Florida Perinatal Quality Collaborative

Partnering to Improve Health Care Quality for Mothers and Babies

Mother's Own Milk Initiative (MOM) Substance Abuse Guidance

The Florida Perinatal Quality Collaborative (FPQC) has developed the Mother's Own Milk (MOM) Initiative to improve utilization of MOM, as well as to identify and remove barriers to use of MOM for very low birth weight (VLBW <1500 g) infants in Florida. The MOM Initiative applies evidence-based interventions to increase the use of MOM in VLBW infants in neonatal intensive care units (NICUs).

One potential barrier identified is the lack of standardized recommendations regarding provision of MOM for VLBWs with maternal substance abuse issues. The FPQC recommends that NICUs adhere to their individual institution's policies regarding substance abuse and the use of MOM. It is recommended that if delivering hospitals and NICUs are separate institutions that the policies be reviewed jointly to provide consistent information to families and staff. The following information may serve to help guide institutions in their decision making process regarding the benefits and risks associated with MOM for the VLBW and maternal substance abuse.

Data on Substance Abuse Issues

- National Survey on Drug Use and Health (NSDUH) in 2012-2013 reported 4.9% of pregnant 15-44-year-old women used marijuana in the past month.
- According to data reported by the Florida Pregnancy Risk Assessment Monitoring System (PRAMS) 2000 to 2011 trend report, statistically significant increases in the prevalence of alcohol use was found during the three months prior to the pregnancy (39 % to 51.2%), as well as during the last three months of the pregnancy (4.7% to 7.9%).
- The Florida PRAMS data currently reports alcohol and tobacco use but does not include any other types of substance abuse questions.

Recommendations for Quality Improvement

1. Collaboration between Obstetric and Neonatal providers regarding substances of abuse and provision of MOM is an essential component of improving patient safety and outcomes.

2. Balancing the risk of feeding or withholding MOM in the NICU in high risk infants such as those that are VLBW is complex. Infants of mothers who report substance abuse or have a positive drug screen present an ethical dilemma. Critical time points to avoid use of formula include initiation of feeds. NICUs currently lack universal access to donor milk when MOM is contraindicated, such as a positive substance abuse screening. MOM provides immunological protection that is specifically tailored to meet the needs of the premature infant's developing gut and providing donor milk is a "do no harm" substitution.

3. It is critical to address the risk and benefits inherent to each clinical situation. The use of the Physician's Desk Reference is not always an accurate source regarding transfer of substances into human milk. The following sources are recommended:
    a. *LactMed* is an up-to-date free resource from the National Library of Medicine that has information on drugs, their potential effects on lactation, and potential infant adverse effects.
    b. *Medications and Mother's Milk* is available online or in hard copy and provides categorization on drug safety for breastfeeding mothers.
    c. The Infant Risk Center at Texas Tech University is available for free phone consults Monday-Friday 8-5pm CT (806) 352-2519. http://www.infantrisk.com/
    d. *MotherToBaby* has patient fact sheets (English & Spanish) that answer frequently asked questions about exposures during pregnancy and breastfeeding. http://mothertobaby.org/fact-sheets-parent/

4. Summary of reported effects or concerns for drugs of abuse (AAP, 2013).

TABLE 2 Drugs of Abuse for Which Adverse Effects on the Breastfeeding Infant Have Been Reported[a]

Drug	Reported Effect or Reason for Concern	Reference
Alcohol	Impaired motor development or postnatal growth, decreased milk consumption, sleep disturbances.	Koren 2002,[34] Backstrand 2004,[35] Mennella 2007[36]
	Note: Although binge drinking should be avoided, occasional, limited ingestion (0.5 g of alcohol/kg/d; equivalent to 8 oz wine or 2 cans of beer per day) may be acceptable.	National Academy of Sciences 1991[37]
Amphetamines	Hypertension, tachycardia, and seizures. In animal studies of postnatal exposure, long-term behavioral effects, including learning and memory deficits and altered locomotor activity, were observed.	Product labeling
Benzodiazepines	Accumulation of metabolite, prolonged half-life in neonate or preterm infant is noted; chronic use not recommended. Apnea, cyanosis, withdrawal, sedation, cyanosis, and seizures.	Jain 2005,[38] Malone 2004[39]
Cocaine	Intoxication, seizures, irritability, vomiting, diarrhea, tremulousness.	Chasnoff 1987,[40] Winecker 2001[41]
Heroin	Withdrawal symptoms, tremors, restlessness, vomiting, poor feeding.	vandeVelde 2007[42]
LSD	Potent hallucinogen.	
Methamphetamine	Fatality, persists in breast milk for 48 h.	Ariagno 1995,[43] Bartu 2009[44]
Methylene dioxy-methamphetamine (ecstasy)	Closely related products (amphetamines) are concentrated in human milk.	
Marijuana (cannabis)	Neurodevelopmental effects, delayed motor development at 1 y, lethargy, less frequent and shorter feedings, high milk-plasma ratios in heavy users.	Djulus 2005,[45] Campolongo 2009,[46] Garry 2010[47]
Phencyclidine	Potent hallucinogen, infant intoxication.	AAP 2001,[6] Academy of Breastfeeding Medicine[48]

[a] Effect on maternal judgment or mood may affect ability to care for infant.

