

Revision of Breastfeeding Guidelines in the Setting of Maternal Opioid Use Disorder: One Institution's Experience

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Abstract

Breastfeeding is recommended for women with opioid use disorder who are treated with methadone or buprenorphine. Infants with neonatal abstinence syndrome (NAS) secondary to in-utero opioid exposure have unique challenges related to breastfeeding but also have significant benefits including improved NAS symptoms with a decreased need for pharmacotherapy. Poor understanding of substance use disorder and treatment, lack of evidence-based recommendations, and vague guidelines from national academies create controversy about breastfeeding eligibility for these women. Defining breastfeeding guidelines is often difficult, particularly in large institutions with multiple providers caring for the mother–infant dyad. Based on the available evidence and review of our institutional data, we revised our breastfeeding guidelines for mothers with opioid use disorder. The aims of our new guidelines are (a) to safely promote breastfeeding in all mothers with opioid use disorder who are in recovery, (b) to improve NAS outcomes through use of breastfeeding as a key nonpharmacologic treatment modality, and (c) to improve staff communication and consistency on the subject of breastfeeding in this patient population.

Keywords

breastfeeding, breastfeeding practices, breastfeeding promotion, drug-exposed infants

Background

Opioid use disorder is an epidemic in the United States, with an estimated 2 million Americans with prescription opioid dependence, and 467 000 with heroin dependence in 2012.¹ Women of childbearing age are often affected; an estimated 5% of pregnant women are diagnosed with opioid use disorder with limited treatment options.¹ In the past decade, there has been a tripling of infants with neonatal abstinence syndrome (NAS), a syndrome that occurs after in-utero exposure to maternal medications such as opioids.^{2–4} Both methadone and buprenorphine, lactation Category C, are transferred in the breast milk but in only small amounts that are not expected to affect the infant.^{5–8} However, breastfeeding presents unique challenges for women with opioid use disorder and is associated with low rates of breastfeeding.^{9,10} Many mothers are hepatitis C positive; although not a contraindication to breastfeeding, mothers often fear transmission risk.¹¹ In addition, many mothers have concurrent psychiatric diagnoses and are prescribed psychiatric medications of which breastfeeding safety is unknown.^{12–14} Histories of trauma and complex social circumstances compound the challenges of breastfeeding and pumping.¹³ Prolonged hospitalizations for NAS treatment, maternal–infant separation, and inherent infant feeding problems related to NAS can exacerbate the problem.¹⁰ Medical providers' knowledge

gap, apprehension, and inconsistent communication regarding the safety of breastfeeding can further deter mothers.

Despite these difficulties, mothers with opioid use disorder and their infants have enormous benefits associated with breastfeeding. In addition to the established health benefits of breastfeeding for all mothers and infants, breastfeeding may help to reinforce commitment to sobriety and promote critical mother–infant bonding.^{15,16} In addition, studies have consistently shown an association between breastfeeding and improved NAS outcomes, with up to a 30% to 50% reduction in need for pharmacologic treatment and shortened hospitalizations.^{17–24} This benefit is likely due to skin-to-skin contact and the inherent comforting effects of breastfeeding, as well as breastfeeding being a marker for increased maternal presence at the bedside with improved nonpharmacologic NAS care.^{17,25–27}

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Developing hospital breastfeeding guidelines for new mothers with opioid use disorder remains a challenge, with limited evidence-based data available. Published guidelines from the American Academy of Pediatrics (AAP), the American College of Obstetricians and Gynecologists (ACOG), and the Academy of Breastfeeding Medicine (ABM) address the question, “Is it safe for the opioid-dependent woman to breastfeed?” The 2012 Policy Statement from the AAP proposes that maternal substance abuse is not a “categorical” contraindication to breastfeeding. Mothers can be encouraged to breastfeed if they are HIV negative, negative for illicit drugs, and enrolled in a supervised methadone maintenance program.²⁸ The 2012 ACOG statement says that for women taking methadone or buprenorphine, breastfeeding is not contraindicated and should be encouraged if they are HIV negative, are not using additional drugs, and have no other contraindications.²⁹

A greater level of detail is provided in the 2015 ABM statement including criteria that would support a mother’s choice to breastfeed (compliance in a substance abuse treatment program, negative urine toxicology screens for 90 days prior to delivery, a negative screen at delivery, received consistent prenatal care, and no other medical contraindications to breastfeeding) and circumstances in which a mother should be discouraged from breastfeeding (no prenatal care, positive urine toxicology screen < 30 days from delivery or at delivery, not in a drug treatment program).³⁰ Careful evaluation and discussions among care providers are suggested for a woman who has a positive urine drug screen in the 30- to 90-day window.³⁰ This 30- to 90-day “gray zone” remains a category into which many women fall who desire to breastfeed. Relapse is part of the recovery process for women with opioid use disorder, with the pregnancy and postpartum period being a time of high stress for recovering mothers. Provider understanding of addiction and breastfeeding safety in the setting of opioid use disorder varies greatly, thus making implementation of an individualized gray-zone guideline difficult, leading to staff and patient frustrations with inconsistencies.

