

# Substance Use Disorders in Pregnancy Workshop

## Introduction

Although perinatal substance use disorders, particularly those involving opioids, have become a major public health issue in the United States, evidence-based guidance for prevention and management of these disorders during pregnancy is lacking. Leaders in obstetric care, addiction medicine, mental health, and pediatrics gathered for a two-day workshop entitled, “Substance Use Disorders in Pregnancy,” held in conjunction with the Society for Maternal-Fetal Medicine’s 38th Annual Pregnancy Meeting™. Goals of the workshop were to discuss critical issues pertaining to perinatal substance use disorders; draft preliminary recommendations regarding screening, pain management, maintenance therapy, and medication-assisted withdrawal during pregnancy; and delineate research gaps. This executive summary briefly reviews the main outcomes of the workshop. A research paper that presents more detailed clinical guidance and proposes future research directions will be published at a later date.

## Epidemiology of Substance Use in Pregnancy

Epidemiologic evidence presented at the workshop demonstrates that rates of substance use in pregnancy have increased significantly in the past decade and rates of opioid use disorder (OUD) in pregnant and postpartum women have increased in parallel:

- 4.7% of pregnant women report using an illicit substance in the past month (1).
- 21.6% of pregnant women enrolled in Medicaid receive a prescription for opioids (2).
- From 2000 to 2009, antepartum maternal opiate use increased from 1.19 (95% CI, 1.01-1.35) to 5.63 (95% CI, 4.40-6.71) per 1,000 hospital births per year (3).
- In one study, 85.4% of women filled an opioid prescription after a cesarean delivery. The average number of pills dispensed was 40; the median consumed was 20; and the average number of leftover pills was 15. Most (95.3%) women did not dispose of their leftover medications (4).
- 1 in 300 women will become dependent on opioids after a cesarean (5).
- The incidence of neonatal opioid withdrawal syndrome (NOWS) has increased, with the costs of NOWS treatment in the United States reaching approximately \$1.5 billion in 2015 (6).
- Substance use plays a role in pregnancy-associated deaths (deaths of women while pregnant or within 365 days of pregnancy from any cause related to or aggravated by pregnancy). In Texas, Maryland, and Alaska, 17%, 15%, and 22% of pregnancy-associated deaths were attributed to substance use (7-9).
- Opioid use during pregnancy is associated with birth defects, especially oral clefts, spina bifida, and atrial septal defects/ventricular septal defects (10, 11), and results in higher rates of preterm birth and small for gestational age infants (12, 13).

## Key Findings and Preliminary Recommendations

Workshop participants were assigned to one of three breakout groups to discuss the following key issues in greater depth and make preliminary recommendations:

- 1.) Screening and testing for OUD in pregnancy
- 2.) Pain management during the antepartum, intrapartum, and postpartum periods
- 3.) Management modalities for pregnant women with OUD

The following sections summarize the findings and recommendations reported by each breakout group.

### *Screening and Testing for OUD in Pregnancy*

All pregnant women should be screened for substance use at the first prenatal visit using a validated questionnaire, such as the NIDA Quick Screen Tool. If screening or self-disclosure indicates that a woman is at high risk for substance use during pregnancy, she should be counseled about the risks of continued use of substances; receive referrals to appropriate resources, which, depending on the woman's individual situation, may include medication-assisted treatment (MAT), behavioral health services, and specialized obstetric care; and offered biologic testing. Biologic testing is also recommended in certain clinical situations, e.g., altered mental status, suspected withdrawal (e.g., positive Clinical Opiate Withdrawal Scale [COWS]), placental abruption, and myocardial infarction. Biologic testing should be performed with the woman's informed consent and when its benefits outweigh any potential harms, including those related to mandatory state reporting laws.

### *Pain Management During the Antepartum, Intrapartum, and Postpartum Periods*

Management of acute pain begins with educating women about what to expect in terms of pain and discomfort at each stage of pregnancy. Intrapartum pain management options should be discussed during pregnancy. For antenatal and postpartum pain, women should be informed about nonmedical modalities of pain management, such as ice and heat, massage, and acupuncture. Pain should be assessed periodically; if a woman reports unusual levels of pain (e.g., severe pain following an uncomplicated vaginal birth), it should raise suspicion for an underlying clinical issue that may need to be addressed. Nonsteroidal anti-inflammatory drugs (NSAIDs) and acetaminophen, unless contraindicated, should be given as first-line treatments for pain following a routine vaginal birth. For pain management following a cesarean delivery, non-opioid pain medications should be given first; addition of opioids to the pain management regimen should be considered if pain persists. On discharge from the hospital, if a woman requires opioids for persistent pain, a limited number of opioid pills should be prescribed, and she should be counseled about the benefits and risks of opioids, side effects, and potential for misuse.

For women with OUD, a postpartum pain management plan should be reviewed prior to delivery. Pain management may include MAT given in an outpatient setting. Close follow-

up of these women is crucial and may involve activation of services such as transportation assistance, outpatient treatment, and behavioral therapy.

### *Management Modalities for Pregnant Women with OUD*

MAT is the standard of care for OUD, and this is true during pregnancy as well. All pregnant women with OUD should be offered maintenance therapy with methadone or buprenorphine; naltrexone should be continued for those patients already taking this medication. The choice of agent and dosages for therapeutic maintenance should be made using an individualized, patient-centered approach based on the disease model of substance abuse. During the course of antenatal care, comorbidities and conditions often associated with OUD should be addressed and plans made for treatment during pregnancy, delivery, and the postpartum period. Social determinants of health (e.g. housing and food insecurity) should also be identified and addressed to the extent that services allow, and the family's overall health should also be considered (i.e., identify and refer family members others with OUD or SUD for treatment). Antepartum care also allows time to recognize and educate regarding NOWS and its treatment so that women and their families may be prepared for care of their newborn.