5. The following recommendations for counseling were excerpted from the Academy of Breastfeeding Medicine Clinical Protocol #21: Guidelines for Breastfeeding and Substance Use or Substance Use Disorder, Revised 2015.

General (Circumstances contraindicated or requiring more caution)

Counsel women under any of the following circumstances not to breastfeed (III):

- Not engaged in substance abuse treatment, or engaged in treatment and failure to provide consent for contact with counselor
- Not engaged in prenatal care

- ***Positive maternal urine toxicology screen for substances other than marijuana at delivery*** *[Strongly advise mothers found with a positive urine screen for THC to discontinue exposure while breastfeeding and counsel them as to its possible long-term neurobehavioral effects]*
- No plans for postpartum substance abuse treatment or pediatric care
- Women relapsing to illicit drug use or legal substance misuse in the 30-day period prior to delivery
- Any behavioral or other indicators that the woman is actively abusing substances
- Chronic alcohol use

Evaluate carefully women under the following circumstances, and determine appropriate advice for breastfeeding by discussion and coordination among the mother, maternal care providers, and substance abuse treatment providers (III):

- Relapse to illicit substance use or legal substance misuse in the 90–30-day period prior to delivery
- Concomitant use of other prescription medications deemed to be incompatible with lactation
- Engaged later (after the second trimester) in prenatal care and/or substance abuse treatment
- Attained drug and/or alcohol sobriety only in an inpatient setting
- Lack of appropriate maternal family and community support systems
- Report that they desire to breastfeed their infant in order to either retain custody or maintain their sobriety in the postpartum period

6. ACOG statement regarding marijuana use in pregnancy and breastfeeding concludes that current data regarding exposure of infants during lactation and breastfeeding is insufficient and marijuana use should be discouraged. ("Committee Opinion No. 637: Marijuana Use During Pregnancy and Lactation," 2015).

7. Lactation counseling and support to initiate pumping should be provided as soon as possible after delivery to all mothers who deliver VLBWs when breastfeeding is not contraindicated. A mother with a positive toxicology screen for THC should be strongly advised to discontinue use of marijuana due to the potential long term neurobehavioral effects for the infant. Withholding MOM for VLBWs in situations in which positive drug screen results for THC are found and appropriate counseling is provided are currently not supported.

8. Mother's with opioid dependency and maternal treatment with methadone, in which breastfeeding is not otherwise contraindicated, should be supported (AAP, 2012). Methadone concentrations found in breast milk are low and may not be sufficient to prevent or treat neonatal abstinence syndrome (NAS), but may reduce the severity and length of treatment (Cirillo & Francis, 2016). Current rates of breastfeeding for mothers receiving methadone treatment are lower than the national averages and infants who experience NAS may also need further support with establishing breastfeeding. Mothers who are receiving treatment with methadone and deliver premature infants, should be encouraged to provide MOM and will require further supportive services. In addition, buprenorphine is a newer option for treatment of opioid dependency, with limited data. Among stable buprenorphine maintained

women, low concentrations and metabolites of buprenorphine are transferred into human milk, providing support for breastfeeding (Jansson et al., 2016).

References

American Academy of Pediatrics (2013). Clinical Report: The Transfer of Drugs and Therapeutics into Human Breast Milk: An Update on Selected Topics. *Pediatrics, 132*(3), 796-809.

American Academy of Pediatrics (2012). Breastfeeding and the Use of Human Milk. *Pediatrics, 129*(3), e827-e841. doi:10.1542/peds.2011-3552.

Cirillo, C., & Francis, K. (2016). Does Breast Milk Affect Neonatal Abstinence Syndrome Severity, the Need for Pharmacologic Therapy, and Length of Stay for Infants of Mothers on Opioid Maintenance Therapy During Pregnancy? *Adv Neonatal Care, 16*(5), 369-378. doi: 10.1097/anc.0000000000000330.

Committee Opinion No. 637: Marijuana Use During Pregnancy and Lactation. (2015). *Obstet Gynecol, 126*(1), 234-238. doi: 10.1097/01.AOG.0000467192.89321.a6

Florida PRAMS. Florida PRAMS trend report: Results from the Florida Pregnancy Risk Assessment Monitoring System: 2000-2011. Tallahassee: Florida Department of Health, Bureau of Epidemiology.

Jansson, L. M., Spencer, N., McConnell, K., Velez, M., Tuten, M., Harrow, C. A., . . . Huestis, M. A. (2016). Maternal Buprenorphine Maintenance and Lactation. *Journal of Human Lactation, 1-7*. doi: 10.1177/0890334416663198

Reece-Stremtan, S., Marinelli, K. & Academy of Breastfeeding Medicine (2015). ABM Clinical Protocol #21: Guidelines for Breastfeeding and Substance Use or Substance Use Disorder, Revised 2015. *Breastfeeding Medicine, 10* (3) 135-141.

United States Department of, H., et al., National Survey on Drug Use and Health, 2013. 2014, Inter-university Consortium for Political and Social Research (ICPSR) [distributor]