Based on national guidelines and review of our institutional data and experience, we developed new guidelines for our hospital that are designed to (a) promote breastfeeding among mothers who are in recovery, (b) allow for reconsideration of breastfeeding eligibility in mothers who do not meet the guidelines at the time of delivery, and (c) improve NAS outcomes by the promotion of breastfeeding as part of optimal nonpharmacologic care. We describe our institutional data and process for revision and implication of our new breastfeeding guidelines for women with opioid use disorder.

Hospital Setting

Boston Medical Center (BMC) is a private, not-for-profit, 496-bed, academic medical center and the largest safety net hospital in New England. BMC became the first World Health Organization/UNICEF designated Baby-Friendly

hospital in Massachusetts in 1999 and was redesignated in 2007 and 2014 with more than 95% of eligible mothers initiating breastfeeding.^{31,32} Boston Medical Center is a leader in the treatment of substance use disorders, with a paradigm prenatal clinic Project RESPECT (Recovery, Empowerment, Social Services, Prenatal Care, Education, Community, and Treatment), which provides comprehensive prenatal care, opioid agonist therapy, relapse prevention counseling, social work services, psychiatric care, and postpartum follow-up for approximately 150 women across Massachusetts annually. BMC is also a leader in pediatric care for infants with NAS, with numerous ongoing quality improvement and research initiatives.

Our previous 2010 institutional breastfeeding guidelines were as follows: Women who had negative urine drug screens (for unprescribed drugs) for 10 weeks prior to delivery, had a negative urine drug screen on admission to Labor and Delivery, and were compliant with an addiction recovery program and prenatal care for 12 weeks prior to delivery (no more than 2 missed appointments) were eligible to breastfeed. Those who did not meet these criteria were considered ineligible for the duration of the infant’s inpatient hospitalization with no lactation services or breast pump provided. These prior guidelines on occasion led to discord regarding individual patient eligibility, prompting a desire to re-evaluate breastfeeding guidelines for this population. Since 2010, postpartum follow-up for both mothers with opioid use disorder and their infants has significantly improved, with 90% of the mothers seen in Project RESPECT after delivery, and 75% follow-up for any pediatric care including 50% of children seen in BMC pediatric primary care.

Another reason for offering maximum assistance for mothers with substance use disorders who are eligible to breastfeed are changes announced by The Joint Commission (TJC).³³ Currently, TJC requires hospitals with > 1100 births per year to pick the Perinatal Core Measure set as 1 of the hospital’s 6 core measure sets to report. The Perinatal Core Measure set contains 5 metrics, 1 of which being the exclusive breastfeeding rate. As of October 2015, maternal medical conditions—such as opioid use disorder—will no longer be reasons for exclusion. Also, for the first time, TJC has set at least a 70% exclusive breastfeeding rate as the target number.³³

Baseline Breastfeeding Eligibility and Initiation Rates

A large multidisciplinary committee was formed including physician and nursing representatives from all pediatric inpatient units, the outpatient pediatric clinic, lactation, obstetrics, family medicine, social work, and the Child Protection Team. The committee leader conducted a thorough literature review and presented a summary to the committee. In addition, the charts of 95 mother–infant pairs cared for at BMC between October 2013 and December 2014 were

Table 1. Toxicology Screening Recommendations for Substance Use Disorder in Pregnancy.

Screening Test	Substances Included	Time Interval
Urine toxicology basic screen	• Amphetamines • Barbiturates • Benzodiazepines • Cocaine • Opiates	• Every prenatal visit • Mother on any hospital admission (Titration, Emergency Room, Triage, L&D) • Infant on admission • Postpartum visits
Urine expanded opioid panel	• Methadone • Buprenorphine • Oxycodone • Fentanyl	• Every prenatal visit • Mother on any hospital admission (Titration, Emergency Room, Triage, L&D) • Infant on admission • Postpartum visits
Meconium toxicology screen	• Phencyclidine (PCP) • Cocaine • Benzodiazepines • Barbiturates • Amphetamines • Methadone • Opiates	• Infant on admission

Abbreviation: L&D, Labor and Delivery.

reviewed. Criteria for chart review included infants born $\geq$ 36 weeks gestational age and mothers with opioid use disorder during the current pregnancy. This chart review was approved by the Boston University Medical Center Institutional Review Board.

