The ToxIC NOSE (Novel Opioid and Stimulant Exposure)

Report #14 from ToxIC's Rapid Response Program for Emerging Drugs

Meghan B Spyres MD

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Medications for Opioid Use Disorder in Pregnancy: Connection to Care in a Vulnerable Population

Introduction

Opioid use disorder (OUD) continues to affect an increasing number of pregnant people in the United States.[1] Associated morbidity is significant and includes both fetal and maternal risks such as neonatal opioid withdrawal syndrome (NOWS), fetal growth restriction, preterm labor, infection, poor prenatal care, and partner violence.[2,3]

Medications for opioid use disorder (MOUD), such as buprenorphine and methadone, can be used to mitigate these risks and improve

The ToxIC Novel Opioid and Stimulant Exposure (NOSE) Reports

Through the ongoing support of the Opioid Response Network (ORN) since 2020, the American College of Medical Toxicology (ACMT) Toxicology Investigators Consortium (ToxIC) has implemented an enhanced sentinel detector field within the ToxIC Core Registry to identify novel and emerging opioid and stimulant exposures. Once an emerging trend or risk is identified, ToxIC releases a quarterly report.

The goal of this project is to disseminate this novel information to the medical toxicology community as well as the ORN as part of a Rapid Response program.

For more information on the ToxIC Core Registry and data collection, please visit: www.toxicregistry.org

outcomes related to pregnancy.[4,5] The American College of Obstetrics and Gynecology has recommended MOUD in pregnant individuals because substance use is a significant risk factor for pregnant patient mortality.[6] The emergency department or in-patient hospital setting can be a unique opportunity to facilitate initiation of MOUD and connect individuals to outpatient follow up, even when patients present for non-opioid related medical issues. Medical toxicology physicians see a broad range of patients after substance overdose and withdrawal. Furthermore, 1 out of 5 board-certified medical toxicology physicians within the United States have obtained an additional board certification in addiction medicine and can be instrumental in guiding pregnant patients with MOUD into long-term care.[7]

This report summarizes pregnant individuals receiving MOUD treatment that were seen by medical toxicology physicians around the United States and reported to the ToxIC Core Registry.

ToxIC Data Review

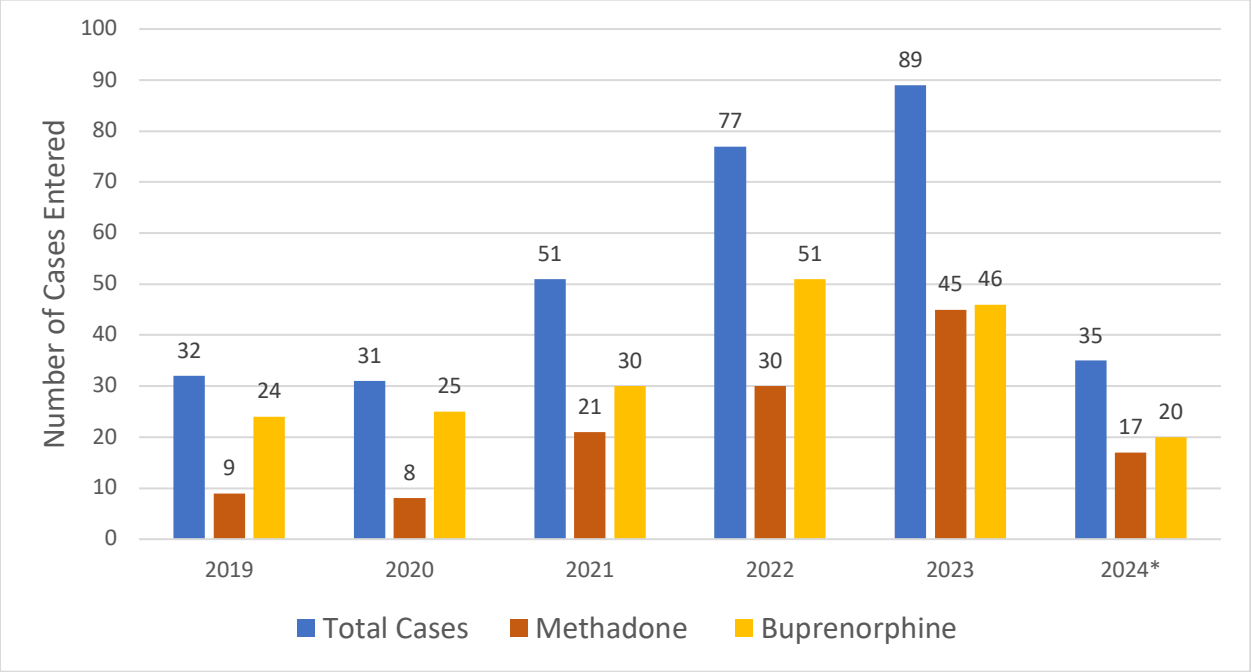
Between January 1, 2019, and June 5, 2024, 315 pregnant patients with OUD that were treated with buprenorphine or methadone were reported to the ToxIC Core Registry. Of these, 35 patients (11%) were seen in the emergency department, while the remaining 89% were evaluated only in the in-patient setting including observation unit, hospital floor, and the intensive care unit. Several patients initially evaluated in the emergency department were then followed by the consulting medical toxicology physicians during their hospital stay. The most common primary reason for a medical toxicology consultation was opioid withdrawal (N=237, 75%) followed by a request for an addiction medicine consultation (N=105, 33%). Table 1 lists the most common opioid agent exposures reported in pregnant patients, including the most frequent exposure agent reported, fentanyl (N=211, 65%). Buprenorphine was administered as treatment in 196 patients (62%), and methadone in 130 patients (41%). Both buprenorphine and methadone were administered in 11 patients (4%). Patients treated with buprenorphine or methadone for OUD in pregnancy increased in the ToxIC Core Registry between 2019 and 2023 (Figure 1).

