators, but could also use some public awareness and further improvement. The 2009-2010 PRAMS data show that 92.1% of Utah women ever breastfeed, and 68.4% are breastfeeding at the time they complete the survey (between two and four months). Data from the 2009 National Immunization Survey (NIS) show that 37.6% of Utah women are

**Table 1** illustrates that Utah women who **initiated breastfeeding** were significantly more likely to:

- Be older
- Have a higher level of education
- Be married
- Have a higher socioeconomic status
- Have private insurance
- Have intended to get pregnant
- Be nonsmokers
- Have had a previous birth
- Have received help from their provider with breastfeeding
- Have had a vaginal birth
- Not have had a depression diagnosis
- Not be enrolled in WIC during pregnancy

Those who **continued to breastfeed** at the time the survey was completed were more likely to:

- Be older
- Have a higher level of education
- Have private insurance
- Have had a previous live birth
- Have intended to get pregnant
- Have received information prenatally from their provider regarding breastfeeding
- Be nonsmokers
- Have had a vaginal birth
- Have a higher socioeconomic status
- Be married
- Be non-Hispanic
- Have had a birth that went to term (>37 weeks)
- Be a normal weight
- Have not experienced domestic violence before or during pregnancy
- Not be enrolled in WIC during pregnancy
- Not feel depressed or have had a depression diagnosis

| Table 1. Percentage of Women with Live Births who Reported Ever Breastfeeding or Still Breastfeeding by Selected Maternal Characteristics. Utah PRAMS 2009-2010. | | |
|---|---|---|
| **Characteristics** | **Percentage of Women who Ever Breastfed (With 95% Confidence Intervals)** **P-Value** | **Percentage of Women Breastfeeding When Survey Completed** (With 95 % Confidence Intervals)** **P-Value** |
| **Total Birth Population** | 92.1 ± 1.1 | 68.4 ± 1.9 |
| **Maternal Age** | *P<0.01* | *P<.0001* |
| ≤17 | 88.4 ± 6.6 | 33.7 ± 10.2 |
| 18-19 | 85.7 ± 5.6 | 36.0 ± 8.9 |
| 20-24 | 93.1 ± 1.9 | 59.4 ± 4.1 |
| 25-29 | 91.3 ± 1.9 | 73.4 ± 3.1 |
| 30-34 | 92.9 ± 2.1 | 75.9 ± 3.6 |
| 35-39 | 94.3 ± 3.0 | 75.6 ± 6.12 |
| 40+ | 97.9 ± 2.6 | 76.5 ± 13.0 |
| **Maternal Education** | *P<.0001* | *P<.0001* |
| Less than High School | 88.3 ± 2.5 | 49.5 ± 4.1 |
| High School | 87.6 ± 2.9 | 55.2 ± 4.6 |
| Some College | 93.1 ± 1.8 | 69.4 ± 3.4 |
| College Graduate | 96.1 ± 1.6 | 83.7 ± 3.0 |
| **Previous Live Birth** | *P<0.05* | *P<.0001* |
| Yes | 91.4 ± 1.4 | 72.5 ± 2.2 |
| No | 93.8 ± 1.6 | 60.7 ± 3.4 |
| **Pregnancy Intent** | *P<0.01* | *P<.0001* |
| Intended | 93.6 ± 1.3 | 74.7 ± 2.3 |
| Unintended | 89.9 ± 1.8 | 58.2 ± 3.2 |
| **Received Breastfeeding Counseling During Prenatal Care** | NS | *P<.0001* |
| Yes | 91.7 ± 1.3 | 65.0 ± 2.3 |
| No | 93.3 ± 1.8 | 75.5 ± 3.2 |
| **Enrolled in WIC During Pregnancy** | *P<0.0001* | *P<0.0001* |
| Yes | 88.4 ± 2.2 | 56.3 ± 3.5 |
| No | 93.9 ± 1.1 | 73.6 ± 2.2 |
| **Mom Smoked Last 3 Months of Pregnancy** | *P<.0001* | *P<.0001* |
| Yes | 79.6 ± 6.3 | 30.6 ± 8.8 |
| No | 92.9 ± 1.0 | 70.2 ± 1.9 |
| **Method of Delivery** | *P<.05* | *P<.0001* |
| Vaginal | 93.1 ± 1.1 | 70.5 ± 2.1 |
| C-Section | 88.9 ± 2.5 | 60.5 ± 4.2 |
| **Postpartum Check-up** | *P<.05* | *P<0.05* |
| Yes | 92.6 ± 1.1 | 69.2 ± 2.0 |
| No | 89.1 ± 3.4 | 61.7 ± 5.7 |
| **Provider Offered Help with Breastfeeding Postpartum** | *P<.0001* | NS |
| Yes | 94.4 ± 1.0 | 67.9 ± 2.0 |
| No | 80.7 ± 3.8 | 71.6 ± 4.9 |
| **Postpartum Diagnosis of Depression** | *P<0.05* | *P<.0001* |
| Yes | 88.9 ± 3.9 | 55.8 ± 6.6 |
| No | 92.5 ± 1.1 | 69.6 ± 1.9 |

