

## **INTRAUTERINE EXPOSURE TO METHADONE AND BUPRENORPHINE: INCIDENCE AND SEVERITY OF NEONATAL ABSTINENCE SYNDROME. A RETROSPECTIVE STUDY AT THE CANBERRA HOSPITAL**

### **Background:**

Opioid maintenance treatment (OMT) is the standard of care for opioid dependent pregnant women and is associated with positive outcomes for the mother and the infant. However, it is associated with a significant risk of neonatal abstinence syndrome (NAS).

The primary aim of this study is to examine the relationship between intrauterine exposure to methadone or buprenorphine and incidence of NAS.

### **Methods:**

This is a retrospective observational study of pregnant women on OMT and their babies (N=218) who were delivered between January 2001 and December 2016. A modified Finnegan score was used at The Canberra Hospital to monitor the neonates for NAS.

### **Results:**

A total of 117 (53.6%) of neonates reached the threshold for NAS requiring treatment, comprised of 55.7% (n=108) in the methadone exposure group and 37.5% (n=9) in the buprenorphine group.

Infants exposed to more than 50 mg of maternal methadone dose in intrauterine life are three times (p=.001) more likely to develop NAS compared to exposure less than 50 mg.

Receiver operating characteristic (ROC) curve was used to determine the cut off for these two groups.

**Conclusions:** We found a significant positive correlation between maternal methadone dose and NAS in this study. We also came to the conclusion that the watershed dose of methadone for NAS is 50 mg. Rest of the findings of this study are consistent with current research and we came to the same conclusions as in MOTHER study. There was no association between NAS severity and maternal buprenorphine or methadone dose. There is growing evidence for the use of buprenorphine as a safe and effective treatment in pregnancy.

**Implications for practice or policy:** With the increasing problem of prescription opioids in the community, the potential exists for unrecognised maternal opioid dependence with subsequently missed NAS.

**Translational research:** Intrauterine exposure to prescription opioids and monitoring NAS.