Table 1: Opioid Agent Exposures in Pregnant Patients Treated with MOUD in the ToxIC Core Registry

Opioid Agent	N (%)
Fentanyl	211 (65)
Heroin	56 (17)
Methadone	25 (8)
Buprenorphine	12 (4)
Oxycodone	10 (3)
Miscellaneous	12 (4)
Total Agents	**326***

**Note: More than one agent of exposure may have been reported per case.*

Figure 1: MOUD in Pregnant Patients in the ToxIC Core Registry



**Note: 2024 data is limited to cases entered from January 1 to June 5, 2024.*

Discussion

Pregnant patients treated with buprenorphine and methadone for OUD in the ToxIC Core Registry increased steadily over the last 5 years. Although the indication for medication administration is not explicitly defined in the Core Registry, opioid withdrawal and addiction medicine consultation were reported in most patients and may be presumed as a likely indication. Similar to the non-pregnant population in the ToxIC Core Registry, fentanyl emerged as the predominant opioid agent of exposure.

The selection of methadone vs buprenorphine for treatment depends on multiple patient and heath-system factors. Both are considered safe and effective in pregnancy, with specific risks and advantages of each. In the in-patient setting, patients may initiate treatment with one medication and later opt to shift to the alternative option which may explain the cases in which patients were administered both.

Acute hospitalizations offer a unique opportunity to start medications for opioid use disorder in the high-risk pregnant patient. Medical toxicology physicians are particularly suited to advocate for and assist in medication initiation and titration during hospitalization in these patients. Although the current data within the Core Registry is unable to capture such granular detail, ToxIC's new MOUD subregistry which is funded by the Centers for Disease Control and Prevention (CDC), promises to provide a robust data set around on dosing of MOUD in pregnant and non-pregnant individuals, with a goal of better understanding of utilization of MOUD.

Conclusion

MOUD is a safe and effective tool for the management of OUD in pregnant patients, now used with increasing frequency in the era of fentanyl misuse. Specific medication selection is dependent on multiple factors. In cases reported to the ToxIC Core Registry, buprenorphine is the most common mediation used for OUD in hospitalized pregnant patients.

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Author Information

Meghan B Spyres, MD, FACMT
Department of Medical Toxicology
Banner – University Medical Center Phoenix

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ORN has consultants in every state and territory to deploy across prevention, treatment, recovery and harm reduction.

Share your needs via the "Submit a Request" form at www.OpioidResponseNetwork.org. Within one business day, your regional point person will be in touch to learn more.

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orn@aaap.org 401-270-5900
www.OpioidResponseNetwork.org