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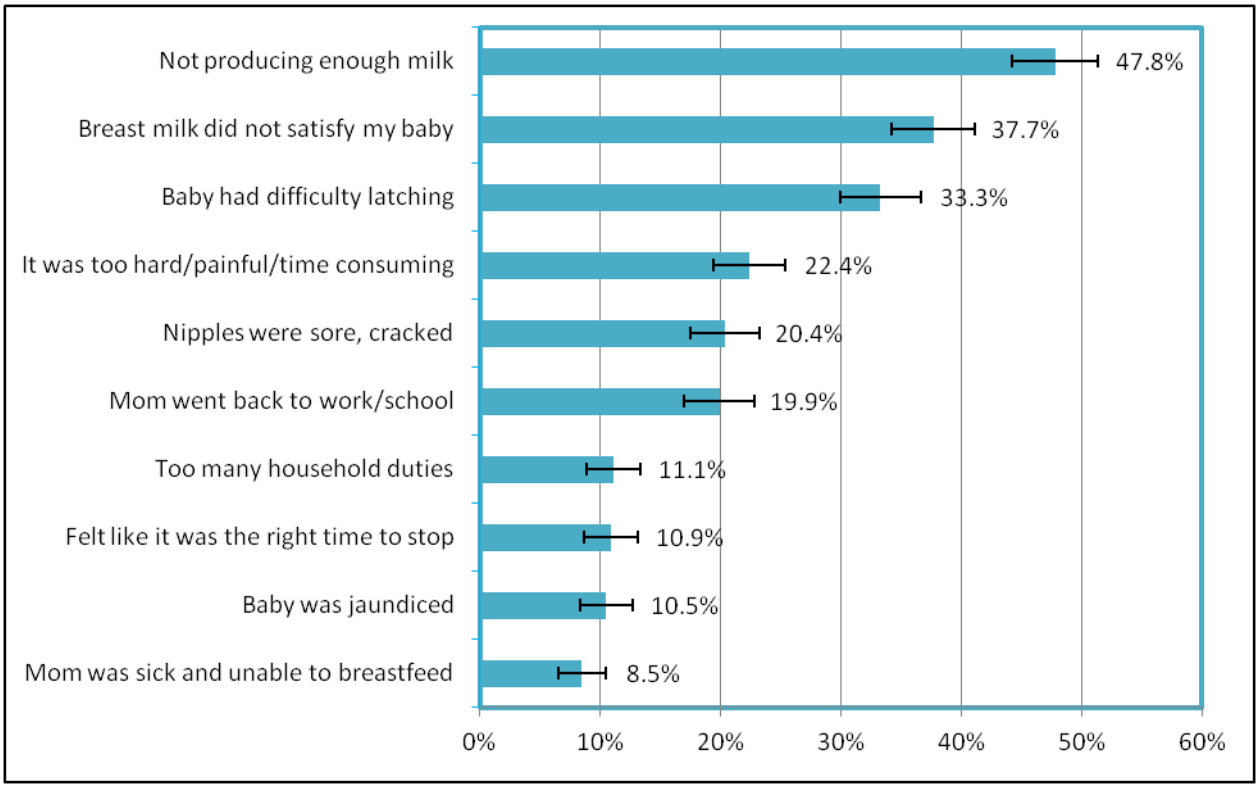
|---|---|---|
| **Characteristics** | **Percentage of Women who Ever Breastfed (With 95% Confidence Intervals)** | **Percentage of Women Breastfeeding When Survey Completed** (With 95% Confidence Intervals)** |
| | **P-Value** | **P-Value** |
| **Federal Poverty Level** | *P<0.01* | *P<.0001* |
| <=100% | 89.5 ± 2.3 | 54.6 ± 4.1 |
| 101-133% | 90.9 ± 3.8 | 66.1 ± 6.4 |
| 134-185% | 91.2 ± 3.2 | 74.0 ± 5.3 |
| 185%+ | 93.9 ± 1.3 | 73.8 ± 2.5 |
| **Marital Status** | *P<0.0001* | *P<0.0001* |
| Married | 93.5 ± 1.1 | 74.3 ± 2.0 |
| Other | 86.6 ± 3.0 | 40.7 ± 4.7 |
| **Ethnicity** | NS | *P<0.05* |
| Hispanic | 91.2 ± 2.4 | 62.1 ± 4.2 |
| Non-Hispanic | 92.3 ± 1.2 | 69.7 ± 2.1 |
| **Interpregnancy Interval** | NS | *P<.0001* |
| <6 months | 14.8 ± 8.4 | 49.3 ± 12.7 |
| 6-12 months | 88.9 ± 4.8 | 72.7 ± 7.1 |
| 12-18 months | 93.9 ± 2.6 | 79.4 ± 4.3 |
| 18-24 months | 92.2 ± 4.0 | 76.6 ± 6.3 |
| 24-36 months | 90.4 ± 3.1 | 76.8 ± 4.6 |
| 36 months + | 91.5 ± 2.5 | 65.9 ± 4.7 |
| **Prepregnancy Body Mass Index** | NS | *P<.0001* |
| Underweight | 93.6 ± 4.0 | 64.1 ± 8.8 |
| Normal | 93.3 ± 1.3 | 72.5 ± 2.5 |
| Overweight | 91.1 ± 2.4 | 69.7± 4.1 |
| Obese | 90.5 ± 3.0 | 55.1 ± 5.3 |
| **Gestational Age at Delivery** | NS | *P=.0005* |
| <37 weeks | 89.3 ± 3.5 | 59.1 ± 5.6 |
| ≥ 37 weeks | 92.4 ± 1.1 | 69.1 ± 2.0 |
| **Average age of baby at the time the survey was answered is 3.5 months | | |