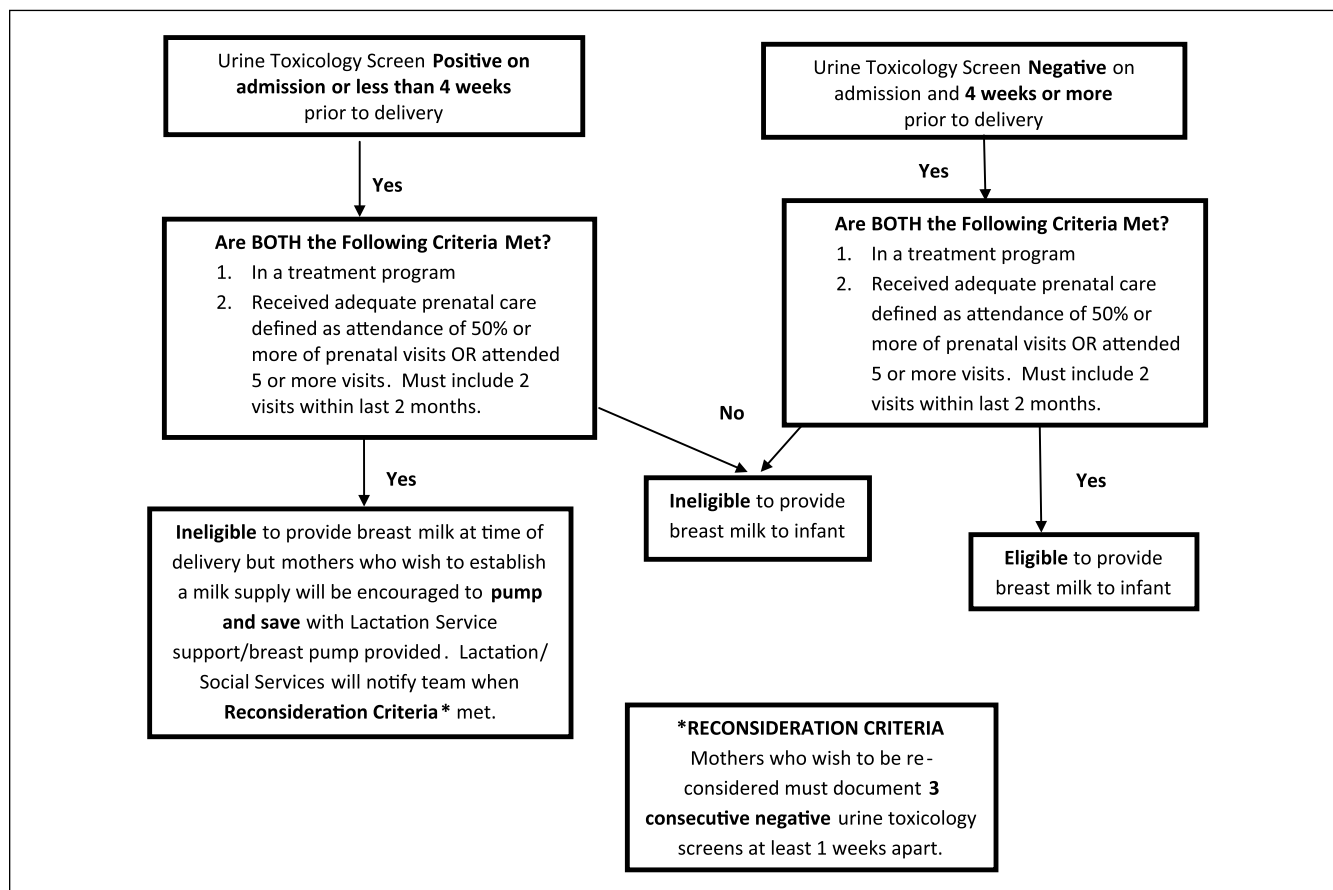
Approximately 90% of the mothers during the review period were cared for in Project RESPECT. We found that 56% ($n = 53$) of the mothers were eligible to breastfeed according to the 2010 guidelines. Of those who were eligible, 64% ($n = 34$) initiated breastfeeding. Of those who initiated breastfeeding, 28 (82%) were still providing some breast milk at discharge, with the majority of women being mixed feeders and only 1 mother exclusively breastfeeding.