Because many women are motivated to seek treatment for OUD during pregnancy, once MAT is established, providers with appropriate knowledge and necessary infrastructure may consider the use of medication-assisted withdrawal therapies during pregnancy. Several studies and review of existing literature show that withdrawal can be implemented during pregnancy, and in available case series it appears to have an acceptable balance of maternal and fetal benefits and risks. Undertaking such a course, however, requires careful patient selection, close supervision, and appropriate behavioral and social support resources that extend into the postpartum period. Accordingly, not all providers and centers are able to offer this therapy at this time. Further research and resources are needed to better understand best practice regarding medically assisted withdrawal therapy and allow broader access to and implementation of this course of care.

### **Conclusion/Research Gaps**

Although workshop participants proposed many recommendations for screening, pain management, and management of pregnant women with OUD, significant research gaps in evidence to guide best-practice care of this population remain. Issues proposed for further research include the following:

- Appropriate screening protocols and instruments for substance use during pregnancy
- Selection and appropriate dosage of opioid agonists for management of women with OUD during pregnancy
- Optimal postpartum pain management approaches for women with OUD
- Effectiveness of non-opioid pain management following cesarean delivery
- Appropriate dosage and number of pills to be prescribed for women who require opioid pain management following cesarean delivery

- Determination of optimal prenatal and postpartum models of care for pregnant women undergoing medication-assisted withdrawal

It is hoped that this workshop provides the first step in developing evidence-based guidelines that focus on the unique needs of pregnant and postpartum women with substance use disorders and creates an opportunity for education that dispels myths and leads to the creation of validated and workable solutions for this population.

## References

1. Center for Behavioral Health Statistics and Quality. 2015 Survey on Drug Use and Health. Detailed Tables. 2016. Substance Abuse and Mental Health Services Administration, Rockville, MD.  
<https://www.samhsa.gov/data/sites/default/files/NSDUH-DeTTab-2015/NSDUH-DeTTab-2015/NSDUH-DeTTab-2015.pdf>.
2. Desai RJ, Hernandez-Diaz S, Bateman BT, Huybrechts KF. Increase in prescription opioid use during pregnancy among Medicaid-enrolled women. *Obstet Gynecol*. 2014 May;123(5):997-1002.
3. Patrick SW, Schumacher RE, Benneyworth BD, Krans EE, McAllister JM, Davis MM. Neonatal abstinence syndrome and associated health care expenditures: United States, 2000-2009. *JAMA*. 2012 May 9;307(18):1934-40.
4. Bateman BT, Cole NM, Maeda A, Burns SM, Houle TT, Huybrechts KF, Clancy CR, Hopp SB, Ecker JL, Ende H, Grewe K, Raposo Corradini B, Schoenfeld RE, Sankar K, Day LJ, Harris L, Booth JL, Flood P, Bauer ME, Tsen LC, Landau R, Leffert LR. Patterns of opioid prescription and use after cesarean delivery. *Obstet Gynecol*. 2017 Jul;130(1):29-35.
5. Bateman BT, Franklin JM, Bykov K, et al. Persistent opioid use following Cesarean delivery: patterns and predictors among opioid naïve women. *American journal of obstetrics and gynecology*. 2016;215(3):353.e1-353.e18.
6. Patrick SW, Davis MM, Lehmann CU, Cooper WO. Increasing incidence and geographic distribution of neonatal abstinence syndrome: United States 2009 to 2012. *J Perinatol* 2015;35:650-5.
7. The Role of Opioid Overdoses in Confirmed Maternal Deaths, 2012-2015. Texas Health and Human Services/Texas Department of State Health Services.  
[https://www.dshs.texas.gov/mch/pdf/Role-of-Opioid-Overdoses-in-Confirmed-Maternal-Deaths\\_Dec2017\\_FINAL.pdf](https://www.dshs.texas.gov/mch/pdf/Role-of-Opioid-Overdoses-in-Confirmed-Maternal-Deaths_Dec2017_FINAL.pdf).
8. Maryland Department of Health and Mental Hygiene; Prevention and Health Promotion Administration. Maryland Maternal Mortality Review: 2016 Annual Report.  
[https://phpa.health.maryland.gov/mch/Documents/2016MMR\\_FINAL.pdf](https://phpa.health.maryland.gov/mch/Documents/2016MMR_FINAL.pdf).

9. Department of Health and Social Services, Division of Public Health. State of Alaska Epidemiology: Pregnancy Associated Mortality Alaska 2000-2011. 2013. [http://www.epi.alaska.gov/bulletins/docs/b2013\\_17.pdf](http://www.epi.alaska.gov/bulletins/docs/b2013_17.pdf).
10. Interrante JD, Ailes EC, Lind JN, et al. National Birth Defects Prevention Study. Risk comparison for prenatal use of analgesics and selected birth defects, National Birth Defects Prevention Study 1997-2011. *Ann Epidemiol.* 2017 Oct;27(10):645-653.e2.
11. Broussard CS, Rasmussen SA, Reefhuis J, et al. National Birth Defects Prevention Study. Maternal treatment with opioid analgesics and risk for birth defects. *Am J Obstet Gynecol.* 2011 Apr;204(4):314.e1-11.
12. Nørgaard M, Nielsson MS, Heide-Jørgensen U. Birth and neonatal outcomes following opioid use in pregnancy: A Danish population-based study. *Subst Abuse.* 2015 Oct 9;9(Suppl 2):5-11.
13. Cleary BJ, Donnelly JM, Strawbridge JD, Gallagher PJ, Fahey T, White MJ, Murphy DJ. Methadone and perinatal outcomes: a retrospective cohort study. *Am J Obstet Gynecol.* 2011 Feb;204(2):139.e1-9.