## Cessation

When examining the reasons that mothers discontinue breastfeeding, Utah shows similar reasons to those found in the literature. Figure 2 provides insight on women's cessation reasons. Women were consistently worried about not producing enough milk, with 47.8% of women listing this as their primary reason for discontinuing breastfeeding. Also, 37.7% of mothers were concerned that breast milk alone did not satisfy their baby. Difficulties with latching on, pain, and sore nipples were also all important reasons women stopped breastfeeding. Going back to work or school was also was a relatively common reason to discontinue

**Figure2.** Reasons for early cessation of breastfeeding as reported by PRAMS moms, Utah PRAMS




PRAMS participants are also welcomed and encouraged to make comments throughout the survey that may relate to any of the questions and their experiences. Many women leave comments related to breastfeeding. Upon examining these comments, several of the above trends were further clarified. Many of the women who wrote comments related to breastfeeding noted that they had to supplement or provide formula either until their milk came in or because they didn't make enough milk. Other women were concerned about medications they were taking, and therefore stopped breastfeeding. Some women were worried about their babies being lactose intolerant, or becoming sick after breastfeeding, while other women revealed that stress became an issue, and they had to stop. Still other moms had babies in the Newborn Intensive Care Unit (NICU) and found it too difficult to maintain breastfeeding in those conditions.

**Exclusivity and Supplementation**

As previously mentioned, the Healthy People 2020 goal for exclusive breastfeeding at three months is 46.2% and 25.5% at six months.[3] According to Utah NIS data, the percentage of infants who are exclusively breastfed are as follows: 51.4% at 3 months and 24.8% at 6 months.[9] While PRAMS doesn't have an exact measure for three- or six-month exclusivity, 32% of Utah mothers who report ever breastfeeding were doing so exclusively at the time they received the survey.

Furthermore, according to the NIS, 17.9% of breastfed infants receive formula before two days of age and 6.27% of live births occur at baby-friendly facilities.[9] Of Utah mothers reporting breastfeeding through PRAMS, 32.9% report their baby was fed a liquid other than breastmilk at less than one week of age. In addition, of mothers who exclusively breastfed beyond that first week, the average time for their infants to

## Recommendations

While Utah is above average for many of the breastfeeding indicators included in Healthy People 2020, there are policies and practices the state could improve upon. Current research provides guidance and recommendations on how to achieve breastfeeding success. The Surgeon General of the United States has released a breastfeeding-specific executive summary, *A Call to Action to Support Breastfeeding*. This document includes key actions for mothers, communities, health providers, policy makers, employers, and researchers to improve overall support for breastfeeding. This report will include the Surgeon General's recommendation as well as other comprehensive strategies to improve breastfeeding rates, status, and success. Breastfeeding must first be recognized as a best practice in the health and well being of both infants and mothers. Several groups play an important role in ensuring breastfeeding success.

### Mothers and Family

Prenatal and postnatal education and support for breastfeeding should be a part of the pregnancy and delivery health care package. While it should be included for all women, this education should be an essential piece for women at risk of either not initiating breastfeeding or discontinuing early (i.e., young moms, Medicaid and WIC recipients, women who smoke, etc.) A woman who recognizes her intent to breastfeed can discuss the issue with her provider, family, employer, and child care facility to prepare herself and those who surround and support her.[10] Peer to peer support programs can also be a valuable resource that can provide a mother with a comfortable place to share her concerns, frustrations, and questions.[10] A lack of comfort or familiarity with breastfeeding can discourage women from asking the questions or voicing their concerns or difficulties. A safe, supportive environment must be created for breastfeeding mothers to share their experiences.