The BMC drug screening recommendations for mothers with substance use disorders this pregnancy and their infants are provided in Table 1. Verbal consent is obtained for all witnessed maternal urine drug screens. Verbal consent is not required for infant toxicology screens, however, mothers are always informed. Of those mothers who were ineligible to breastfeed, the reasons for ineligibility were primarily related to illicit/unprescribed drug use within the 10-week period prior to delivery. Ten percent ($n = 4$) had a positive urine toxicology screen at the time of delivery, 33% ($n = 14$) had a positive urine toxicology screen in the third trimester, and 45% ($n = 15$) were not on maintenance therapy or had other significant social concerns such as current incarceration or continued active drug use. Of the 14 mothers who had a positive urine screen in the third trimester, 71% ($n = 10$) of these relapses occurred in the 4 to 8 weeks prior to delivery, with the remaining 29% ($n = 4$) less than 4 weeks. Three of the women who had a positive toxicology screen in the 4- to 8-week period prior to delivery expressed a strong desire to breastfeed their infants.

Creation and Implementation of New Breastfeeding Guidelines

Boston Medical Center's new 2015 breastfeeding guidelines apply to women with substance use disorder during the current pregnancy, including those on methadone and buprenorphine maintenance therapy. In order for women to be considered for breastfeeding eligibility, they must meet both of the following criteria: (1) in an addiction treatment program, and (2) attendance of at least 50% of prenatal visits or 5 or more visits, with 2 of those visits occurring within the last 2 months prior to delivery. Women who do not meet these 2 essential criteria will be ineligible to provide breast milk to their infant during the course of the inpatient hospitalization. Women who deliver prematurely will be evaluated on a case-by-case basis for prenatal care criteria.

Mothers who meet the treatment program and prenatal care criteria are then divided into 2 groups upon admission to Labor and Delivery: (1) group 1—those with a positive urine drug screen for illicit/unprescribed drugs on admission or < 4 weeks prior to delivery, and (2) group 2—those with a negative urine drug screen for 4 or more weeks prior to delivery (Figure 1). This 4-week cutoff is based on our 2014 chart review, addiction provider experience at our institution, the ABM guidelines, and accepted 30-day milestone for sobriety for drug addiction. Mothers who fall into group 1 are ineligible to provide breast milk to the infant at the time of delivery. However, if the mother desires to establish a milk supply, lactation services and a breast pump will be provided. Mothers may pump and save their milk and will be reconsidered for eligibility weekly. Any positive urine toxicology screens are brought to the attention of the infant's attending physician who will determine if milk pumped during the period of the positive screen

Figure 1. Breastfeeding Prenatal Substance Use Algorithm.

will be discarded. Reconsideration criteria include a total of 3 negative urine toxicology screens since the last positive screen, separated by at least 1 week. Women in group 2 are eligible to provide breast milk at the time of delivery. For women for whom prenatal records are not available on admission who have a negative urine drug screen, they will be informed of our breastfeeding guidelines, will sign a release for records, and may initiate breastfeeding while awaiting records. Our guidelines do not address isolated marijuana use; testing for marijuana is not routinely recommended at our institution.

Medical and nursing staff were consulted for feedback prior to approval of the final guidelines. Points of controversy among providers included the length of time of sobriety prior to initiating breastfeeding, reconsideration criteria, and follow-up for those with a recent positive urine toxicology screen. To address these concerns and standardize education for all providers, an educational online PowerPoint presentation through Health Stream was created for all nurses working on the inpatient pediatric and obstetric units. In-person nursing education was also provided by lactation and nursing leadership. All covering physician staff were notified and guidelines posted on the hospital intranet and in provider work areas. Point people were designated for questions in relation to individual patient eligibility. Breastfeeding

guidelines were explained to the women in Project RESPECT prenatally and the women were given an updated patient education brochure, with documentation of eligibility and feeding plan in the electronic medical record. All infants were given an appointment in a specialty clinic to reassess growth and development following hospital discharge. We are beginning a quality improvement project to assess breastfeeding continuation after discharge.

Since implementation of the new breastfeeding guidelines in April 2015, data were reviewed from 28 mother–infant pairs. Breastfeeding eligibility increased to 82%. Of those who were eligible, a stable 60% of the mothers, or 50% of the total population, initiated breastfeeding. This represents a 15% increase in breastfeeding since implementation of the new guidelines. Length of hospitalization for treated infants with NAS decreased from 22 to 17 days during the 2 study periods. The change in guidelines has led to increased harmony between providers and has assisted in our promotion of nonpharmacologic care for NAS.

Conclusion

Based on the available evidence, we created a multidisciplinary committee to revise our breastfeeding guidelines for

women with opioid use disorders. The revised guidelines provide a supportive environment for women with opioid use disorder in recovery who are interested in breastfeeding, with the option for reconsideration if eligibility criteria are not met at the time of delivery. The creation of consistent guidelines for breastfeeding in this population can lead to improved provider harmony, positive partnerships with mothers in recovery from opioid use disorders, and improved NAS outcomes.

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Declaration of Conflicting Interests

The authors have no conflicts of interest to declare in relation to publication of this manuscript.

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