### Health Care

Health care providers, hospitals, and birth centers play an important and essential role in establishing a successful breastfeeding routine, which should begin even before the birth of an infant. Providers must recognize the importance of breastfeeding counseling prior to delivery. A woman who discusses breastfeeding before having her baby may be able to make a more informed decision regarding her feeding choice, and will be better prepared for the difficulties and issues that may come up with breastfeeding, such as infant feeding needs and milk supply.

Breastfeeding support is also incredibly important post-delivery. To help achieve this success, the CDC administers a breastfeeding practices survey to hospitals and birth centers that provide maternity care. The national Maternity Practices in Infant Nutrition and Care (mPINC) survey is used to develop recommendations for evidence-based standards and practices in maternity care. Data from the 2009 mPINC survey of Utah facilities indicates several strengths and needed improvements in maternity care.

Utah succeeds in documenting a mother's feeding decision (100% of facilities) and in providing breastfeeding advice and instructions to patients who are breastfeeding or intend to breastfeed (82% of facilities). There are, however, several indicators Utah facilities should aim to improve upon. First, 81% of maternity care facilities routinely supplement newborns with formula, glucose water, or water. Similarly, only 15% of facilities in Utah maintain the public health recommendation against distributing formula discharge packs. Furthermore, only 9% of Utah hospitals and birth centers have a comprehensive breastfeeding policy throughout the facility. Finally, only 11% of maternity care locations provide hospital discharge care specifically for breastfeeding.[11]

Hospitals should commit to providing a "standard of care" for breastfeeding mothers similar to those found in

The standards include abandoning hospital packs that contain formula as well as restrictions on newborn contact and breastfeeding during immediate post-natal care.[12] Women who undergo a Cesarean section should be reunited with their infant as soon as possible in order to establish breastfeeding.[7] Furthermore, hospitals should provide lactation support services both in the hospital and over the phone to counsel mothers in appropriate positioning, ***infant feeding demands and needs*** (emphasis added), and complications with breastfeeding such as mastitis, pain, and engorgement.[12] Hospital staff should receive education on breastfeeding, the hospital's policies on breastfeeding, and the benefits to their patients (both mothers and infants).[10] Because all of the aforementioned recommendations coincide with the Baby Friendly Hospital Initiative, hospitals and birth centers should potentially strive to attain "Baby Friendly" status, as only one Utah hospital has achieved this designation.

## Policy

Policy makers, insurers, and administrators also play an important role in breastfeeding success. Public policy affects how, when, and sometimes if a woman decides or is able to breastfeed. Many women discontinue breastfeeding due to a lack of support, knowledge, or the ability to successfully pump or express breast milk upon return to work. The Affordable Care Act (ACA), signed into law on March 23, 2010, reforms the way health care is provided and paid for. This legislation requires health plans to cover preventive services, including women's preventive services, by eliminating the copayment, coinsurance, or deductible for these services. Breastfeeding has been included in the ACA and requires insurers to provide coverage for breastfeeding support, supplies, and counseling. The specifics of this requirement include comprehensive lactation support and counseling during pregnancy and/or in the postpartum period, as well as the costs for renting breastfeeding equipment.[13] These services can encourage women to successfully continue breastfeeding upon leaving the hospital or birth center. Insurers and policy makers must encourage the awareness and accessibility of this new coverage to both women and providers.

### Employers

Worksites and employers are also of great importance in establishing a successful breastfeeding relationship between mother and infant. Rapid return to employment is correlated with women discontinuing breastfeeding. In fact, employed mothers tend to breastfeed at a rate about 15 percent below that of non-employed mothers.[14] If women are given an option to receive paid maternity leave, a more flexible or part time work schedule, or given an option to express and pump breast milk, working women would be more likely to continue breastfeeding. The Affordable Care Act again has outlined provisions for employers and worksites to support breastfeeding, including the right of mothers to have reasonable break times and the right to a private and clean place to express breast milk until the infant is one year of age.[14] In fact, women who breastfeed or provide pumped breast milk miss fewer work days to care for sick infants, which also benefits the employer.[15] Therefore, employers should adapt to the new requirements and ensure their employees are aware of and empowered to continue breastfeeding with the expression of breast milk in the workplace. Employers should also explore the options of paid maternity leave and more flexible work schedules and work options for women in their employ.

### Research

While there is a significant amount of research on breastfeeding, efforts should be made to distribute this research to those who can directly impact a mother's ability to successfully breastfeed (e.g. parents, clinicians

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